NETWORK PROJECT ON BUFFALO IMPROVEMENT

ANNUAL REPORT 2022 – 2023

AND

PROJECT CO-ORDINATOR'S OBSERVATIONS

ICAR- CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES
HISAR – 125 001 (HARYANA)

NETWORK PROJECT ON BUFFALO IMPROVEMENT

ANNUAL REPORT 2022- 2023

AND

PROJECT CO-ORDINATOR'S OBSERVATIONS

Published by
Director & PC(B)
ICAR-CIRB Hisar-125 001

Compiled & Edited by
Dr. T K Datta, PC(B) & Director, ICAR-CIRB
Dr. A Bharadwaj, Incharge NPBI
Dr. Sanjay Kumar, Sr. Scientist
Sh. Ramchander, Tech. Officer

Phone: +91-1662-281630/281602
E mail: abharadwaj@mail.com
Website: www.cirb.icar.org.in

COORDINATING UNIT

ICAR- CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES
HISAR – 125 001 (HARYANA)

CONTENTS

NETWORK PROJECT ON BUFFALO IMPROVEMENT

ANNUAL REPORT 2022-23

All India Coordinated Research Project on buffaloes was initiated in the year 1970-71 for genetic evaluation of large and medium size buffaloes which was later on made specific on two important breeds viz. Murrah and Surti in the coordinated program. The main thrust was to test the sires with a view to produce proven bulls for enhancing milk production. The efforts made by scientific manpower through this venture are able to standardize testing methodology and germplasm evaluation for superior bull production of important breeds of buffaloes. The infrastructure has been created which is capable to generate germplasm in the form of bulls and frozen semen at some of the testing centers.

Network Project on Buffalo Improvement and running at ICAR-Central Institute for Research on Buffalo, Hisar since 1993. This has ensured sustained maintenance and production of improved germplasm on large scale for use in buffalo improvement program and for establishing linkages with institutions. This is the only centre in India where semen from progeny tested proven bulls are available. Progeny testing in Murrah Breed is carried out at six participating institutional /SVU centres viz. CIRB Hisar, NDRI Karnal, IVRI Izatnagar, GADVASU Ludhiana, LUVAS Hisar and ICAR Research Complex for Eastren Region Patna.Three funded field centers of Murrah were also initiated in 2001 at CIRB Hisar, NDRI Karnal and GADVASU Ludhiana to produce more number of daughters per bull for accurately evaluating the breeding bulls. 16953 artificial inseminations were carried out in 2022-23 at farmer's door in the village to produce daughters. The milk yields of daughters are being recorded for use in sire evaluation.

Around 1000 breedable buffaloes are being maintained at institutional Murrah centres for production of high genetic merit male and female calves to be used for production of future sires. As per technical program for Murrah breed, a set of upto 18 pedigreed bulls is selected in each set and it is used for AI in the associated herds (1600 AIs per annuam) and field buffaloes (approximately 16000 AIs per annum) for test mating over 18 months duration. From 1st January 2022 to 30th June 2023 semen of XX set was used at all Murrah centres. There were 14 superior bulls in the XX set (5 bulls from CIRB Hisar, 5 bulls from GADVASU Ludhiana, 2 bull from LUVAS, Hisar and 2 bull from NDRI Karnal). So far, 275 superior bulls have been testmated in 20 sets.

Data of 762 daughters born from the 16^{th} set of bulls which completed 1^{st} lactation was compiled and bulls were evaluated. Bull no. M-29 from CIRB Hisar, 1053 from LUVAS Hisar and 2383 from GADVASU Ludhiana ranked 1^{st}, 2^{nd} and 3^{rd} with breeding value 2579 kg, 2567 kg and 2547 kg, respectively. The percent superiority by BLUP Model was 3.82, 3.35 and 2.53, respectively.

Elite herds of Jaffarabadi, Surti, Bhadawari and Nili-Ravi breeds of buffaloes have been established in their respective breeding tracts. Semen freezing laboratories have been established at all the centres. Nili-Ravi and Bhadawari breed centres are functioning as conservation and improvement units and Jaffarabadi and Surti breed centre are concentrating on field progeny testing along with maintaining the elite herd for bull production and testing. A breedable herd of 661 (Nili-Ravi-318, Jaffarabadi-201, Surti-79 and Bhadawari-63) is being maintained at the above four breeds.

During the year 3,44,445 semen doses produced and 2,29,857 semen doses were used for AI's//Exp. or sold. Production and dissemination of Murrah breeing bulls semen doses was 3,03,484 and 1,96,566 respectively, in other breed 40,961 semen doses produced and 33,291 disseminated i.e sale/used in farm herd/ field under field progeny testing program.

HEAD-WISE/YEAR-WISE PHASING OF BUDGET OUTLAY FOR NPBI

Centre wise and Headwise allocation and release of funds for Network Project on Buffalo Improvement as per R E for the FY 2022-23

(Rs. In lakh)

Name of the centre	SALARY		General					Capital									Total			Released ICAR Share
	Total Pay	ICAR share	Rec Cont.	ICAR share	**ICAR share SCSP**	TA	ICAR share	Equi pment	ICAR share	**ICAR share SCSP**	Works	ICAR share	Live-stock	ICAR share	Fur. Fixt.	ICAR Share	Net Requir ement	ICAR Share	State Share	
ICAR Based centres																				
Coordinating Unit, Hisar	0.00	0.00	17.00	17.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.00	**19.00**	0.00
CIRB, Hisar, Main Unit	0.00	0.00	18.00	18.00	1.50	0.00	0.00	4.00	4.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.50	**24.50**	0.00
NDRI Karnal, Main Unit	0.00	0.00	12.00	12.00	0.00	0.00	0.00	1.98	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.98	**13.98**	0.00
IVRI, Izatnagar Main Unit	0.00	0.00	10.00	10.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00	**11.00**	0.00
IGFRI Jhansi	0.00	0.00	24.00	24.00	1.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.50	**25.50**	0.00
ICAR Res. Comp. ER Patna	0.00	0.00	14.00	14.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	**15.00**	0.00
CIRB Sub Campus, Nabha	0.00	0.00	24.00	24.00	1.50	0.00	0.00	4.52	4.52	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.02	**31.02**	0.00
CIRB, Hisar FPT	0.00	0.00	14.00	14.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	**15.00**	0.00
NDRI, Karnal, FPT	0.00	0.00	14.00	14.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	**15.00**	0.00
SAU's Based centres																				
GADVASU, Ludhiana (Murrah)	0.00	0.00	44.00	33.00	1.00	0.00	0.00	8.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.00	**40.00**	13.00
GADVASU, Ludhiana (FPT)	0.00	0.00	20.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	**15.00**	5.00
LUVAS, Hisar	0.00	0.00	44.00	33.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	**34.00**	11.00
KU, Junagadh	0.00	0.00	38.00	28.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00	**29.50**	9.50
RAJVASU, Bikaner	0.00	0.00	38.00	28.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00	**29.50**	9.50
MPKV, Kolhapur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00
GADVASU, Ludhiana (Nili-Ravi)	0.00	0.00	20.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	**15.00**	5.00
Total (ICAR+State)	**0.00**	**0.00**	**351.0**	**300.00**	**10.00**	**0.00**	**0.00**	**22.00**	**20.00**	**3.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	0.00	**386.00**	**333.00**	**53.00**
ICAR Share	**0.00**		**300.00**		**10.00**	**0.00**		**20.00**		**3.00**	**0.00**		**0.00**		**0.00**			**333.00**		
State Share	0.00		51.00			0.00		2.00			0.00		0.00		0.00			53.00		

PARTICIPATING CENTRES (As on 31.03.2023)

Coordinating Unit, CIRB, Hisar

Sr No	Name of centre	Breed	Year of start
Agricultural University based centers			
I	GADVASU, Ludhiana	Murrah	1993
II	LUVAS, Hisar	Murrah	1993
III	KU, Junagarh	Jaffarabadi	2001
IV	RAJUVAS, Vallabhnagar	Surti	2001
V	Field Unit GADVASU, Ludhiana	Murrah	2001
VI	GADVASU, Ludhiana	Nili-Ravi	2018
ICAR Institute based Centres			
I	ICAR-CIRB, Hisar (Main Unit)	Murrah	1993
II	ICAR-NDRI, Karnal (Main Unit)	Murrah	1993
III	ICAR-IVRI, Izatnagar (Main Unit)	Murrah	1993
IV	ICAR- IGFRI, Jhansi	Bhadawari	2001
V	ICAR-CIRB, Sub - Campus Nabha	Nili-Ravi	2001
VI	Field Unit NDRI, Karnal	Murrah	2001
VII	Field Unit CIRB, Hisar	Murrah	2001
VIII	ICAR Res. Comp. ER Patna (Main Unit)	Murrah	2014

Scientist Meets:	**Place**	**Duration**
1st Scientist meet	GAU, Junagarh,	February 10 - 11, 1993
2ndScientist meet	PAU Ludhiana	April 28 - 29, 1994
3rdScientist meet	RAU, Udaipur	November 2 - 3, 1995
4thScientist meet	PAU, Ludhiana	July 28 - 29, 2000
5thScientist meet	AAU, Khanapara	January 3- 4, 2002
6thScientist meet	MPKV, Kolhapur	April 5 - 6, 2005
7thScientist meet	CIRB, Hisar	April 4 - 5, 2007
8thScientist meet	JAU, Junagadh	March 5 - 6, 2009
Midterm Review meet	CIRB, Hisar	December 5th, 2009
9th Scientist meet	CIRB, Hisar	November 27 - 28, 2010
10thAnnual Review Meet	Bhuj, Gujarat	September 2 - 3, 2011
11thAnnual Review Meet	NDRI, Karnal	August 24th, 2012
12thAnnual Review Meet	LRS Vallabhnagar	September 9-10, 2014
13th Annual Review Meet	CIRB, Hisar	September 23-24, 2015
14th Annual Review Meet	GADVASU, Ludhiana	July 04 - 05, 2016
15th Annual Review Meet	ICAR RCER, Patna	July 21 - 22, 2017
16th Annual Review Meet	ICAR-NDRI, Karnal	November 19 - 20, 2018
17th Annual Review Meet	ICAR-NASC Complex, New Delhi	August 27 - 28, 2019
18th Annual Review Meet	Virtual mode by ICAR-CIRB, Hisar	March 19th 2021
19th Annual Review Meet	Virtual mode by ICAR-CIRB, Hisar	July 28th 2022

CENTRE WISE PERFORMANCE, RESEARCH ACHIEVEMENTS AND PROJECT COORDINATOR OBSERVATIONS

Participating Institutional herds of Murrah Breeds

1.	**ICAR-CIRB Hisar**	ICAR based
2.	**ICAR-NDRI Karnal**	ICAR based
3.	**ICAR-IVRI Izatnagar**	ICAR based
4.	**ICAR Res. Complex for ER Patna**	ICAR Based
5.	**GADVASU Ludhiana**	SAU based
6.	**LUVAS, Hisar**	SAU based

Mandate of Network Project

To undertake genetic improvement and conservation of important breeds of buffaloes

Objectives:

1. To establish elite herd of 1200 breedable Murrah / 400 Nili-Ravi / 225 Jaffarabadi / 75 Bhadawari /100 Surti buffalo for the production of genetically superior young bulls.
2. To evaluate sires through institutional / associated herd/field progeny testing.
3. To produce, test, propagate and conserve high genetic merit male germplasm.

Technical Programme: The technical programme involves testing of 12-15 bulls on about 1000 breedable buffaloes at organised farms at GADVASU, Ludhiana; CIRB, Hisar; NDRI, Karnal; IVRI, Izatnagar; in every 18-month's cycle. From each bull 75-80 pregnancies are to be obtained so that 20-25 recorded daughters per bull are available at all the centres for the evaluation of bulls. The bulls will be ranked on the basis of performance of their daughters and 20% of them will be selected as proven bulls from each set. The semen of the proven bulls will be used on elite buffaloes at different centres for the production of future sires and herd replacements.

A. Growth rate targets:-

Age group	Target growth rate (g) per day		Expected body weight at terminal age (kg)	
	Female	Male	Female	Male
Birth-6 mths	450	450	112	112
6-18 mths	500	550	294	312
18-24 mths	400	530	367	410
24-30 mths	400	450	440	520
30-36 mths	300	350	495	584

N.B. Average birth weight, 30kg

B. Reproduction and production targets: -

i.	Av. age at first service	= 24 months (300kg B. wt.)
ii.	Av. age at first calving	= 40 months
iii.	AV. age for initiating training of bulls	= 18 months (350 kg B. wt.)
iv.	Av. age at first collection	= 30 months (400 kg B.wt.)
v.	Av. service period	= 130 days
vi.	Calf mortality (0-3 mths)	= ≤3%
vii.	Wet average	= ≥ 8.5 kg
viii.	Herd average	= ≥5.5 kg

ICAR-CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES, HISAR (MAIN UNIT)

Report Period : 2022-23

1. Name of centre : CIRB, Hisar
2. Project Code :
3. Project Title : Network Project on Buffalo Improvement (Murrah)
4. Date of Start : 1993
5. **Objective:**
   - i. To establish elite herd of 50 to 100 Murrah (at each center) for the production of genetically superior young bulls.
   - ii. To evaluate sires through institutional / associated herd/field progeny testing
   - iii. To produce, test, propagate and conserve high genetic merit male germplasm

6. Technical Programme:

- I. Establishment and maintenance of an elite herd of Murrah buffalo with a herd strength of 500 and 300 breedable females.
- II. Selection and testing of minimum 15 bulls of Murrah in every 18 months cycle.
- III. Production of minimum 10,000 frozen semen doses from each test bull.
- IV. Maintain a minimum number of 8000 frozen semen doses until the particular SET gets evaluated.
- V. Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
- VI. Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
- VII. Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield.
- VIII. Life time productivity traits viz: herd life, productive life, lifetime milk yield, milk yield per day of herd life for buffaloes completed 4th or more lactation.
- IX. Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds.
- X. Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
- XI. Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. Financial Statement for 2022-23:

(Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure		Balance
Total	ICAR Share		ICAR Share	State Share	
24.50	24.50	24.50	24.50	0.00	0.00

8. Staff Position : Redemployment

9. **Herd Performance**

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition			Disposal				CB
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	**CB**
	Female								
1.	Below 3 months	16	99		4		1		**12**
2.	3-12 months	67			2		1		**77**
3.	1-2 years	77					1		**82**
	Above 2 years	82					13		**86**
4.	Buffaloes in Milk	138			2		59		**136**
5.	Buffaloes Dry P /NP	51			2		21		**31**
	Sub Total	**431**	**99**		**10**		**96**		**424**
	Males								
1.	Below 3 months	13	79		3		5		**13**
2.	3-12 months	52			3		12		**53**
3.	1-2 years	51					52		**25**
	Above 2 years	13					12		**30**
4.	Breeding bulls	16					2		**14**
5.	Bullocks/Teasers/others	0							**0**
	Sub Total	**145**	**79**		**6**		**83**		**135**
	Grand Total	**576**	**178**		**16**		**179**		**559**

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March

9.2 Calving Statistics during the period April 2022 – March 2023

Month	Male	Female	Still Birth	Abortion	Overall
April-2022	4	7	1	--	11
May	3	4	1	1	9
June	4	10	1	--	14
July	8	11	--	1	19
August	8	12	1	1	23
September	10	15	1	1	25
October	8	8	--	--	16
November	11	11	1	--	23
December	9	8	--	--	19
January-2023	4	7	--	--	11
February	3	2	--	--	7
March	7	4	--	--	12
Overall	**79**	**99**	**6**	**4**	**190**

9.3. Disposal of Animals (1st April 2022 to 31st March 2023)

Female	Primary cause of disposal							
Category	Surplus	Low Producers	Reprod. Problem	Weak & Old	Udder Health	Death	Exptl.	**Total**
Calves								
0 to 3 months	01	--	--	--	--	04	--	**05**
3-12 months	--	--	--	01	--	02	--	**03**
Heifers								
1-2 years	--	--	--	01	--	--	--	**01**
> 2 years	03	--	10	--	--	-	--	**13**
Buffaloes								
Milch	20	07	14	05	13	02	--	**61**
Dry	05	01	09	03	03	02	--	**23**
Sub Total	**29**	**08**	**33**	**10**	**16**	**10**	**--**	**106**
Males	Primary cause of disposal							
Calves								
0 to 3 months	05	--	--	--	--	03	--	**08**
3-12 months	12	--	--	--	--	03	--	**15**
Young bull								
1-2 years	51	--	01	--	--	--	--	**52**
>2 years	03	--	09	--	--	--	--	**12**
Breeding bulls	02	--	--	--	--	--	--	**02**
Bullock+Teaser etc	--	--	--	--	--	--	--	**--**
Sub Total	**73**	**--**	**10**	**--**	**--**	**06**	**--**	**89**
Grand Total	**102**	**08**	**43**	**10**	**16**	**16**	**--**	**195**

9.4 Mortality during the Period 1st April 2022 to 31st March, 2023

Month	**Details**	**Female**						**Male**					**Total (Male + female)**
		0-3 (Month)	**3-6**	**6-12**	**>1yrs**	**>2yrs**	**Overall**	**0-3 (Month)**	**3-6**	**6-12**	**>1yrs**	**Overall**	
April	No	15	23	45	71	254	408	10	14	28	86	138	546
	Died	--	--	--	--	--	--	--	--	--	--	--	--
	%	--	--	--	--	--	--	--	--	--	--	--	--
May	No	16	23	44	74	223	405	14	14	38	85	147	552
	Died	--	--	--	--	--	--	--	--	--	--	--	--
	%	--	--	--	--	--	--	--	--	--	--	--	--
June	No	13	24	42	80	230	409	9	14	41	86	150	559
	Died	--	--	--	--	--	--	01	--	--	--	01	01
	%	--	--	--	--	--	--	11.11	--	--	--	2.0	0.18
July	No	21	15	53	79	252	420	10	13	37	92	152	572
	Died	--	--	--	--	--	--	--	--	--	--	--	--
	%	--	--	--	--	--	--	--	--	--	--	--	--
August	No	25	16	48	79	263	431	15	9	37	93	154	585
	Died	--	--	--	--	01	01	--	--	--	--	--	1
	%	--	--	--	--	0.38	0.23	--	--	--	--	--	0.17
September	No	30	13	46	78	273	440	20	8	35	96	159	599
	Died	01	--	--	--	--	01	01	--	--	--	01	02
	%	3.33	--	--	--	--	0.23	5.0	--	--	--	0.63	0.33
October	No	37	21	39	80	282	459	25	10	27	101	163	622
	Died	01	--	--	--	--	01	--	--	--	--	--	01
	%	2.70	--	--	--	--	0.22	--	--	--	--	--	0.16

November	No	33	24	39	77	253	426	24	14	23	98	159	585
	Died	--	--	--	--	--	--	--	--	--	--	--	--
	%	--	--	--	--	--	--	--	--	--	--	--	--
December	No	33	31	37	78	258	437	28	18	25	92	163	600
	Died	01	--	--	--	01	02	--	--	01	--	01	03
	%	3.03	--	--	--	0.39	0.46	--	--	04	--	0.61	0.5
January	No	26	36	35	79	267	443	26	23	20	76	145	588
	Died	01	--	--	--	--	01	--	--	--	--	--	01
	%	3.85	--	--	--	--	0.23	--	--	--	--	--	0.17
February	No	24	33	39	78	275	449	22	24	19	78	147	596
	Died	--	--	01	--	--	01	01	--	--	--	01	02
	%	--	--	2.56	--	--	0.22	4.55	--	--	--	0.68	0.34
March	No	12	38	39	82	253	424	13	32	21	69	135	559
	Died	--	--	01	--	02	03	--	--	02	--	02	05
	%	--	--	2.56	--	0.79	0.71	--	--	9.52	--	1.48	0.89

Overall Calf mortality (0-3 months): 3.38 % (7/207)

9.5. Causes of Mortality (qtr. wise) during the period 1st April 2022 to 31st March, 23

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	Total
Enteritis	1	2	1	1	5
Pheumonities	0	0	1	1	2
Peritonitis	0	0	0	0	0
TRP / TP	0	0	0	0	0
Miscellaneous	0	1	2	6	9
Total	1	3	4	8	16

9.6 Prophylactic Measures undertaken during 2022-23

Disease	**Vaccination: Month / No. of animals**	**No. of animals** Tested / Positive		**Month and No. of animals treated for Parasitism**
FMD	July/606, Oct/616, Feb/611	----	----	Apr/120, May/81, Jun/82, Jul/82, Aug/96, Sept/107, Oct/100, Nov/100, Dec/96, Jan/87, Feb/94, Mar/9
HS	July/606, Oct/616, Feb/611	----	----	
BQ	July/606, Feb/611	----	----	
Brucellosis	June/26, Dec. /37, Mar/13	51	Nil	
JD		36	Nil	
TB		36	Nil	
IBR		40	01	
Mastitis		218	23	
Trichomnas		16	Nil	
Campylobacter		16	Nil	

9.7 Female Conception Rate During the Period January to December 2022

Category →	**Heifers**			**Adult**			**Overall**		
AI ↓	**I**	**C**	**CR%**	**I**	**C**	**CR%**	**I**	**C**	**CR%**
1st	89	45	50.56	133	60	45.11	222	105	47.30
2nd	40	15	37.50	86	44	51.16	126	59	46.83
3rd	19	9	47.37	27	17	62.96	46	26	56.52
4th & above	16	4	25.00	64	23	35.94	80	27	33.75
Overall	**164**	**73**	**44.51**	**310**	**144**	**46.45**	**474**	**217**	**45.78**

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8 Quarter-wise conception rate

Quarter	No. of A I	Pregnancy	CR %
January – March 22 Previous year	99	62	62.63
April – June 2022	56	20	35.71
July – September 2022	91	43	47.25
October- December 2022	228	92	40.35
Overall	**474**	**217**	**45.78**

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. No.	Bull No.	SET No.	Total AI	Conceived	CR%
1.	2674	19th	2	1	50.00
2.	19	20th	28	11	39.29
3.	1454	20th	29	9	31.03
4.	2793	20th	27	13	48.15
5.	2831	20th	24	12	50.00
6.	2838	20th	13	7	53.85
7.	3004	20th	15	3	20.00
8.	5427	20th	27	16	59.26
9.	5481	20th	10	9	90.00
10.	5500	20th	11	9	81.82
11.	5505	20th	29	13	44.83
12.	5511	20th	48	20	41.67
13.	5588	20th	12	8	66.67
14.	7584	20th	35	17	48.57
15.	7649	20th	43	17	39.53
16.	3591 PT	11th	37	10	27.03
17.	6044 PT	14th	14	1	7.14
18.	2459 PT	15th	10	4	40.00
19.	4354 PT	15th	8	7	87.50
20.	6007 PT	15th	32	19	59.38
21.	4592	16th	20	11	55.00
Over all			**474**	**217**	**45.78**

9.10 Bull Wise Semen Stock

Sr. No.	Bull No	Centre	SET	Dam's Best SLMY/ Peak Yield	Opening balance	Received	Sold	Supp.	Exp.	Balance
1	392 PT	CIRB	I	2594	113	0	0	0	0	113
2	3567 PT	NDRI	I	2877	250	0	0	0	0	250
3	896	CIRB	I	3003	142	0	0	0	0	142
4	3098	NDRI	I	3164	250	0	0	0	0	250
5	761 PT	CIRB	II	2578	276	0	0	0	0	276
6	93 PT	CIRB	II	22kg	88	0	0	0	0	88
7	829 PT	CIRB	II	2626	250	0	0	0	0	250
8	759	CIRB	II	2650	198	0	0	0	0	198
9	3638	NDRI	II	3278	250	0	0	0	0	250
10	3551	NDRI	II	3898	136	0	0	0	0	136
11	1253	GAD	II	3348	36	0	0	0	0	36
12	1268	GAD	II	2802	265	0	0	0	0	265
13	1290	GAD	II	2628	250	0	0	0	0	250
14	1153 PT	CIRB	III	2540	250	0	0	0	0	250
15	1061	CIRB	III	2846	209	0	0	0	0	209
16	1354 PT	GAD	III	3088	108	0	0	0	0	108
17	1165	CIRB	III	2627	250	0	0	0	0	250

18	3930	NDRI	III	2912	250	0	0	0	0	250
19	1131	CIRB	III	2827	98	0	0	0	0	98
20	3966	NDRI	III	3700	258	0	0	0	0	258
21	1023	CIRB	III	2710	252	0	0	0	0	252
22	1171	CIRB	III	3007	256	0	0	0	0	256
23	993	CIRB	III	2976	100	0	0	0	0	100
24	1315	GAD	III	2808	266	0	0	0	0	266
25	1084	CIRB	III	3007	98	0	0	0	0	98
26	1506 PT	GAD	IV	3018	250	0	0	0	0	250
27	1451 PT	GAD	IV	3401	250	0	0	0	0	250
28	1437	GAD	IV	3127	250	0	0	0	0	250
29	1319	CIRB	IV	2538	250	0	0	0	0	250
30	1341	CIRB	IV	2878	83	0	0	0	0	83
31	1538	CIRB	IV	2786	98	0	0	0	0	98
32	1363	CIRB	IV	3031	98	0	0	0	0	98
33	1434	CIRB	IV	2640	6	0	0	0	0	6
34	1360	CIRB	IV	2537	250	0	0	0	0	250
35	1485	CIRB	V	2523	246	0	0	0	0	246
36	4371 PT	NDRI	V	3258	253	0	0	0	0	253
37	4245	NDRI	V	3215	250	0	0	0	0	250
38	4395	NDRI	V	3344	116	0	0	0	0	116
39	1798	CIRB	V	2753	250	0	0	0	0	250
40	1641	CIRB	V	2753	34	0	0	0	0	34
41	1536	GAD	V	3786	259	0	0	0	0	259
42	1491	CIRB	V	3148	250	0	0	0	0	250
43	1555	GAD	V	2948	175	0	0	0	0	175
44	1749	CIRB	V	2796	173	0	0	0	0	173
45	1573	GAD	V	2866	279	0	0	0	0	279
46	1717	GAD	VI	2775	68	0	0	0	0	68
47	1153 PT	HAU	VI	2675	250	0	0	0	0	250
48	4506 PT	NDRI	VI	3512	123	0	0	0	0	123
49	1933	CIRB	VI	2650	250	0	0	0	0	250
50	1944	CIRB	VI	2752	148	0	0	0	0	148
51	1135	CIRB	VI	3250	132	0	0	0	0	132
52	1667	GAD	VI	2988	58	0	0	0	0	58
53	1836	CIRB	VI	2744	133	0	0	0	0	133
54	1922	CIRB	VI	2684	83	0	0	0	0	83
55	2028	CIRB	VI	2689	142	0	0	0	0	142
56	1796 PT	GAD	VII	3170	9	0	0	0	0	9
57	2331	CIRB	VII	2664	250	0	0	0	0	250
58	4807	NDRI	VII	3437	68	0	0	0	0	68
59	1749	GAD	VII	3182	68	0	0	0	0	68
60	1727	GAD	VII	3098	47	0	0	0	0	47
61	1419	CIRB	VII	3042	267	0	0	0	0	267
62	2363	CIRB	VII	2654	153	0	0	0	0	153
63	1746	GAD	VII	2718	40	0	0	0	0	40
64	2184	CIRB	VII	2574	188	0	0	0	0	188
65	1875 PT	GAD	VIII	2714	42	0	0	0	0	42
66	4813 PT	NDRI	VIII	3016 (1)	18	0	0	0	0	18
67	2422	CIRB	VIII	3369	250	0	0	0	0	250
68	2522	CIRB	VIII	2567	98	0	0	0	0	98
69	1868	GAD	VIII	2591	160	0	0	0	0	160
70	2308	CIRB	VIII	2655	250	0	0	0	0	250
71	2250	CIRB	VIII	2748	100	0	0	0	0	100
72	5049	NDRI	VIII	2912	68	0	0	0	0	68
73	1867	GAD	VIII	2709 (1)	250	0	0	0	0	250
74	1509	CIRB	VIII	3690	112	0	0	0	0	112
75	4865	NDRI	VIII	3392	38	0	0	0	0	38
76	1893	GAD	VIII	2753	150	0	0	0	0	150
77	2479	CIRB	VIII	2519	100	0	0	0	0	100
78	1994 PT	GAD	IX	2938	253	0	0	0	0	253
79	5197	NDRI	IX	2831	250	0	0	0	0	250

80	2582	CIRB	IX	2836	111	0	0	0	0	111
81	5112	NDRI	IX	2831	250	0	0	0	0	250
82	2720		IX	2664	162	0	0	0	0	162
83	1903	GAD	IX	2718	136	0	0	0	0	136
84	1575	CIRB	IX	3194	100	0	0	0	0	100
85	2592	CIRB	IX	3336	173	0	0	0	0	173
86	5218	NDRI	IX	3333	170	0	0	0	0	170
87	2910	CIRB	IX	3062	147	0	0	0	0	147
88	1940	GAD	IX	2775	250	0	0	0	0	250
89	1913	GAD	IX	2740	251	0	0	0	0	251
90	1964	GAD	IX	2672	13	0	0	0	0	13
91	333 Golu	Didwadi	IX	22 kg PY	48	0	0	0	0	48
92	2990	CIRB	X	2655	250	0	0	0	0	250
93	3103	CIRB	X	2942	250	0	0	0	0	250
94	1693 PT	CIRB	X	3194	230	0	0	0	0	230
95	2045 PT	GAD	X	3369	447	0	0	0	0	447
96	507	CIRB	X	2572	250	0	0	0	0	250
97	2062	GAD	X	2672	250	0	0	0	0	250
98	2073	GAD	X	2717	250	0	0	0	0	250
99	2074	GAD	X	3050	250	0	0	0	0	250
100	2083	GAD	X	3063	250	0	0	0	0	250
101	3631	CIRB	X	18 kg PY	250	0	0	0	0	250
102	ND2	NDAUT	X	2583	135	0	0	0	0	135
103	3267 PT	CIRB	XI	2489	230	0	0	0	0	230
104	3591 PT	CIRB	XI	2598	730	0	0	160	0	570
105	2133	GAD	XI	2844	250	0	0	0	0	250
106	2148	GAD	XI	3008	102	0	0	0	0	102
107	2154	GAD	XI	2593	98	0	0	0	0	98
108	3226	CIRB	XI	2655	250	0	0	0	0	250
109	3255	CIRB	XI	3051	250	0	0	0	0	250
110	12-HAU	CIRB	XI	2858	230	0	0	0	0	230
111	5489	NDRI	XI	3031	250	0	0	0	0	250
112	5496	NDRI	XI	2780	250	0	0	0	0	250
113	5516	NDRI	XI	2765	250	0	0	0	0	250
114	ND6	NDAUT	XI	2702	250	0	0	0	0	250
115	ND8	NDAUT	XI	2702	250	0	0	0	0	250
116	2185 PT	GAD	XII	3423	241	0	0	0	0	241
117	183 PT	HAU	XII	2824	1283	0	0	0	0	1283
118	2176	GAD	XII	2754	208	0	0	0	0	208
119	2177	GAD	XII	3024	275	0	0	0	0	275
120	3598	CIRB	XII	2655	250	0	0	0	0	250
121	R-10	CIRB	XII	5192	382	0	0	0	0	382
122	R-11	CIRB	XII	4000	614	0	0	0	0	614
123	220	HAU	XII	2631	266	0	0	0	0	266
124	4059	CIRB	XIII	2510	250	0	0	0	0	250
125	3964	CIRB	XIII	3369	250	0	0	0	0	250
126	4440	CIRB	XIII	2850	250	0	0	0	0	250
127	4441	CIRB	XIII	3805	250	0	0	0	0	250
128	4442	CIRB	XIII	2882	250	0	0	0	0	250
129	5943	NDRI	XIII	3232	83	0	0	0	0	83
130	2234 PT	GAD	XIII	3114	20	0	0	0	0	20
131	2269 PT	GAD	XIII	3617	230	0	0	0	0	230
132	2304	GAD	XIII	3114	96	0	0	0	0	96
133	4439	CIRB	XIV	22 kg PY	951	0	0	0	0	951
134	4093	CIRB	XIV	3040	250	0	0	0	0	250
135	4196 PT	CIRB	XIV	3304	858	155	120	50	0	843
136	4100	CIRB	XIV	2971	250	0	0	0	0	250
137	6014	NDRI	XIV	3072	250	0	0	0	0	250
138	6044 PT	NDRI	XIV	3567	784	0	0	150	0	634
139	6136	NDRI	XIV	4341	1158	0	20	0	0	1138
140	2369	GAD	XIV	3114	250	0	0	0	0	250
141	2357 PT	GAD	XIV	3559	813	71	90	0	0	794

142	4354 PT	CIRB	XV	3605	6102	0	55	175	0	5872
143	4324	CIRB	XV	3528	500	0	0	0	0	500
144	4438	CIRB	XV	3222	500	0	0	0	0	500
145	4363	CIRB	XV	3068	500	0	0	0	0	500
146	4403	CIRB	XV	3059	500	0	0	0	0	500
147	4328	CIRB	XV	3228	842	0	300	0	0	542
148	2371	GAD	XV	3053	495	0	0	0	0	495
149	2412	GAD	XV	2998	566	0	0	0	0	566
150	2417	GAD	XV	3565	1218	0	660	0	0	558
151	2429	GAD	XV	3435	540	0	0	0	0	540
152	2459 PT	GAD	XV	4636	2195	0	258	75	0	1862
153	6007 PT	NDRI	XV	3260	1532	0	40	191	0	1301
154	6139	NDRI	XV	2828	500	0	0	0	0	500
155	6290	NDRI	XV	4341	500	0	0	0	0	500
156	6405	NDRI	XV	2743 (1)	520	0	0	0	0	520
100	4889	CIRB	XVI	4120	8000	0	100	40	0	7860
158	4705	CIRB	XVI	3990	6199	0	0	0	0	6199
159	4592	CIRB	XVI	3528	5975	0	40	60	0	5875
160	M-29 PT	CIRB	XVI	4600	7266	0	6	10	0	7250
161	1027	LUVAS	XVI	3763	6926	0	0	0	0	6926
162	1053 PT	LUVAS	XVI	3559	6622	0	0	0	0	6622
163	1064	LUVAS	XVI	3579	5816	0	0	0	0	5816
164	2467	GAD	XVI	3574	2026	0	0	0	0	2026
165	2501	GAD	XVI	3053	2638	0	0	0	0	2638
166	2383 PT	GAD	XVI	4636	1981	0	0	0	0	1981
167	6379	NDRI	XVI	3505	2257	0	0	0	0	2257
168	6409	NDRI	XVI	4090	2207	0	0	0	0	2207
169	6646	NDRI	XVI	3533	2023	0	0	0	0	2023
170	6753	NDRI	XVI	3389	2508	0	0	0	0	2508
171	M-51	CIRB	XVII	4668	8000	860	470	0	0	8390
172	4715	CIRB	XVII	3059	6043	0	40	0	0	6003
173	4733	CIRB	XVII	2851	6376	0	40	0	6	6330
174	4687	CIRB	XVII	3309	3988	0	40	0	6	3942
175	M-53	CIRB	XVII	4100	8000	0	50	0	0	7950
176	Sikander	PVT	XVII	28.9 kg	3823	0	0	0	0	3823
177	Daara	PVT	XVII	28.9 kg	1635	0	0	0	0	1635
178	2565	GAD	XVII	3287	439	0	0	0	0	439
179	2594	GAD	XVII	3557	849	0	0	0	0	849
180	7010	NDRI	XVII	3068	2200	0	0	0	0	2200
181	4837	CIRB	XVII	3076	7418	0	40	0	0	7378
182	2558	GAD	XVII	3574	1194	0	0	0	0	1194
183	B1-330	CIRB	XVII	4595	7953	0	100	0	0	7853
184	2607	GAD	XVII	3899	370	0	0	0	0	370
185	1148	LUVAS	XVII	3124	7995	0	0	0	6	7989
186	6942	NDRI	XVII	3188	2625	0	0	0	0	2625
187	4905	CIRB	XVIII	3371/14.0	8000	0	0	0	0	8000
188	5147	CIRB	XVIII	3057/14.8	8000	0	0	0	0	8000
189	1209	LUVAS	XVIII	3593/17.2	7485	0	0	0	0	7485
190	4995	CIRB	XVIII	3064/15.5	8000	0	0	0	0	8000
191	7094	NDRI	XVIII	3465/17.0	1948	0	0	0	0	1948
192	7227	NDRI	XVIII	3099/16.5	498	0	0	0	0	498
193	7147	NDRI	XVIII	3108/15.5	2248	0	0	0	0	2248
194	2676	GAD	XVIII	3023/15.5	2370	0	0	0	0	2370
195	2677	GAD	XVIII	3135/16.5	2375	0	0	0	0	2375
196	1219	LUVAS	XVIII	3837/17.8	4230	0	0	0	0	4230
197	2689	GAD	XVIII	3151/18.8	737	0	0	0	0	737
198	7263	NDRI	XVIII	3465/17.0	2080	0	0	0	0	2080
199	1208	CIRB	XVIII	3437/15.1	8000	0	0	0	0	8000
200	1150	CIRB	XVIII	3127/15.9	8000	0	0	0	0	8000
201	2645	GAD	XVIII	3394/19.0	1794	0	0	0	0	1794
202	2674	GAD	XIX	3583/23.0	2612	0	0	0	0	2612
203	2737	GAD	XIX	3241/22.8	475	585	0	0	0	1060

204	2759	GAD	XIX	3340/20.7	2605	0	0	0	0	2605
205	7604	NDRI	XIX	3158/16.0	1345	0	0	0	0	1345
206	1315	LUVAS	XIX	3824/18.4	6467	0	560	0	0	5907
207	5181	CIRB	XIX	3428/17.9	8875	0	0	0	0	8875
208	5246	CIRB	XIX	3124/15.7	9240	0	0	0	0	9240
209	5232	CIRB	XIX	3513/16.3	9635	0	0	0	0	9635
210	5310	CIRB	XIX	4069/20.0	8620	520	0	0	0	9140
211	5320	CIRB	XIX	3340/15.2	7961	0	0	0	0	7961
212	5333	CIRB	XIX	3304/17.6	8213	0	0	0	0	8213
213	5374	CIRB	XIX	3244/17.4	8203	0	0	0	0	8203
214	7584	NDRI	XX	3600/16.5	930	1670	0	640	0	1960
215	7649	NDRI	XX	3203/13.5	940	2170	0	780	0	2330
216	2793	GAD	XX	3339/21.5	70	1245	0	770	0	545
217	2814	GAD	XX	3430/23.4	300	790	0	1090	0	0
218	2831	GAD	XX	4814/28.7	70	3410	0	1650	0	1830
219	2838	GAD	XX	3340/22.7	0	2820	0	1760	0	1060
220	2848	GAD	XX	3304/20.5	20	725	0	270	0	475
221	2850	GAD	XX	3683/20.6	250	2385	0	1555	0	1080
222	3004	GAD	XX	4716/26.2	65	2170	0	1265	0	970
223	19	LUVAS	XX	3695/21.6	0	7050	0	3940	0	3110
224	1454	LUVAS	XX	3355/17.4	20	9960	0	3395	0	6585
225	5427	CIRB	XX	3371/15.3	660	8000	250	470	0	7940
226	5481	CIRB	XX	3332/16.6	0	2100	0	2100	0	0
227	5500	CIRB	XX	3271/16.5	0	7600	0	4250	0	3350
228	5505	CIRB	XX	4138/22.0	0	3330	0	1535	0	1795
229	5511	CIRB	XX	3356/17.4	0	1500	0	1470	0	30
230	5588	CIRB	XX	4216/20.0	0	3422	0	2015	0	0
231	5592	CIRB	XX	3242/17.0	0	2280	0	1040	0	0
			Total		**323813**	**64818**	**3279**	**30906**	**18**	**351781**
	Non-set/Field bulls				Opening B.	Received	Sold	Supply	Exp.	Balance
1	M-188	CIRB	NS	4100	620	180	0	0	0	620
2	5405	CIRB	NS	3179/16.1	500	0	0	0	0	680
3	Yuvraj	PVT	Field		17	0	0	0	0	17
4	Heera	PVT	Field		50	0	0	0	0	50
5	Dhanna	PVT	Field		95	0	0	0	0	95
6	Ramu Hariana	Sirsa	cow bull		223	180	2	0	0	221
7	5629	CIRN	NS		0	520	320	0	0	200
	Total				**1505**	**880**	**322**	**0**	**0**	**1883**
				Overall Total	**325318**	**65698**	**3601**	**30906**	**18**	**353844**

Summary Report (2022-23)

Sr. No.	Brief Information	2022-23	2021-22	2020-21
1	Opening balance on 1st April	325318	394070	373330
2	Semen Production up to March	234133	178673	129334
3	Semen doses received	65698	22855	9267
4	Semen doses supplied NPBI	30906	31113	25389
5	Semen doses sold up to March	101787	131968	94320
6	Semen doses used for Experiment	18	85	359
7	**Closing Balance**	**353844**	**432432**	**394325**

9.11 Average Body weight (kg) since inception (Indicate number of animals in parenthesis) : NA

9.12 Production Performance during 1st April 2022 to 31st March 2023

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	53	2532.23±87.69	303.49±7.31	2427.15±68.63	12.38±0.25
2nd	42	3185.48±91.74	302.29±7.74	3101.26±81.19	16.35±0.33
3rd	24	2999.75±117.95	282.63±9.02	2961.71±105.37	16.66±0.36
4th	12	3702.92±130.37	321.08±11.89	3585.08±140.72	19.13±0.69
5th & above	15	3084.87±228.02	299.40±14.23	2984.33±179.18	16.35±0.85
Overall	**146**	**2950.00±59.62**	**300.74±4.18**	**2861.36±52.78**	**15.19±0.26**

9.12.1 Production Performance of Buffaloes since Inception of Network

Year	Av. Lact. Yield (Kg)	Av. Lact. Length (days)	305-day Lact. Milk Yield (Kg)	Av. Peak yield (Kg)
1991-92	1761±77 (154)	374±9 (154)	1552±60 (154)	-
1992-93	1804±48 (137)	395±8 (137)	1508±34 (137)	7.46
1993-94	1980±58 (148)	419±7 (148)	1686±46 (148)	8.20
1994-95	1930±37 (206)	334±5 (206)	1787±0 (206)	8.89
1995-96	1936±47 (147)	313±7 (147)	1855±42 (147)	9.40
1996-97	1879±51 (173)	313±7 (173)	1775±45 (173)	-
1997-98	1784±44 (123)	304±6 (123)	1688±37 (123)	-
1998-99	1762±36 (153)	284±16 (153)	1702±33 (153)	-
1999-00	2138±38 (141)	313±4 (141)	2042±31 (141)	-
2000-01	1997±41 (173)	306±9 (173)	1914±36 (173)	9.68
2001-02	1954±40 (152)	290±4 (152)	1898±35 (152)	9.71
2002-03	1987±39 (148)	303 ±5 (148)	1902±32 (148)	9.20
2003-04	1910±37 (148)	299±5 (148)	1837±31 (148)	9.18
2004-05	2017±40 (167)	319±5 (167)	1886±33 (167)	9.33±0.16
2005-06	2047±45 (149)	321±5 (149)	1921± 38 (149)	8.76±0.19
2006-07	1995±37 (170)	322±4 (170)	1882± 32 (170)	9.23±0.15
2007-08	1954±38.02 (127)	299±4.66 (127)	1891± 34.12 (127)	9.72±0.19 (127)
2008-09	2076 (138)	325 (138)	1926 (138)	9.50 (138)
2009-10	2285 (102)	361 (102)	1995 (102)	9.54 (102)
2010-11	2471 (113)	337 (113)	2247 (113)	10.48 (113)
2011-12	2598 (116)	338 (116)	2374 (116)	12.29 (116)
2012-13	2478±54.36 (110)	318±6.14 (110)	2335±45.71 (110)	11.23±0.23 (110)
2013-14	2394±44.16 (98)	333±6.92 (98)	2291±58.25 (98)	11.03±0.19 (98)
2014-15	2501.72±60.17 (110)	313.05±5.57 (110)	2354.65±47.55 (110)	11.26±0.17 (110)
2015-16	2483.11±43.68 (152)	322.19±4.91 (152)	2336.06±33.36 (152)	11.17±0.15 (152)
2016-17	2567.15±49.75 (133)	312.04±4.44 (133)	2457.17±39.61 (133)	12.22±0.15 (133)
2017-18	2480.38±55.06 (140)	294.98±3.62 (140)	2423.79±48.86 (140)	12.74±0.23 (140)
2018-19	2640.56±56.76 (123)	304.63±3.83 (123)	2566.96±49.21 (123)	13.36±0.24 (123)
2019-20	2732.47±59.27 (128)	300.02±4.46 (128)	2648.39±52.53 (128)	13.90±0.21 (128)
2020-21	2843.04±50.25 (148)	307.78±4.27 (148)	2730.30±41.52 (148)	13.32±0.19 (148)
2021-22	2950.29±59.66 (153)	301.40±4.29 (153)	2852.06±48.96 (153)	14.37±0.23 (153)
2022-23	**2950.00±59.62 (146)**	**300.74±4.18 (146)**	**2861.36±52.78 (146)**	**15.19±0.26 (146)**

9.13 Average Milk Composition from April 2022 to March 2023

Month	No. of Animals (N)	Fat %	Protein %	SNF %	Lactose %	Total Solid%
April, 22	101	8.28	3.75	10.23	5.58	18.51
May	87	8.20	3.79	10.36	5.64	18.56
June	84	8.49	3.78	10.30	5.63	18.79
July	92	8.17	3.66	9.99	5.48	18.16
August	55	8.01	3.78	10.28	5.60	18.29
September	66	7.56	3.63	9.89	5.42	17.45
October	29	7.61	3.43	9.36	5.11	16.97
November	35	8.16	3.65	9.72	5.33	17.88
December	96	7.68	3.41	9.31	5.07	16.99
January 23	111	7.49	3.62	9.02	4.99	16.51
February	93	8.17	3.70	10.0	5.48	18.17
March	99	8.15	3.61	9.84	5.35	17.99
Overall	**948**	**8.00**	**3.65**	**9.86**	**5.39**	**17.86**

9.14: Reproductive Performance 2022-23

Lactation / Parity	N	AFC (Months)	SP (Days)	DP (Days)	CI (Days)
1st	60	37.72±0.70	--	--	--
2nd	49	--	144.06±9.48	144.00±7.71	453.63±9.77
3rd	35	--	119.29±12.32	121.14±8.16	427.29±12.52
4th	17	--	93.35±16.16	116.18±14.72	402.18±16.44
≥5th	21	--	120.81±13.30	122.38±10.78	431.61±13.37
Over all	**182**	**37.72±0.70 (60)**	**125.89±6.23 (122)**	**129.84±4.82 (122)**	**435.11±6.36 (122)**

9.14.1 Reproduction Performance of Buffaloes Since inception of Network

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
1991-92	51.0±0.8 (26)	236±11 (108)	138±6 (74)	502±12 (74)
1992-93	50.7±1.5 (27)	304±15 (96)	132±7 (42)	489±16 (42)
1993-94	59.1±1.6 (48)	312±12 (158)	230±14 (161)	625±1 (161)
1994-95	55.3±1.3 (48)	202±15 (105)	180±12(113)	527 ±10 (116)
1995-96	51.5±1.5 (22)	193±10 (149)	186±7 (149)	501±9 (152)
1996-97	47.6±1.0 (23)	182±10 (149)	204±7 (173)	473±9 (152)
1997-98	45.5±0.5 (49)	175±14 (106)	203±11 (118)	491±10 (118)
1998-99	50.0±0.1 (57)	137±9 (121)	159±14 (126)	455±10 (126)
1999-00	46.2±1.0 (54)	138±9 (104)	142±7 (120)	451±8 (120)
2000-01	46.2±1.2 (45)	146±9 (151)	153±7 (154)	454±9 (154)
2001-02	49.8±0.8 (51)	146±11 (125)	158±8 (135)	456±11 (135)
2002-03	47.83±0.51 (61)	133±9 (126)	143±6 (128)	440±9 (130)
2003-04	50.52±0.84 (77)	151±10 (142)	147±7 (149)	458±10 (151)
2004-05	48.18±0.82 (76)	111±7 (100)	134±6 (100)	426±7 (101)
2005-06	47.89±0.73 (76)	184±12 (112)	168±8 (117)	499±12 (117)
2006-07	46.90±1.06 (43)	183±10.11 (113)	178±8 (116)	495±10 (116)
2007-08	48.27±0.64 (77)	159±11.55 (113)	177±9.26 (117)	482±12.06 (117)
2008-09	47.66±0.97 (44)	171±12.31 (80)	160±10.50 (85)	469±12.20 (85)
2009-10	49.22±0.75 (51)	212±16.64 (77)	170±12.99 (77)	520±16.21 (77)
2010-11	49.92±1.04 (35)	186±13.74 (80)	157±10.47 (83)	492±13.96 (83)

2011-12	51.91±0.98 (37)	181±13.24 (80)	155±8.63 (81)	485±12.65 (81)
2012-13	44.48±1.42 (37)	174±11.53 (72)	153±8.19 (72)	481±11.87 (73)
2013-14	45.62±10.78 (37)	190±11.27 (86)	170±9.77 (85)	495±11.64 (87)
2014-15	42.84±0.79 (61)	168.43±8.31 (88)	149.33±6.46 (88)	472.92±8.45 (88)
2015-16	44.96±1.23 (24)	138.39±7.39 (111)	140.78±5.52 (111)	449.26±7.43 (111)
2016-17	44.91±0.81 (38)	148.75±9.01 (93)	142.52±6.44 (93)	457.83±8.82 (93)
2017-18	43.58±0.67 (67)	167.32±9.82 (101)	162.42±7.54 (101)	477.75±9.87 (101)
2018-19	45.76±0.80 (31)	136.35±6.98 (97)	151.39±6.41 (97)	446.25±7.08 (97)
2019-20	43.62±0.80 (71)	143.19±8.29 (90)	145.73±7.24 (90)	450.71±8.49 (90)
2020-21	42.48±0.73 (71)	126.95±7.29 (100)	126.79±5.61 (100)	436.78±7.43 (100)
2021-22	38.61±0.82 (67)	130.82±8.36 (99)	126.29±5.72 (99)	438.20±8.35 (99)
2022-23	**37.72±0.70 (60)**	**125.89±6.23 (122)**	**129.84±4.82 (122)**	**435.11±6.36 (122)**

9.15 Month wise Milk Production and Disposal during the Period 01/04/2022 to 31/03/2023

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk Sold	Calf feeding	Expt.
April, 2022	36423.00	29932.50	6490.50	--
May	35043.50	28747.50	6296.00	--
June	32938.50	27024.00	5914.50	--
July	35222.00	28785.50	6436.50	--
August	35032.00	28483.00	6549.00	--
September	38091.00	31456.50	6634.50	--
October	42595.00	33895.00	8700.00	--
November	40972.00	32358.50	8613.50	--
December	47188.00	38279.50	8908.50	--
January, 2023	49750.00	39206.50	10543.50	--
February	43558.00	35267.50	8290.50	
March	41784.00	33329.50	8454.50	
Total	**478597.50**	**386765.50**	**91832.00**	**--**

9.16 Feed and Fodder purchased and offered to animals during the year 2022-23

Quarter	Type of Fodder	OB	Produced at CIRB	Qty. Purchased	Actually Fed.	Balance
I	Green	-	8041.15	-	8041.15	-
	Dry	1270.00	364.20	5287.75	1814.00	5107.95
	Silage	--	-	-	-	-
	Sugar beet pulp	316.20		-	316.20	-
	Concentrate	1691.28			1691.28	-
II	Green	-	8567.65	-	8567.65	-
	Dry	5107.95	--	--	1210.25	3897.70
	Silage	-	-	-	-	-
	Sugar beet pulp	-		-	-	-
	Concentrate	1893.94			1893.94	-
III	Green		5649.35	-	5649.35	-
	Dry	3897.70	-	-	1710.00	2187.70
	Silage	-	-	-	-	-
	Sugar beet pulp	-	-	-	-	-
	Concentrate	1802.39			1802.39	-

IV	Green		14384.75	-	14384.75	-
	Dry	2187.70	-	-	650.70	1537.00
	Silage	-	-	-	-	-
	Sugar beet pulp	-	-	-	-	-
	Concentrate	1700.59	-	-	1700.59	-
Total	Green		36642.90	-	36642.90	-
	Dry	1270.00	364.20	5287.75	5384.95	1537.00
	Silage	-	-	-	-	-
	Sugar beet pulp	316.20	-	-	316.20	-
	Concentrate	7088.20	-	-	7088.20	-

9.17 Milking performance 1st April 2022 to 31st March 2023

Month	Buffaloes in Milk	Dry Buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 2022	123	49	172	72	9.87	7.07
May 2022	115	52	167	69	9.82	6.77
June 2022	115	55	170	68	9.60	6.50
July 2022	113	62	175	65	10.03	6.50
August 2022	119	65	184	65	9.50	6.15
September 2022	132	62	194	68	9.83	6.63
October 2022	130	53	183	71	10.57	7.53
November 2022	131	49	180	73	10.40	7.57
December 2022	140	48	188	74	10.90	8.09
January 2023	146	46	192	76	11.00	8.36
February 2023	149	39	188	79	10.47	8.30
March 2023	135	32	167	81	9.99	8.06
Overall	**129**	**51**	**180**	**72**	**10.20**	**7.30**

9.17.1 Milking performance since inception

Year	Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
1991-92	182	147	329	55.3	4.70	2.61
1992-93	165	111	276	60.60	4.80	2.83
1993-94	153	125	178	55.00	5.65	3.10
1994-95	181	85	266	68.10	6.09	4.15
1995-96	153	82	235	65.19	6.43	4.19
1996-97	122	83	205	59.56	5.62	3.35
1997-98	121	76	197	61.38	6.12	3.75
1998-99	133	73	206	64.52	6.77	4.37
1999-00	137	72	209	65.48	6.85	4.49
2000-01	148	78	226	65.39	6.68	4.37
2001-02	147	70	217	67.70	6.59	4.46
2002-03	143	71	214	67.00	6.27	4.20
2003-04	151	72	223	67.69	6.49	4.39
2004-05	154	69	224	68.97	6.39	4.40
2005-06	151	77	238	66.37	6.57	4.36

2006-07	137	92	229	59.81	6.45	3.86
2007-08	146	71	217	67.32	6.64	4.47
2008-09	133	66	199	66.00	6.50	4.35
2009-10	106	65	171	62.00	7.01	4.35
2010-11	109	64	173	62.97	7.45	4.69
2011-12	110	58	168	65.38	7.83	5.12
2012-13	109	69	178	62.24	7.74	4.76
2013-14	105	65	170	61.78	8.01	4.95
2014-15	116	50	166	69.97	8.25	5.77
2015-16	114	62	176	65.00	8.04	5.21
2016-17	110	57	167	66.08	8.08	5.32
2017-18	115	54	169	67.78	8.71	5.90
2018-19	101	54	155	65.08	8.92	5.80
2019-20	124	48	172	71.86	9.66	6.94
2020-21	130	50	180	72.20	9.91	7.15
2021-22	132	50	182	72.42	10.07	7.29
2022-23	**129**	**51**	**180**	**71.60**	**10.20**	**7.30**

9.18: Bull wise daughters born during 2022-23

Sr. No.	Bull No.	Set No.	Daughter born
1	1315	19	12
2	2674	19	4
3	2737	19	2
4	2759	19	3
5	4592	16	1
6	5181	19	2
7	5232	19	5
8	5246	19	1
9	5320	19	4
10	5333	19	6
11	5374	19	7
12	7604	19	9
13	5427	20	5
14	5588	20	2
15	7584	20	4
16	7649	20	9
17	HAU 12	11	3
18	3591 PT	11	3
19	2269 PT	13	1
20	4196 PT	14	2
21	4354 PT	15	9
22	6007 PT	15	5
Total			**99**

9.19 Bull wise daughters completing 1st lactation in 2022-23

Sr No	Daughter No	Sire No	Set No	D.O.B.	D.O.C.	AFC (Month	Lact. Length (Days)	SLMY (kg)	TLMY (kg)
1.	5446	3267 PT	11	11-01-2019	12-10-2021	33.04	283	2020	2020
2.	5461	183 PT	12	11-02-2019	07-02-2022	35.90	249	1998	1998
3.	5469	183 PT	12	11-03-2019	04-08-2022	40.83	202	1665	1665
4.	5335	R-11	12	04-02-2018	02-12-2021	45.93	316	3092	3132
5.	5303	R-11	12	16-12-2017	04-12-2021	47.64	314	2689	2715
6.	5343	R-11	12	19-02-2018	16-08-2021	41.88	326	2835	2891
7.	5196	1027	16	27-05-2017	25-02-2022	57.04	362	2479	2813
8.	5307	2467	16	20-12-2017	06-06-2021	41.56	376	2964	3425
9.	5259	4705	16	11-09-2017	26-08-2021	47.51	351	3005	3225
10.	5266	4889	16	21-09-2017	07-06-2021	44.55	424	2697	3336
11.	5264	4889	16	19-09-2017	09-10-2021	48.69	405	3445	3913
12.	5291	6379	16	29-11-2017	05-08-2021	44.22	288	2226	2226
13.	5290	6379	16	21-11-2017	29-09-2021	46.29	275	1968	1968
14.	5330	6409	16	30-01-2018	22-04-2021	38.73	358	2934	3144
15.	5299	6646	16	15-12-2017	10-09-2021	44.88	294	1958	1958
16.	5356	6753	16	07-05-2018	10-09-2021	40.18	280	2617	2617
17.	5357	6753	16	19-05-2018	13-01-2022	43.89	281	2636	2636
18.	5353	M-29	16	31-03-2018	02-06-2021	38.10	422	3182	4149
19.	5440	2558	17	29-12-2018	26-09-2021	32.94	193	1661	1661
20.	5433	2558	17	30-11-2018	23-09-2021	33.80	274	2149	2149
21.	5439	2558	17	29-12-2018	26-08-2021	31.92	316	1986	2019
22.	5436	2558	17	12-12-2018	20-01-2022	37.32	267	1627	1627
23.	5451	2565	17	27-01-2019	03-01-2022	35.24	319	3174	3265
24.	5453	2565	17	02-02-2019	18-03-2022	37.48	273	2033	2033
25.	5431	2594	17	23-11-2018	12-01-2022	37.68	345	3082	3274
26.	5524	2607	17	17-08-2019	14-02-2022	29.98	270	2080	2080
27.	5477	4687	17	26-03-2019	19-01-2022	33.86	296	2103	2103
28.	5385	4715	17	01-08-2018	20-05-2021	33.63	337	2443	2582
29.	5383	4715	17	25-07-2018	13-09-2021	37.68	347	2276	2413
30.	5360	4715	17	26-05-2018	02-10-2021	40.27	356	2535	2732
31.	5480	4733	17	28-03-2019	08-08-2021	28.41	257	1810	1810
32.	5483	4733	17	31-03-2019	11-12-2021	32.42	279	1942	1942
33.	5386	4733	17	02-08-2018	03-12-2021	40.08	315	2528	2575
34.	5399	4837	17	28-08-2018	18-08-2021	35.70	422	2674	3278
35.	5544	4837	17	06-09-2019	05-04-2022	30.97	192	2043	2043
36.	5504	6942	17	18-07-2019	28-03-2022	32.35	284	2213	2213
37.	5410	7010	17	26-09-2018	31-08-2021	35.18	219	1779	1779
38.	5426	Dara	17	08-11-2018	22-10-2021	35.47	287	2047	2047
39.	5584	Dara	17	06-10-2019	12-02-2022	28.27	286	1955	1955
40.	5390	Sikander	17	14-08-2018	22-07-2021	35.28	302	2024	2024
41.	5464	Sikander	17	18-02-2019	03-09-2021	30.51	259	2092	2092
42.	5361	Sikander	17	01-06-2018	26-08-2021	38.86	274	2509	2509
43.	5363	Sikander	17	27-06-2018	29-08-2021	38.10	285	2508	2508
44.	5382	Sikander	17	24-07-2018	04-09-2021	37.41	300	1878	1878
45.	5488	Kohinoor	Field	19-04-2019	10-01-2022	32.78	312	2778	2806
46.	5421	R-14	Field	19-10-2018	06-07-2021	32.58	276	2331	2331
47.	5478	R-14	Field	27-03-2019	02-02-2022	34.29	317	3232	3281

48.	5423	R-24	Field	29-10-2018	21-09-2021	34.78	332	2439	2510
49.	5437	R-25	Field	21-12-2018	26-10-2021	34.19	325	3026	3089
50.	5501	Dhanna	Field	16-07-2019	16-03-2022	32.02	275	2232	2232
51.	E182	Unknown	Non-Set	19-05-2017	18-04-2021	47.01	369	3783	4280
52.	E188	Unknown	Non-Set	29-07-2017	02-09-2021	49.18	232	2567	2567
53.	E199	Unknown	Non-Set	30-03-2017	03-09-2021	53.19	287	2690	2690

9.20: Breeding bulls for test mating in 20th Set (January 2022 to June 2023)

Sr. No	Bull no.	D.O.B.	Dam No.	Sire No.	Dam's Best Yield / PY (kg)	Parity
1	19 (LUVAS)	29/10/18	777	2594 Set 17	3695/21.6	3
2	1454 (LUVAS)	19/06/18	976	183PT Set 12	3355/17.4	4
3	2793 (GADVASU)	06/07/18	2788	2467 Set 16	3339/21.5	2
4	2831 (GADVASU)	11/10/18	2897	Virat Field	4814/28.7	4
5	2838 (GADVASU)	02/11/18	2502	1354PT Set 3	3340/22.7	3
6	2850 (GADVASU)	25/01/19	2973	2594 Set 17	3683/20.6	2
7	3004 (GADVASU)	13/10/16	Laado	Rustam Field	4716/26.2	
8	5427 (CIRB)	10/11/18	3633	R-24 Field	3371/15.3	4
9	5481 (CIRB)	29/03/19	4621	4733 Set 17	3332/16.6	3
10	5500 (CIRB)	15/07/19	4934	1148 Set 17	3271/16.5	3
11	5505 (CIRB)	22/07/19	4251	1148 Set 17	4138/22.0	3
12	5511 (CIRB)	27/07/19	4800	6942 Set 17	3356/17.4	2
13	7584 (NDRI)	30/03/18	6147	6253 Non-Set	3600/16.5	2
14	7649 (NDRI)	15/10/18	6735	2558 Set 17	3203/13.5	1

9.20.1: P T Bulls for nominated mating January 2022 to June 2023

Sr. No	Bull No./ Set No.	Institute	D.O.B.	Dam No.	Sire No./ Set No.	Dams' Best yield	Sire Index	Superiority (%)
1	3591/XI	CIRB	29/05/06 (Purchased)	3590	Not Known	2598	2177	+0.14*
2	6044/XIV	NDRI	15/01/09	430	4371 PT Set V	3567	2479	+2.43*
3	2459/XV	GADVASU	22/12/11	2489	1796 Set VII	4636	2587	+1.58*
4	4354/XV	CIRB	05/09/11	P4353	Not Known	3528	2589	+1.67*
5	6007/XV	NDRI	15/06/08	5231	5396 Set X	3260	2588	+1.61*

***** BLUP Method

9.20.2 Preliminary bulls selected for 21st set (CIRB Unit)

Sr. no.	Bull no.	D.O.B.	Dam No.	Sire No.	Dam's All Lact 305 or less days Milk Yield (kg)	Highest Yield/ Best Peak
1	109 (LUVAS)	17/09/19	1068	53M Set 17	3128/3660/3432/3206	3660/16.3
2	112 (LUVAS)	29/09/19	943	6942 Set 17	2735/3276/2919/4390/3720 /2619	4390/17.2
3	5414 (CIRB)	03/10/18	4593	4998 Non-Set	2708/3321/3025/3177/3183 /3294	3321/21.0
4	5626 (CIRB)	23/01/20	4622	1150 Set 18	2328/3791/3417/3462	3791/20.0
5	5629 (CIRB)	29/01/20	4613	2645 Set 18	2475/3501/4043/4180	4180/20.2
6	5638 (CIRB)	24/02/20	5223	2234 PT Set 13	3364/3691	3691/19.5
7	5690 (CIRB)	02/08/20	5021	4905 Set 18	3573/4029	4029/21.0
8	5723 (CIRB)	07/10/20	5179	7227 Set 18	4073/5170	5170/26.8
9	5730 (CIRB)	12/10/20	E186	2676 Set 18	3018/3643	3643/17.7
10	5764 (CIRB)	22/11/20	4989	4905 Set 18	2708/3616/2675/3644	3644/17.5

All Bulls are negative for TB, JD, Brucellosis, IBR, BVD, Tricomonas and BGC

9.20.3 Future Breeding bulls (CIRB Unit)

Sr. no.	**Bull no.**	**D.O.B.**	**Dam no.**	**Sire no./ Set no.**	**Dam's All Lact Milk Yield (305 or less days) kg**	**Highest Yield/ Best Peak Yield**
1.	5791	15/01/21	4817	183PT/Set 12	2606,4250,4201,4180,**4507**, Dry	4507/23.5
2.	5800	11/02/21	4605	183PT/Set 12	3175,4168,3375,**4177**,3561, Died	4177/20.4
3.	5814	19/03/21	4251	183PT/Set 12	2407,3184,**4138**,3784,2913,3904, Dry	4138/22.0
4.	5841	20/06/21	5096	2357PT/Set 14	2928,3505,**3824**, Dry	3824/19.0
5.	5864	29/07/21	4709	6044PT/Set 14	2673,3259,2921,**3590**,3258, Died	3590/21.2
6.	5872	09/08/21	4235	6044PT/Set 14	2874,3169,**3533**,3009**,**2940, Auct	3533/16.9
7.	5875	14/08/21	5021	2759/Set 19	3573,**4029**,3416, Dry	4029/21.0
8.	5897	20/09/21	4692	6044PT/Set 14	2795,3261,3578,3637,**4431**, Dry	4431/20.0
9.	5912	16/10/21	4899	6044PT/Set 14	3505,4216,**4350**, In 4th lact	4350/20.0
10.	5917	23/10/21	5175	5246/Set 19	2746,**3534**, In 3rd lact	3534/23.0
11.	5935	03/12/21	4767	4196PT/Set 14	2468,3697,4268,**4308**, In 5th lact	4308/20.6
12.	5941	23/12/21	4517	4196PT/Set 14	2416,2723,3077,3511**,3725**, In 6th lact	3725/21.5
13.	5950	11/01/22	5225	7604/Set 19	2876,**3044**, In 3rd lact	3044/20.6
14.	5969	24/02/22	4776	5310/Set 19	2535,2626,**3354**,3249, Dry	3354/15.8
15.	5980	08/04/22	4633	2269PT/Set 13	1898,**3298**,2901,2632,2167, Dry	3298/16.3
16.	5987	08/05/22	5354	5374/Set 19	**3254,**3197, In 3rd lact	3254/17.0
17.	6000	13/06/22	5080	4196 PT/Set 14	3127**,3655**,2944, Dry	3655/19.0
18.	6009	02/07/22	4458	1315/Set 19	3044,3631,3571,**4028**,3620, Dry	4028/17.0
19.	6030	04/08/22	5523	5320/Set 19	**3145**, Dry	3145/15.5
20.	6035	19/08/22	5021	3591PT/Set 11	3573,**4029**,3416, Dry	4029/21.0
21.	6049	03/09/22	5421	2759/Set 19	2331,**3390**, Dry	3390/17.5
22.	6054	08/09/22	5096	5232/Set 19	2928,3505,**3824,** Dry	3824/19.0
23.	6060	15/09/22	4692	4354PT/Set 15	2795,3261,3578,3637,**4431**, Dry	4431/20.0
24.	6071	30/09/22	E188	2674/Set 19	2567,**3673**, Dry	3673/17.5
25.	6083	19/10/22	4561	6007PT/Set 15	2390,2020,3185,2891,3023,**3209**, Dry	3209/16.0
26.	6100	15/11/22	5162	5427/Set 20	3002,3004,**3632**, Dry	3632/21.0
27.	6104	21/11/22	5140	6007PT/Set 15	3217,**3863**, Auct	3863/17.0
28.	6106	23/11/22	4251	6007PT/Set 15	2407,3184,**4138**,3784,2913, In 6th lact	4138/22.0
29.	6115	09/12/22	4989	4354PT/Set 15	2708,**3616,**2675, In 4th lact	3616/17.5
30.	6117	12/12/22	5175	7584/Set 20	2746,**3534**, In 3rd lact	3534/23.0

31.	6135	27/01/23	4933	6007PT/Set 15	2341,3006,**3764**,3608, In 5th lact	3764/20.0
32.	6136	28/01/23	4593	6007PT/Set 15	2708,**3321**,3025**,**3177,3183, 3294 Dry	3321/19.0
33.	6144	14/03/23	4767	6007PT/Set 15	2468,3697,4268,**4308**, In 5th lact	4308/20.6
34.	6145	15/03/23	5125	5500/Set 20	3087,**3714**, In 3rd lact	3714/16.5
35.	6146	15/03/23	5049	6007PT/Set 15	2817,**3414**,2842, In 4th lact	3414/17.5

9.21 A: No. of Elite animals having 305 DLMY ≥ 3000 kg

Sr. No.	305 DLMY groups	No. of elite buffalo		
		2020-21	2021-22	2022-23
1	3000 to 3500 kg	45	52	49
2	3500 to 4000 kg	15	19	25
3	≥ 4000 kg	08	12	15
Total		**68**	**83**	**89**

9.21: Accomplishment and Targets Achieved

Sr. No.	Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
1	Av. age at first calving (Months)	40.0 months	45.76±0.80 (31)	43.62±0.80 (71)	42.48±0.73 (71)	38.61±0.82 (67)	37.72±0.70 (60)
2	Av. service period (Days)	130 days	136.35±6.98 (97)	143.19±8.29 (90)	126.95±5.61 (100)	130.82±8.36 (99)	125.89±6.23 (122)
3	Calf mortality (0-3 months)	≤ 3 %	13.94 %	6.34 %	2.63 %	3.23 %	3.40 %
4	Wet average (Kg)	≥ 8.50 kg	8.92 kg	9.66 kg	9.91 kg	10.07 kg	10.20 kg
5	Herd average (Kg)	≥ 5.50 kg	5.80 kg	6.94 kg	7.15 kg	7.29 kg	7.30 kg

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Balance
Total	ICAR Share		ICAR Share	State Share	
24.50	24.50	24.50	24.50	0.00	0.00

Herd Performance

Herd Strength: The overall herd strength of Murrah buffalo in March 2023 was 559, which included 253 breedable buffaloes, 155 suckling calves (< 1 year), 82 young females (1-2 years), 41 young males (1-2.5 years) and 28 breeding males (>2.5 years).

Mortality: During the period April 2022 to March 2023 calf mortality (0-3 month) was reported 3.38 percent.

Milk Production Performance: The overall wet average and herd average were reported 10.20 and 7.30 kg, respectively. The overall 305 days lactation milk yield and total lactation milk yield during April 2022 to March 2023 was reported 2861 and 2950 kg, respectively. During the period under report 146 buffaloes completed their lactation. Highest ever Peak yield of 15.19 kg was recorded during reporting period.

Reproductive Performance: The overall conception rate during January to December 2022 was reported 45.78 %. The other reproductive traits viz. Age at first calving, service period and calving interval were observed 37.72 months, 126 days and 435 days, respectively for buffaloes calved during April 2022 to March 2023.

Semen Production and Dissemination: A total 2,34,133 semen doses frozen at CIRB Lab during April 2022 to March 2023. A total of 30,906 doses of frozen semen were supplied in NPBI and 1,01,787 frozen semen doses sold during the period under report.

Accomplishment and Targets Achieved:

Sr. No.	Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
1	Av. AFC (Months)	40.0 months	45.76±0.80 (31)	43.62±0.80 (71)	42.48±0.73 (71)	38.61±0.82 (67)	37.72±0.70 (60)
2	Av. service period (Days)	130 days	136.35±6.98 (97)	143.19±8.29 (90)	126.95±5.61 (100)	130.82±8.36 (99)	125.89±6.23 (122)
3	Calf mortality (0-3 months)	≤ 3 %	13.94 %	6.34 %	2.63 %	3.23 %	3.38 %
4	Wet average (kg)	≥ 8.50 kg	8.92 kg	9.66 kg	9.91 kg	10.07 kg	10.20 kg
5	Herd average (kg)	≥ 5.50 kg	5.80 kg	6.94 kg	7.15 kg	7.29 kg	7.30 kg

Recommendations:

1. Breedable buffalo population should be increased to 300 in herd of Main Unit, CIRB.
2. Significant improvement observed in milk production as well as reproduction traits during the year 2022-23 as compared to previous year performance.

GURU ANGAD DEV VETERINARY AND ANIMAL SCIENCES UNIVERSITY, LUDHIANA, MAIN UNIT (MURRAH)

Report period : 1st April 2022 to 31st March, 2023

1. **Name of Centre** : Guru Angad Dev Veterinary & Animal Sciences University, Ludhiana
2. **Project Code** : F.No. 18(I)2002- ASR- II
3. **Project Title** : Network Project on Buffalo Improvement
4. **Date of Start** : 01/04/1992
5. **Objectives** : As per NPBI
6. **Technical Programme** : The GADVASU Centre of the All India Coordinated Research Project on Buffalo Breeding is one of the participating units of the Network Project on Buffalo Improvement from 1.4.1992. Broadly, the technical program involves testing of 12-15 bulls on about 1000 breedable buffaloes at organized farms at GADVASU, Ludhiana; CIRB, Hisar; NDRI, Karnal; IVRI Izatnagar, LUVAS, Hisar and ICAR-RCER, Patna in every 18-month's cycle. From each bull, 75-80 pregnancies are to be obtained so that 20-25 recorded daughters per bull are available at all the centers for the evaluation of bulls. The bulls will be ranked based on the performance of their daughters and 20% of them will be selected as proven bulls from each set. The semen of the proven bulls will be used on elite buffaloes at different centers for the production of future sires and herd replacements.
7. **Financial Statement**: Statement showing budget sanctioned, amount spent and receipt realized for the period 1st April 2022 to 31st March 2023.

	Budget Sanctioned (Rs.)	**Amount Spent (Rs.)**
Pay & Allowances	--	--
T. A.	---	---
Contingencies		
i) Recurring Cont.	44,00,000	44,00,000
SCSP Recurring General	1,00,000	1,00,000
ii) Non-Recurring Cont.		
Furniture	---	---
Livestock	---	---
Vehicles/Building Works	---	---
Machinery and Equipment	8,00,000	8,00,000
SCSP Equipments		
Total	**53,00,000**	**53,00,000**

Receipts: The project transferred 1518486 kg of milk to the College of Dairy Sciences, GADVASU for sale after processing. The department sold 25 surplus/breeding animals and 73976 doses liquid & frozen semen to the progressive dairy farmers and dairy developed agencies.

8. Staff and Infrastructure Build up during the year: Staff in position :

Name & Designation of the person employed on the sanctioned post with pay scale	Date of joining	Date of leaving	Other project (assignment) in the institution besides the project	Total time spent for the project	Transfer or upgrading of the post if any, give details of sanction from the ICAR	Remarks
Statistical Assistant in Rs. 10300-34800	01/02/12	-	-	Full Time	-	Post withdrawn wef. 31.03.2022

Herd performance: -

9.1. Herd strength during the period 4/2022 to 3/2023

Sr. No	Category	Addition			Disposal			CB
		OB	B/P	T	D	T	S	
	Female							
1.	Calves 0 – 3 months	**8**	43/1	--	8	34	0	**10**
2.	Calves >3 – 12 months	**42**	0/32	34	0	60	0	**48**
3.	Heifers							
	1 – 2 years	**35**	0/0	60	1	38	1	**55**
	> 2 years	**53**	0/1	38	2	22	20	**48**
4.	Buffaloes in Milk	**65**	0/0	22	1	15	7	**64**
5.	Buffaloes Dry P /NP	**59**	0/0	15	3	33	7	**31**
	Sub Total	**262**	**43/34**	**169**	**15**	**202**	**35**	**256**
	Male							
1.	Calves 0 – 3 months	**10**	47/0	0	11	36	1	**9**
2.	Calves >3 – 12 months	**14**	0/1	36	4	28	4	**15**
3.	Male above							
	1 – 2 years	**17**	0/0	28	0	21	8	**16**
	> 2 years	**07**	0/0	21	0	--	12	**16**
4.	Breeding bulls	**15**	0/0			5		**10**
5.	Bullocks							
6.	Teasers							
	Sub Total	**63**	**47/1**	**85**	**15**	**90**	**25**	**66**
	Grand Total	**325**	**90/35**	**254**	**30**	**292**	**60**	**322**

OB = Opening Balance D = Deaths S = Sale B/P = Births/Purchase
T = Transfer CB = Closing Balance

9.2. Calving statistics during the period 4/2022 to 3/2023

Month	Male		Female		Dystokia		Prolapses		Still Birth		Abortion		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
April, 22	1	2.12	0	0	0	-	0	-	0	-	1	16.67	2	2.08
May	4	8.51	2	4.65	0	--	0	-	0	-	1	16.67	7	7.29
June	2	4.25	5	11.63	0	-	0	-	0	-	0	0.00	7	7.29
July	2	4.25	4	9.30	0	-	0	-	0	-	1	16.67	7	7.29
August	7	14.89	5	11.63	0	-	0	-	0	-	1	16.67	13	13.54
September	3	6.38	3	6.98	0	-	0	-	0	-	0	0.00	6	6.25
October	6	12.76	5	11.63	0	-	0	-	0	-	0	0.00	11	11.46
November	8	17.02	6	13.95	0	-	0	-	0	-	0	0.00	14	14.58
December	2	4.25	1	2.32	0	-	0	-	0	-	1	16.67	4	4.17
January,23	2	4.25	1	2.32	0	-	0	-	0	-	0	0.00	3	3.12
February	5	10.64	2	4.65	0	-	0	-	0	-	1	16.67	8	8.33
March	5	10.64	9	20.93	0	-	0	-	0	-	0	0.00	14	14.58
Overall	47	100.00	43	100.00	0	-	0	-	0	-	6	100.0	96	100.00

Sex ratio Male: Female = 1.0:0.91

9. 3 Disposal of animals during the period 4/2022 to 3/2023

Sr. No.		Surplus	Rep. Problem	Weak & Old	Death	Experimental purpose	Total
	Female						
1.	Calves 0 – 3 months			-	8		8
2.	Calves >3 – 12 months			-	0		0
3.	Heifers 1 – 2 years > 2 years		 14	1 6	1 2		2 22
4.	Buffaloes in Milk		5	2	1		8
5.	Buffaloes Dry P /NP		6	1	3	33	43
	Sub Total		**25**	**10**	**15**	**33**	**83**
	Male					-	
1.	Calves 0 – 3 months	1			11		12
2.	Calves >3 – 12 months	4			4		8
3.	Male 1 – 2 years > 2 years	8 12			0 0		8 12
4.	Breeding bulls				0	5	5
5.	Bullocks						
6.	Teasers						
	Sub Total	**25**			**15**	**5**	**45**
	Grand Total	**25**	**25**	**10**	**30**	**38**	**128**

25 Bulls/bull calves sold for breeding purpose.

9.4. Month-wise mortality during the period 4/2022 to 3/2023

		Female						**Male**					
Month		**0-3 (mo)**	**3-6 (mo)**	**6-12 (mo)**	**1-2 yrs**	**Abo. 2 yrs.**	**Overall female**	**0-3 (mo)**	**3-6 (m)**	**6-12 (mo)**	**Above 1 yr.**	**Oveall male**	**Overall Herd**
April	No.	4	15	25	38	153	235	46	14	2	0	62	297
	Died	2	2	1	-	-	5	1	-	-	-	1	6
	%												
May	No.	5	12	21	44	132	214	9	8	9	39	65	279
	Died	-	1	-	-	-	1	-	-	-	-	0	1
	%												
June	No.	7	6	27	45	124	209	7	8	10	38	63	272
	Died	-	-	-	-	-	0	1	-	1	-	2	2
	%												
July	No.	11	4	26	44	127	212	7	8	11	40	66	278
	Died	-	-	-	-	-	0	-	-	-	-	0	0
	%												
August	No.	14	4	26	55	128	227	12	6	16	39	73	300
	Died	-	-	-	-	-	0	-	-	-	-	0	0
	%												
Sept.	No.	11	7	23	57	133	231	10	5	15	39	69	300
	Died	-	-	-	-	-	0	2	1	-	-	3	3
	%												
October	No.	12	11	19	53	139	234	14	7	13	38	72	306
	Died	2	-	-	-	-	2	3	-	-	-	3	5
	%												
Nov.	No.	12	14	16	55	141	238	16	9	13	40	78	316
	Died	2	-	-	-	-	2	1	1	-	-	2	4
	%												
Dec.	No.	10	10	21	51	141	233	16	9	13	41	79	312

	Died	-	-	-	-	1	1	-	-	-	-	0	1
	%												
January	No.	8	9	15	52	143	227	11	14	10	44	79	306
	Died	-	-	-	-	-	0	-	-	-	-	0	0
	%												
Feb.	No.	4	12	17	52	141	226	9	13	15	44	81	307
	Died	-	-	-	1	1	2	-	-	-	-	0	2
	%												
March	No.	10	16	30	55	141	252	9	12	13	24	58	310
	Died	3	-	-	-	-	3	3	-	-	-	3	6
	%												
Total	No.	**9**	**3**	**1**	**1**	**2**	**16**	**11**	**2**	**1**	**0**	**14**	**30**

Note: Calf mortality (0 – 3 months) = 17.43 % (19/109)

9.5. Causes of Mortality (quarter-wise) during the period 4/2022 to 3/2023

Particulars	**1st quarter**	**2nd quarter**	**3rd quarter**	**4th quarter**
A. Respiratory System :				
1. Pheumo-Enteritis		2	2	
2. Broncho-Pheumonia	2	1	4	
B. Digestive System :				
1. Enteritis				
2. Septicemia & Toxaemia			1	
3. Peritonitis	3			
4. Gastroenteritis				
5. Heoatutus				
6. Haem. Enteritis			4	6
7. Torsion of Intestine volvulus				
9. Gastritis				
C. Circulatory				
D. Others				
1. Chronic debility				
2. Arthritis				
3. Umbilical Hernia				
4. Accidents				1
5. Ectoparasitism				
6. Miscellaneous	2			2
7.Diarrhoea				
Total	**7**	**3**	**11**	**9**

9.6. Prophylactic measures taken during the period 4/2022 to 3/2023

Vaccination	No. of animals		Screening for disease	No. of animals		No. of animals treated for Parasitism etc.
	Available	Inoculated		Tested	Results	
FMD (Twice)		318	TB		All Negative	No clinical case of parasitic infestation was observed during the year. All the animals were dewormed as per normal schedule.
HS (Twice)		318	JD		All Negative	
BQ (Once)		308	Brucellosis		All Negative	
Brucellosis Calfhood Adult Vaccine		43 94	-	-	-	

9.7. Female conception rate during the period 4/2022 to 3/2023

Month	Heifer									First Calver									Multiparous									Overall		
	1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI			1st AI			2nd AI			3rd & Above AI					
	I	C	CR %	I	C	CR	I	C	CR %	I	C	CR %	I	C	CR	I	C	CR %	I	C	CR %	I	C	CR %	I	C	CR %	I	C	CR %
Jan. 22	4	2	50.00	2	1	50.00	1	1	100.00	2	1	50.00	2	2	100.0	1	1	100.0	3	3	100.0	2	2	100.0	-	-	-	**17**	**13**	**76.47**
Feb.	1	1	100.00	3	2	66.66	3	0	-	4	1	25.00	1	1	100.0	-	-	-	2	0	-	2	0	-	1	0	-	**17**	**5**	**29.41**
March	1	0	-	1	0	-	-	-	-	5	1	20.00	1	0	-	-	-	-	4	2	50.00	2	2	100.0	1	1	100.0	**15**	**6**	**40**
April	3	2	66.66	-	-	-	4	3	75.00	1	0	-	2	0	-	-	-	-	1	0	-	5	4	80%	3	2	66.66	**19**	**11**	**57.89**
May	5	2	40.00	1	1	100.00	2	1	50.00	2	1	50.00	6	3	50.00	1	1	100.0	1	1	100.0	-	-	-	-	-	-	**18**	**10**	**55.55**
June	3	1	33.33	2	0	-	2	1	50.00	2	0	-	2	1	50.00	4	1	25.00	2	2	100.0	1	1	100.0	-	-	-	**18**	**7**	**38.88**
July	3	0	-	-	-	-	1	0	-	1	0	-	1	0	-	3	2	66.66	1	0	-	1	0	-	-	-	-	**11**	**2**	**18.18**
Aug.	-	-	-	4	3	75.00	1	1	100.00	3	0	-	1	1	100.0	3	1	33.33	3	0	-	-	-	-	1	1	100.0	**16**	**7**	**43.75**
Sep.	5	2	40.00	1	0	-	1	1	100.00	1	1	100.00	1	0	-	1	0	-	4	1	25.00	-	-	-	-	-	-	**14**	**5**	**35.71**
Oct.	6	5	83.33	1	0	-	2	2	100.00	3	1	33.33	3	0	-	2	0	-	4	3	75.00	6	4	66.66	1	0	-	**28**	**15**	**53.57**
Nov.	1	1	100.00	2	1	50.00	2	1	50.00	-	-	-	-	-	-	-	-	-	3	0	-	1	0	-	1	0	-	**10**	**3**	**30**
Dec. 23	2	1	50.00	-	-	-	1	0	-	4	3	75.00	1	0	-	4	2	50.00	5	3	60.00	2	1	50.00	3	2	66.66	**22**	**12**	**54.54**
Total	34	17	50.00	17	8	47.05	28	9	32.14	28	9	32.14	21	8	38.09	19	8	42.10	33	15	45.45	22	14	63.63	11	6	54.54	**205**	**96**	**46.82**

I = No. of animals inseminated C. = No. of animals conceived CR%= Conception rate %

9.8. Bull-wise conception rate during the period 4/2022 to 3/2023

Sr. No.	Bull No.	Set No.	Total Number of AI	Total Conceived	CR%
1.	2607	17th	1	1	100.0
2.	1315	19th	3	3	100.0
3.	2737	19th	4	3	75.00
4.	2759	19th	3	3	100
5.	1454	20th	1	1	100.0
6.	2793	20th	1	1	100.0
7.	2814 (Died)	20th	10	4	40.00
8.	19	20th	6	2	33.33
9.	2831	20th	19	8	42.10
10.	2838	20th	3	1	33.33
11.	3004	20th	15	4	26.67
12.	5427	20th	15	6	40.00
13.	5481	20th	5	0	0
14.	5511	20th	1	1	100.0
15.	7584	20th	4	3	75.00
16.	7649	20th	9	7	77.78
17.	3591 PT	11th	20	6	16.67
18.	4354 PT	15th	19	9	47.37
19.	6007 PT	15th	10	3	30.00
20.	2383 PT	16th	4	2	50.00
21.	2786	Non-Set	8	4	50.00
22.	R-10	12th	4	1	25.00
23.	R-12	Non-Set	11	4	36.36
24.	R-14	Non-Set	7	1	14.29
25.	FT328	Non-Set	1	0	0
26.	M-188	Non-Set	12	7	58.33
27.	Rustam-e-Hind	Non-Set	23	16	69.57
Total			**219**	**101**	**46.11**

9.9. Bull-wise semen stock 4/2022 to 3/2023

Sr. No	Bull No.	Set No	Opening Balance	Semen Prod./ Received	Consumption for AI/Supplies etc						Balance
					Dairy Farm	Field Unit	Other agencies	Sold	Discard	Total Consumption	
1	293	1	200	0	0	0	0	0		0	200
2	458	2	200	0	0	0	0	0		0	200
3	558	3	200	0	0	0	0	0		0	200
4	610	4	200	0	0	0	0	0		0	200
5	888	5	200	0	0	0	0	0		0	200
6	M 82	6	180	0	0	0	0	0		0	180
7	M 156	7	200	0	0	0	0	0		0	200
8	M 432	8	34	0	0	0	0	0		0	34
9	M 584	9	200	0	0	0	0	0		0	200
10	M 675	10	69	0	0	0	0	0		0	69
11	M 1354	NW3	1834	0	20	0	0	5		25	1809
12	M 1437	NW4	1150	0	20	0	0	6		26	1124
13	M 1451	NW4	1062	0	20	0	0	6		26	1036
14	M 1506	NW4	3595	0	20	0	0	6		26	3569
15	M1749	NW7	323	0	0	0	0	0		0	323
16	M 1796	NW7	594	0	20	0	0	0		20	574
17	M 1875	NW8	2600	0	0	0	0	16		16	2584
18	M 1994	NW 9	1203	0	0	40	0	780		820	383
19	M 2045	NW10	272	0	0	0	0	11		11	261

20	M 2073	NW10	231	0	0	0	0	10		10	221
21	M 2074	NW10	303	0	0	0	0	10		10	293
22	M 2083	NW10	293	0	0	0	0	0		0	293
23	M 2133	NW11	344	0	0	0	0	0		0	344
24	M 2148	NW11	200	0	0	0	0	0		0	200
25	M 2154	NW11	534	0	0	0	0	0		0	534
26	M 2176	NW12	2806	0	0	0	0	700		700	2106
27	M 2177	NW12	3330	0	0	0	0	965		965	2365
28	M 2185	NW12	1409	0	0	0	0	15		15	1394
29	M 2234	NW13	50	0	0	0	0	20		20	30
30	M 2269	NW13	354	0	0	10	0	80		90	264
31	M 2304	NW13	1865	0	0	0	0	830		830	1035
32	M 2357	NW14	3859	0	0	0	0	5		5	3854
33	M 2369	NW14	5155	0	0	0	0	4910		4910	245
34	M 2371	NW15	4407	0	0	0	0	6		6	4401
35	M 2412	NW15	1090	0	0	0	0	0		0	1090
36	M 2417	NW15	410	0	0	0	0	35		35	375
37	M 2429	NW15	4144	0	0	0	0	0		0	4144
38	M 2459	NW15	2825	0	0	0	0	100		100	2725
39	M 2467	NW15	6822	0	20	0	200	807		1007	5815
40	M 2383	NW16	4677	0	0	0	0	56		56	4621
41	M 2501	NW16	2915	0	0	0	0	75		75	2840
42	M 2558	NW17	14758	0	0	0	0	171		171	14587
43	M 2565	NW17	6215	0	0	0	200	2384		2584	3631
44	M 2588	-	310	0	0	0	0	0		0	310
45	M 2594	NW17	8925	0	0	0	0	126		126	8799
46	M 2607	NW17	8595	460	0	0	200	3939	685	4139	4916
47	M 2645	NW18	8102	270	0	0	0	926		926	7446
48	M 2676	NW18	7210	0	0	0	0	0		0	7210
49	M 2677	NW18	2104	0	0	0	0	0		0	2104
50	M 2689	NW18	5180	3430	0	0	0	3541	690	3541	5069
51	M 2674	NW19	1112	0	0	0	0	60		60	1092
52	M 2737	NW 19	3690	3120	0	0	585	1307	2150	1892	4918
53	M 2759	NW 19	2823	4425	0	0	350	4047	2460	4397	2851
54	M 2792	-	4724	0	0	0	0	900		900	3824
55	M2786	-	5290	2210	0	0	0	2700	1670	2700	4990
56	M2793	NW20	840	2795	20	1030	975	0	1200	2025	1610
57	M2814	NW20	560	1120			440		540	440	1240
58	M2831	NW20	2160	5575	30	540	2810	1634	3563	5014	2721
59	M2848	NW20	1645	1905		130	700	0	505	830	2720
60	M2850	NW20	840	2385		140	1735	10	945	1885	1340
61	M 3004	NW20	1417	2190	50	335	2145	1019	4125	3549	58
62	M 2822	Future	700	0	0	0	0	0		0	700
63	M 3024	Future	4890	70	0	0	0	150		150	4810
64	M 188	Batala	2184	0	40	0	100	1322		1462	722
65	M2838		0	6560	20	1705	2160	0	880	3885	2675
66	M2847		0	3635		225		245	915	470	3165
67	M2921		0	535	0	0	0	0	230	0	535
68	M2930		0	560	0	0	0	0	595	0	560
69	M2979		0	705	0	0	0	0	390	0	705
70	M3014		0	3440	0	0	0	15	3795	15	3425
Grand Total			**156613**	**45390**	**280**	**4155**	**12600**	**33950**	**25338**	**50965**	**151268**

9.10 Body weights since inception of Network

Year	At birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC	Adult
Female								
1991-92	32.08	54.53	78.74	143.86	238.40	297.26	433.07	
1992-93	30.64	51.40	87.89	161.61	203.40	293.26	399.31	
1993-94	32.71	61.53	93.14	160.38	222.27	284.25	440.92	
1994-95	30.62	59.92	93.91	165.60	242.29	304.86	435.68	
1995-96	31.11	62.02	87.98	154.51	236.73	322.04	441.69	
1996-97	31.48	65.96	97.06	174.88	242.09	330.71	476.09	
1997-98	29.27	59.87	95.59	168.95	252.98	318.33	455.27	
1998-99	29.13	62.68	92.62	187.02	269.70	343.06	458.21	
1999-00	30.27	60.59	86.46	163.34	277.21	342.58	461.34	
2000-01	31.74	61.32	94.43	159.20	243.10	329.79	490.33	
2001-02	32.44	62.04	94.96	188.23	271.09	341.46	512.25	
2002-03	34.26	62.12	95.02	187.45	287.49	368.89	485.89	
2003-04	32.00	61.57	92.04	160.65	261.52	349.24	461.74	
2004-05	31.67	59.85	90.61	168.47	265.27	354.22	486.85	
2005-06	30.57	70.23	96.21	162.58	235.74	314.75	481.06	
2006-07	30.94	65.11	104.38	169.75	246.33	324.79	516.50	
2007-08	29.47	59.68	91.76	171.21	238.38	322.80	480.07	
2008-09	31.62	62.69	99.45	180.28	274.86	352.00	507.28	
2009-10	30.04	60.49	104.76	194.36	281.54	361.78	500.69	
2010-11	31.35	61.50	101.58	202.80	306.67	380.00	477.14	
2011-12	29.77	65.31	96.40	183.75	267.71	359.11	469.25	
2012-13	31.08	62.63	106.07	222.56	311.48	380.00	492.42	
2013-14	29.35	67.46	110.68	217.78	301.91	376.20	543.75	
2014-15	30.50	65.88	101.73	212.20	289.52	363.59	490.65	
2015-16	29.18(17)	65.44 (18)	102.54 (13)	211.71 (16)	287.76 (22)	358.50 (25)	490.46 (24)	553(120)
2016-17	29.4 (29)	67.26 (24)	99.45 (37)	197.63 (35)	284.30 (32)	374.09 (17)	528.33 (23)	560(101)
2017-18	31.7(27)	68.64 (26)	97.24 (48)	195.2 (21)	294.3 (19)	377.8(23)	547(24)	582(99)
2018-19	31.6	67.9	100.6	200.7	297.7	388.8	552.2	578
2019-20	30.82	68.4	99.7	198.6	296.2	385.3	542.9	589
2020-21	30.34	67.86	98.09	197.2	299.4	381.9	539.7	598
2021-22	30.8	69.07	95.68	195.6	289.23	396.8	559.5	607
2022-23	**31.0**	**66.03**	**93.25**	**188.56**	**278.52**	**383.0**	**550.8**	**617**

Male

Year	At Birth	3 Months	6 Months	12 Months	18 Months	24 Months
1991-92	33.53	57.23	81.76	161.00	246.44	262.75
1992-93	33.04	55.46	83.23	163.29	-	-
1993-94	33.90	63.57	94.64	138.00	250.71	322.63
1994-95	33.60	64.69	96.61	181.27	271.00	325.75
1995-96	32.60	61.45	94.08	145.47	267.00	346.29
1996-97	32.41	72.24	100.29	198.75	312.33	350.43
1997-98	29.88	58.90	105.52	201.59	288.77	384.00
1998-99	30.35	59.73	97.00	206.67	312.00	410.00
1999-00	33.40	65.13	91.69	148.30	318.75	415.00
2000-01	33.40	64.05	97.00	159.25	213.63	340.56
2001-02	33.17	62.53	103.11	187.27	340.00	-
2002-03	34.79	65.00	99.38	205.56	346.88	460.00
2003-04	33.03	64.32	106.94	193.75	284.84	405.62
2004-05	34.36	60.53	105.88	195.25	288.44	408.56
2005-06	31.36	69.37	112.58	204.30	313.18	386.10
2006-07	33.44	70.86	111.81	215.08	335.63	403.75
2007-08	31.25	61.27	101.90	202.81	295.42	402.45
2008-09	32.37	67.50	108.53	211.43	286.11	387.27
2009-10	32.35	60.94	108.89	198.75	308.75	371.67
2010-11	32.73	66.60	98.70	200.00	287.00	398.00
2011-12	32.62	68.70	107.79	209.44	320.00	402.50
2012-13	31.96	63.36	110.88	262.00	370.71	397.50

2013-14	32.32	69.72	120.71	230.42	372.56	430.00
2014-15	30.03	68.53	97.70	201.20	360.00	356.67
2015-16	30.07(29)	67.18(28)	105.04(23)	203.9(14)	348.91(12)	421.25(04)
2016-17	30.82(24)	69.37(19)	103.40(15)	207.13(5)	337.24(9)	490.24(6)
2017-18	33.6(33)	68.5(22)	99.4(14)	224(6)	334(7)	456(5)
2018-19	32.5	66.1	101.0	224.5	335.2	451.3
2019-20	32.04	67.8	99.8	222.3	331.4	438.9
2020-21	33.8	69.6	102.7	219.4	342.2	480.4
2021-22	33.23	71.05	104.2	216.23	364.79	487.3
2022-23	**34.2**	**72.08**	**103.9**	**218.1**	**361.3**	**485.6**

9.11. Production performance of buffaloes completing their lactation during the period 4/2022 to 3/2023

Lactation No.	No. of Obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield (kg)
1st	13	2502.9±139.77	333.9±19.87	2347.6±61.00	13.13±0.36
2nd	7	2715.3±150.81	285.14±11.58	2713.0±151.71	16.48±1.20
3rd	5	2901.6±331.09	302.2±22.84	2841.2±272.02	16.20±1.12
4th	4	2857.6±78.55	301.0±17.12	2832.1±74.54	15.77±0.43
5th & onwards	2	2221.5±14.5	274.5±8.5	2221.5±14.5	14.0±0.5
Overall	**31**	2642.8±89.41	309.7±10.17	2564.1±71.57	14.78±0.44

9.12 Production performance of buffaloes (general herd) since inception

Years	No. of Obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield (kg)
1991-92	157	1858	321	1738	10.80
1992-93	138	1894	340	1730	10.81
1993-94	144	2238	370	1948	11.01
1994-95	121	2003	320	1877	12.06
1995-96	126	2248	350	2008	11.86
1996-97	125	2115	334	1948	11.40
1997-98	98	2255	354	1995	11.03
1998-99	125	2411	372	2101	11.50
1999-00	114	2238	375	2041	11.41
2000-01	103	2257	347	2032	11.82
2001-02	112	2419	344	2175	12.95
2002-03	105	2245	304	2144	13.16
2003-04	111	2464	342	2233	12.90
2004-05	106	2501	346	2270	12.74
2005-06	78	2480	322	2327	13.17
2006-07	91	2389	326	2235	12.39
2007-08	67	2362	323	2176	12.62
2008-09	88	2346	329	2141	11.96
2009-10	67	2478	336	2271	12.73
2010-11	81	2836	376	2470	13.28
2011-12	87	2454	322	2306	13.38
2012-13	75	2741	349	2528	13.84
2013-14	55	2789	366	2509	13.63
2014-15	46	2948	353	2674	14.84
2015-16	45	2959	383	2640	14.63
2016-17	53	2924	390	2561	14.60
2017-18	54	2906	338	2707	14.73
2018-19	62	2904	335	2771	15.10
2019-20	73	2936	316	2841	15.43
2020-21	50	2708	311	2614	14.21
2021-22	62	2759	309	2672	14.94
2022-23	**31**	**2643**	**310**	**2564**	**14.78**

9.12.1 Production performance of buffaloes (elite) since inception of network project

Year	No. of Obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1991-92	16	2798	390	2490	13.20
1992-93	07	2822	433	2371	10.60
1993-94	18	3162	429	2657	14.40
1994-95	13	3060	381	2751	16.07
1995-96	21	3148	409	2630	14.08
1996-97	25	3021	390	2651	14.34
1997-98	18	3296	418	2773	14.27
1998-99	31	3410	440	2778	13.71
1999-00	21	3199	424	2684	13.42
2000-01	23	3133	410	2672	14.01
2001-02	35	3156	377	2815	15.31
2002-03	32	3030	337	2849	15.45
2003-04	39	3183	397	2757	14.58
2004-05	38	3160	380	2793	14.40
2005-06	34	2967	340	2755	14.52
2006-07	39	2893	349	2681	13.68
2007-08	19	3143	383	2752	14.02
2008-09	22	3106	388	2654	13.43
2009-10	25	3000	362	2694	13.71
2010-11	40	3474	404	2941	14.85
2011-12	32	3172	360	2879	15.41
2012-13	38	3188	367	2899	15.46
2013-14	13	3685	406	3186	16.07
2014-15	12	4046	423	3366	17.28
2015-16	10	3846	393	3332	20.07
2016-17	16	3855	407	3267	17.4
2017-18	14	3638	379	3417	17.8
2018-19	15	3693	374	3431	17.8
2019-20	13	3669	351	3497	18.3
2020-21	8	3414	356	3414	20.8
2021-22	12	3791	347	3608	20.25
2022-23	**8**	**3418**	**309**	**3343**	**19.3**

9.13. Average milk components during the period (month-wise) 4/2022 to 3/2023

Month	Number of Observation	Fat %	SNF	Protein	Lactose
April, 2022	58	7.35	10.25	3.78	5.77
May	61	7.83	10.41	3.80	5.78
June	49	7.75	10.43	3.87	5.87
July	46	7.83	10.22	3.93	5.44
August	56	7.31	10.36	4.60	5.72
September	47	7.18	9.89	4.25	5.16
October	55	7.26	9.97	4.13	5.29
November	57	7.58	10.23	4.06	5.71
December	54	7.83	10.11	3.95	5.49
January, 2023	51	7.69	9.82	3.87	5.52
February	54	7.43	9.78	3.91	5.84
March	64	7.38	9.88	3.69	5.63
Overall	**54.33**	**7.53**	**10.11**	**3.98**	**5.60**

9.14. Reproduction performance of buffaloes calving during the period 4/2022 to 3/2023

Lactation No	Average Age at Calving (Months)	No. of observation	Average Service Period (Days)	Average Dry Period (days)	Average Calving Interval (Days)
1	39.28±0.82	31	-	-	-
2	-	28	138.63±15.20	169.52±11.28	451.00±17.12
3	-	13	102.83±11.99	141.10±7.08	408.18±13.31
4	-	11	157.77±15.14	192.80±28.91	472.43±17.88
5 & Above		14	110.36±17.82	153.36±11.58	417.57±17.72
Overall		**97**	**128.09±8.58 (66)**	**161.64±6.71 (66)**	**436.65±9.46 (66)**

9.14.1. Reproduction performance of buffaloes calving since inception of network

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
1991-92	49.2 (73)	169 (93)	187 (101)	493 (101)
1992-93	44.4 (48)	207 (100)	190 (98)	510 (100)
1993-94	46.7 (24)	228 (105)	184 (106)	532 (106)
1994-95	47.5 (37)	206 (96)	182 (96)	512 (96)
1995-96	45.6 (43)	218 (105)	196 (104)	526 (105)
1996-97	49.4 (34)	196 (76)	167 (76)	510 (76)
1997-98	45.0 (45)	248 (94)	203 (94)	553 (94)
1998-99	47.0 (34)	232 (81)	204 (84)	553 (87)
1999-00	42.0 (54)	213 (59)	175 (63)	518 (63)
2000-01	44.4 (27)	197 (81)	170 (82)	511 (82)
2001-02	44.7 (32)	164 (95)	149 (84)	496 (84)
2002-03	40.2 (39)	133 (95)	147 (95)	463 (95)
2003-04	36.8 (23)	160 (107)	153 (93)	455 (93)
2004-05	41.7 (27)	140 (80)	155 (80)	478 (80)
2005-06	43.7 (35)	143 (65)	119 (60)	433 (60)
2006-07	43.3 (20)	166 (69)	115 (61)	438 (61)
2007-08	42.8 (30)	147 (53)	126 (58)	419 (58)
2008-09	42.6 (43)	142 (90)	134 (52)	438 (52)
2009-10	39.3 (29)	151 (76)	174 (72)	492 (72)
2010-11	39.1 (21)	154 (94)	150 (76)	457 (76)
2011-12	37.4 (22)	136 (65)	154 (85)	473 (85)
2012-13	38.9 (34)	151 (53)	136 (59)	435 (59)
2013-14	42.3 (12)	159 (67)	190 (64)	471 (64)
2014-15	38.6 (23)	160 (40)	185 (40)	513 (41)
2015-16	40.1 (24)	162 (26)	119 (25)	458 (25)
2016-17	41.5 (27)	184 (26)	104(26)	472 (26)
2017-18	41.3 (25)	152 (41)	122 (41)	459 (41)
2018-19	40.7 (39)	136 (104)	130 (104)	441 (104)
2019-20	40.4 (23)	125 (82)	133 (82)	436 (82)
2020-21	40.56 (34)	138 (95)	129 (95)	434 (95)
2021-22	40.93 (53)	147 (55)	142 (55)	454 (55)
2022-23	**39.28 (31)**	**128 (66)**	**162 (66)**	**437 (66)**

Figures in parenthesis indicate number of observations

9.15. Month-wise milk production and disposal during the period 4/2022 to 3/2023

	Production	**Disposal**			
Month	Total milk produced (kg)	Liquid milk (kg)	Calf feeding (kg)	Experimental purposes (kg)	Milk lost in handling (kg)
April, 2022	16111.4	14925.0	1157.5	2	26.9
May	16239.8	15305.0	893.0	8	33.8
June	14141.6	13219.0	891.2	2	29.4
July	11320.7	9806.0	1488.2	-	26.5

August	11905.5	9903.0	1975.2	-	27.3
September	13183.3	11151.0	1998.6	2	31.7
October	13557.1	11744.0	1752.2	33	27.9
November	14323.4	12335.0	1953.6	10	24.8
December	16092.9	13957.0	2109.7	-	26.2
January, 2023	14545.2	12801.0	1718.2	-	26
February	13398.0	12801.0	1295.7	-	21.3
March	16652.1	14621.0	2006.7	-	24.4
Total	**171471.0**	**151848.0**	**19239.8**	**57**	**326.2**

9.16. Feed and fodder purchased and offered (qtls) to animals during the period 4/2022 to 3/2023

Month	Type of fodder/feed	Qty. produced at Farm	Qty. Purchased	Fed	Balance
April,2022	Green	1034.00		1034.00	
	Dry		301.00	301.00	
	Silage		281.00	281.00	
	Concentrate		**659.250**	659.250	
May	Green	1107.00		1107.00	
	Dry		323.00	323.00	
	Silage		249.00	249.00	
	Concentrate		659.500	659.500	
June	Green	1062.00		1062.00	
	Dry		318.00	318.00	
	Silage		266.00	266.00	
	Concentrate		629.750	629.750	
July	Green	1343.00		1343.00	
	Dry		198.00	198.00	
	Silage		238.00	238.00	
	Concentrate		620.250	620.250	
August	Green	1449.00		1449.00	
	Dry		162.00	162.00	
	Silage		218.00	218.00	
	Concentrate		675.750	675.750	
September	Green	1379.00		1379.00	
	Dry		153.00	153.00	
	Silage		222.00	222.00	
	Concentrate		675.00	675.00	
October	Green	1103.00		1103.00	
	Dry		177.00	177.00	
	Silage		238.00	238.00	
	Concentrate		677.500	677.500	
November	Green	1081.00		1081.00	
	Dry		199.00	199.00	
	Silage		267.00	267.00	
	Concentrate		664.250	664.250	
December	Green	1209.00		1209.00	
	Dry		212.00	212.00	
	Silage		277.00	277.00	
	Concentrate		658.00	658.00	
January 2023	Green	904.00		904.00	
	Dry		279.00	279.00	
	Silage		327.00	327.00	
	Concentrate		671.500	671.500	

February	Green	1085.00			
	Dry		246.00	246.00	
	Silage		312.00	312.00	
	Concentrate		697.00	697.00	
March	Green	1044.00		1044.00	
	Dry		238.00	238.00	
	Silage		329.00	329.00	
	Concentrate		683.70	683.70	
Total	Green	13800.00		13800.00	
	Dry		2806	2806	
	Silage		3224	3224	
	Concentrate		7971.5	7971.5	

9.17. Milking performance during the period 4/2022 to 3/2023

Month	No. of Animal in milk	No. of Animal dry	Total Animal	% in Milk	Wet average (kg)	Herd average (kg)
April, 2022	58	46	104	55.76	9.25	5.16
May	61	37	98	60.30	8.73	5.29
June	49	31	80	61.25	8.15	4.99
July	46	33	79	58.22	7.93	4.62
August	56	27	83	67.46	7.86	4.65
September	47	33	80	59.00	8.44	4.96
October	55	32	87	63.22	7.95	5.02
November	57	33	90	63.33	8.38	5.30
December	54	38	92	58.69	9.30	5.46
January, 2023	51	41	92	55.43	9.01	5.0
February	54	36	90	60.0	8.57	5.14
March	54	31	85	67.37	7.96	5.36
Overall	**53.5**	**34.83**	**88.33**	**60.84**	**8.45**	**5.07**

9.17.1. Milking performance since inception

Years	No. of Animal in milk	No. of Animal dry	Total Animal	% in Milk	Wet average (kg)	Herd average (kg)
1991-92	148	74	222	66.67	5.65	3.79
1992-93	149	77	226	65.93	5.54	3.68
1993-94	115	76	191	60.21	6.20	3.71
1994-95	116	67	183	63.39	6.09	3.86
1995-96	123	66	189	65.08	6.43	4.21
1996-97	112	72	194	60.87	6.17	3.73
1997-98	116	61	177	65.54	6.53	4.30
1998-99	119	65	184	64.67	6.26	4.06
1999-00	109	55	164	66.46	6.26	4.17
2000-01	105	58	163	64.42	6.70	4.36
2001-02	94	48	142	66.20	7.09	4.70
2002-03	109	48	157	69.43	7.22	5.00
2003-04	108	52	160	67.50	7.01	4.80
2004-05	91	45	136	66.91	7.33	5.00
2005-06	74	31	105	70.48	7.36	5.21
2006-07	81	27	108	75.00	7.03	5.27
2007-08	70	29	99	70.35	6.90	4.90
2008-09	78	38	116	67.00	7.07	4.73
2009-10	83	40	123	69.17	7.62	5.15
2010-11	88	47	135	64.93	7.21	4.72
2011-12	88	51	139	63.06	7.56	4.79

2012-13	78	45	123	63.49	7.74	4.90
2013-14	61	43	104	58.29	7.98	4.67
2014-15	54	32	86	62.34	7.97	4.98
2015-16	54	35	89	61.89	8.04	5.01
2016-17	49	25	74	70.00	7.92	5.45
2017-18	49	30	79	64.84	8.03	5.25
2018-19	68	34	102	65.9	8.40	5.38
2019-20	67	38	105	66.46	8.31	5.44
2020-21	64	39	103	62.64	8.22	5.06
2021-22	72	37	109	66.44	8.42	5.58
2022-23	**54**	**35**	**88**	**60.84**	**8.45**	**5.07**

9.18. Bull-wise daughters born/daughters reaching A.F.C. and completing 1st lactation records during the period 4/2022 to 3/2023.

Bull No.	Total No. of daughters born	No. of daughters reaching A. F. C.	No. of daughters completing 1st Lactation	Last Lactation
416	1	-	-	-
1315	4	-	-	-
2383	1	-	-	-
2607	1	-	-	-
2737	1	-	-	-
2814	1	-	-	-
2831	1	-	-	-
3004	4	-	-	-
3024	2	-	-	-
5246	3	-	-	-
7604	3	-	-	-
1451	2	-	-	-
1437	1	-	-	-
1506	5	-	-	-
1994	1	-	-	-
1354	1	-	-	-
R 12	2	-	-	-
R14	1	-	-	-
M288	1	-	-	-
M575	1	-	-	-
1796	1			
2645	1			
R10	2			
3007	2			
Total	**43**	-	-	-
2185		2	-	-
2558		1	-	-
2565		1	-	-
2594		2	-	-
2607		1	-	-
2677		1	-	-
2689		1	-	-
4687		3	-	-
4715		1	-	-
4837		1	-	-
4905		1	-	-
M53		2	-	-
M183		1	-	-
Sheru-2		1	-	-
Purchase		8	-	-

Sikander		2	-	-
1451		2	-	-
Total		**31**	-	-
5333		3	-	-
5374		1	-	-
102699		1		
PC574		1		
2185	-	-	1	-
2607	-	-	1	-
4733	-	-	1	-
6409	-	-	1	-
6646	-	-	1	-
1354	-	-	1	-
2383	-	-	1	-
Purchase	-	-	6	-
Total			**13**	-

9.19. Bull-wise daughters completing 1st lactation during the period 4/2022 to 3/2023

Sr. No	Bull No.	Daughter No.	Date of birth	Date of calving	1st lactation 305-day milk yield (kg)	Total lactation yield (kg)	Lactation length (days)
1	2185PT	3188	01-09-18	16-01-22	2710	2710	298
2	2607	3224	21-02-19	25-01-22	2105	2110	309
3	4733	3180	02-08-18	09-10-21	2648	2648	270
4	6409	3173	21-06-18	02-11-21	2455	2635	393
5	6646	3169	13-06-18	16-12-22	2410	2410	286
6	2383	3176	07-07-18	28-08-21	2378	2384	308
7	1354PT	3460	02-06-18	21-09-21	2133	2194	344

9.20 List of future breeding/young bulls as on 3/2023

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's Highest 305 days or less yield (kg)
1.	3000	01-02-21	2897	PC288	4815
2.	3019	07-04-21	3138	2677	2743
3.	3024	14-04-17	Laxmi	Laden	4680
4.	3025	08-06-21	3214	2357	3177
5.	3057	14-11-21	3028	2737	3902
6.	3066	27-12-21	2543	PC574	3108
7.	3097	15-06-22	Rani	Sikander	4824

9.21 Target achieved during the years

S.N	Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
1.	Av. Age at first calving	40 months	40.74 (39)	40.42 (23)	40.56 (34)	40.93 (53)	39.28 (31)
2.	Av. Service period	130 days	136 (104)	125 (82)	138 (95)	147 (55)	128 (66)
3.	Calf mortality (0-3 months)	≤3 %	1.94	3.45	8.18	13.87	17.43%
4.	Wet average	≥8.5 kg.	8.40	8.31	8.22	8.42	8.45
5.	Herd average	≥5.5 kg.	5.38	5.44	5.06	5.58	5.07

10. Salient Research Achievements including survey reports/farmers animals covered in the project:

- Fourteen bulls have been presented for proposed 21st set of the project and six has been selected.
- The average age at 1st calving is achieved to 39.28 months.
- The average age at first collection of the bulls at the institute was 29.4 months.
- The average 305-day yield of the herd was 2564 kg and wet average of 8.45 kg and herd average of 5.07 kg during the period 4/2022 to 3/2023.

11. Publications: Nil

12. Expected Socio-economic impact in the tract :

- Supply of high genetic merit frozen semen has helped to increase the production average of animals in the tract
- Farmers are adopting AI as main mean of mating rather than natural service
- Awareness among farmers of rearing animals on scientific lines like making concentrate ration of their own and other managemental practices

13. Constraints if any:

Regular staff like beldars, cattle attendants and milk recorder has been reduced in the strength in the project which is causing working problems in maintaining the herd.

14. Focus of work in the coming year:

Efforts are being made to further improve the reproductive efficiency and herd strength with special focus on increasing elite animals and keeping calf mortality at lower levels.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Receipts (ICAR Share)	Balance
Total	ICAR Share		ICAR Share	State Share		
53.00	39.00+1.00*	40.00	40.00	13.00	5.78941	+ 5.78941

* SCSP Funds

Herd Performance:

Herd strength at the centre was 322 animals with 143 breedable buffaloes (> 2 year). During the period 90 calving were reported with 47 male and 43 females, and six abortions. The calf mortality (0-3 months) during the period was 17.43 % (19/109) higher than the previous year 13.87 % (19/137). The female conception rate at the farm was 46.83% as compared to 47.35 %, in 2021-22.

During the report period 45390 semen doses were produced and 50965 semen doses were sold and supplied to field unit/ other Murrah centers and other agencies. In total 151268 frozen semen doses from superior bulls are available at the centre. A decrease in 305 day or less day milk yield of 2564 kg (31) with average peak yield 14.78 kg was recorded than previous year 2672 kg (62) with average peak yield of 14.94 kg. An improvement in the reproductive performance viz. AFC, SP, and CI of 39.28 months (31), 128 days (66), and 437 days (66), respectively was observed as compared to last year. However, DP increased to 162 days (66) as compared to last year (142 days). The wet average 8.45 kg and herd average 5.07 kg was recorded during the year. The herd average was lower as compared to previous year (5.58 kg) respectively.

Accomplishment and Targets Achieved:

S.N.	Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
1.	Av. Age at first calving	40 months	40.74 (39)	40.42 (23)	40.56 (34)	40.93 (53)	39.28 (31)
2.	Av. Service period	130 days	136 (104)	125 (82)	138 (95)	147 (55)	128 (66)
3.	Calf mortality (0-3 months)	≤3 %	1.94	3.45	8.18	13.87	17.43
4.	Wet average	≥8.5 kg.	8.40	8.31	8.22	8.42	8.45
5.	Herd average	≥5.5 kg.	5.38	5.44	5.06	5.58	5.07

Recommendations:

- Breedable buffalo population should be increased to 200 in the herd of GADVASU.
- The calf mortality should be controlled and restrict below 3% as project target.
- The production performance needs to be improved

ICAR-NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

1. Name of Center : **NDRI, Karnal, Main Unit**
2. Project Code : 1010476
3. Project Title : Network project on buffalo improvement-Institute herd
   (Lead Division: Animal Genetics & Breeding-ICAR-NDRI, Karnal)
   Subproject : Performance recording and improvement of Murrah (NDRI Herd)
4. Date of Start : 1993-1994
   Name of the Project In-charge: Dr. Vikas Vohra
5. Objectives : To establish elite herd of 50 to 100 Murrah for the production of genetically superior young bulls. To evaluate sires through institutional progeny testing. To produce, test, propagate and conserve high genetic merit male germplasm.
6. Technical Programme
   - Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 500 and 300 breedable females (Murrah).
   - Selection and testing of minimum 15 bulls of Murrah / 4-6 bulls for other breeds in every 18/24 months cycle.
   - Production of minimum 10,000 (Murrah) and 3000 to 5000 (Other breeds) frozen semen doses from each test bull.
   - Maintain a minimum number of 8000 (Murrah) and 2000 (other breeds) frozen semen doses until the particular SET gets evaluated.
   - Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
   - Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
   - Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield, Milk yield per day of herd life (total milk produced from date of birth till completion of 4th or more lactation).
   - Monthly testing of milk constituents (Fat %, SNF % and Protein %) and Somatic Cell Count, wherever feasible, at institutional herds.
   - Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
   - Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. Financial Statement

Financial Statement NBPI/ICAR-NDRI (Main Unit)	Head wise budget allocation and utilization; revenue receipts		
	Equipment	Contingency (including SCSP)	Total
Total funds Received during 2022-23	1,98,000	12,00,000	13,98,000
Expenditure up to 31-03-2023	1,94,459	11,97,749	13,92,208
Closing Balance on 31-03-2023	3,541	2,251	5,792

8. Staff Position - Staff associated with the project through Redeployment

Discipline	Name of Scientist / Staff	Status PI/Co-PI
AGB	Dr. Vikas Vohra, Principal Scientist (from Jan. 2021) Dr. G. R Gowane, Prinicipal Scientist (from March 21)	PI Co-PI
ARGO	Dr. T. K. Mohanty, Principal Scientist Dr. Mukesh Bhakat, Principal Scientist	Co-PI Co-PI
LPM	Dr. Pawan Singh, Principal Scientist, I/c LRC & ABRC	Co-PI
No. of staff		
Contractual staff	2 (High Skilled) – 06 months 2 (Skilled) – 05 months	

Action Taken Report of 19th Annual Review Meet of NPBI held on 28th July, 2022

Recommendation	ATR
1. Production traits improved in 2021-22, however, further improvement is needed in coming years. 2. Emphasis should be given to reduce the AFC as it considerably high in 2021-22 (58.7 months). 3. Although calf mortality has reduced compared to previous year but not as per set target and need concerted efforts to improve farm management and health care practices.	➢ NDRI herd production, wet average and herd av. improved for the last year 2022-23. ➢ The AFC was reduced to 42.20 months during the period. ➢ The calf mortality target was achieved during the 2022-23 with an overall calf mortality of 3.77%

9. Herd Performance Enclosed Tables 9.1 to 9.21

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition			Disposal				CB
		OB	B / P*	T/E	D	T/E	S	E	CB
	Female								
1	Below 3 months	4	46		2	45			3
2	3-12 months	28		45	1	32			40
3	1-2 years	56		32	0	55			33
	Above 2 years	84		55	5	44	7		83
4	Buffaloes in Milk	95		44	4	36	13		86
5	Buffaloes Dry P /NP	69		36	9		48		48
	Sub Total	**336**	**46**	**212**	**21**	**212**	**68**		**293**
	Males								
1	Below 3 months	8	48		2	42	0		12
2	3-12 months	47		42	7	36	30		16
3	1-2 years	3		36		9	30		-
	Above 2 years	13		9		11	11		-
4	Breeding bulls	44		11		0			55
5	Bullocks / Teasers	2		0					2
	Sub Total	117	48	98	9	98	71		85
	Grand Total	**453**	**94**	**310**	**30**	**310**	**139**		**378**

OB = Opening Balance; B = Birth; P= Purchase; T = Transfer;
E = Experimental; D = Death; S = Sale; CB = Closing Balance as on 31.03.2023
* Including either one female or one male as followers of three buffaloes purchased

9.2 Calving Statistics including abnormalities (1st April 22 to 31st March 2023)

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 21	3	1	-	-	-	-	-	4
May	2	3	-	-	-	-	-	5
June	1	1	-	-	-	1	1	4
July	1	4	-	-	-	-	-	5
August	4	5	1	3	5	3	5	26
September	9	7	1	2	1	1	3	24
October	10	8	-	1	1	1	3	24
November	2	8	-	2	-	3	-	15
December	5	6	-	2	-	2	-	15
January 22	5	2	-	1	-	-	-	8
February	3	1	-	-	-	-	-	4
March	3	-	-	-	-	-	-	3
Overall	**48**	**46**	**2**	**11**	**7**	**11**	**12**	**137**

Sex ratio Male : Female 1.04:1; SB% = 1.45%; Abortion % = 8.02%

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 23

Female	Primary cause of disposal							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves								
0 to 3 months						2		2
3-12 months						1		1
Heifers								
1-2 years								
> 2 years	4	1		2		5		12
Buffaloes								
Milch	13					4		17
Dry	45			3		9		57
Sub Total	**62**	**1**		**5**		**21**		**89**
Males	**Primary cause of disposal**							
Calves								
0 to 3 months						2		2
3-12 months	30					7		37
1 to 2 year	26	4						30
>2 year	9	2						11
Breeding bulls								
Bullock+Teaser+Others								
Sub Total	**65**	**6**				**9**		**80**
Grand Total	**133**	**7**		**5**		**30**		**169**

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Month	No. Died %	Female						Male					Over all Herd
		0-3 Month	3-12 Month	1-2 Yrs.	> 2 Yrs.	Milk + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs.	>2 yrs.	Overall Male	
Apr, 22	No.	3	29	57	83	169	341	9	48	4	-	61	402
	Died	-	-	-	-	-	-	-	-	-	-	-	-
	%	-	-	-	-	-	-	-	-	-	-	-	-
May, 22	No.	5	28	58	77	157	325	9	39	1	-	49	374
	Died	-	-	-	1	1	2	-	1	-	-	1	3
	%	-	-	-	1.2	0.6	0.6	-	2.6	-	-	2.0	0.8
Jun, 22	No.	5	29	56	78	142	310	6	34	1	-	41	351
	Died	-	-	-	1	1	2	1	-	-	-	1	3
	%	-	-	-	1.2	0.7	0.6	16.6	-	-	-	2.4	0.8
Jul, 22	No.	9	28	57	73	141	308	6	37	1	-	44	352
	Died	-	-	-	-	1	1	-	-	-	-	-	1
	%	-	-	-	-	0.7	0.3	-	-	-	-	-	0.2
Aug, 22	No.	10	29	51	73	147	310	9	38	1	-	48	358
	Died	1	-	-	1	-	2	-	1	-	-	1	3
	%	10	-	-	1.3	-	0.6	-	2.6	-	-	2.1	0.8
Sep, 22	No.	16	24	49	77	154	320	18	35	5	-	58	378
	Died	-	-	-	-	3	3	-	-	-	-	-	3
	%	-	-	-	-	1.9	0.9	-	-	-	-	-	0.7
Oct, 22	No.	20	22	48	78	156	324	25	30	13	-	68	392
	Died	-	-	-	-	-	-	-	-	-	-	-	-
	%	-	-	-	-	-	-	-	-	-	-	-	-
Nov, 22	No.	22	21	39	88	161	331	23	30	18	-	71	402
	Died	-	-	-	-	3	3	-	-	-	-	-	3
	%	-	-	-	-	1.8	0.9	-	-	-	-	-	0.7
Dec, 22	No.	21	25	40	85	164	335	18	32	26	-	76	411
	Died	-	-	-	1	-	1	-	-	-	-	-	1
	%	-	-	-	1.1	-	0.3	-	-	-	-	-	0.2
Jan, 23	No.	14	30	33	89	168	334	13	37	28	-	78	412

	Died	1	1	-	-	-	2	-	3	-	-	3	5
	%	7.1	3.3	-	-	-	0.6	-	8.1	-	-	3.8	1.2
Feb, 23	No.	9	35	34	84	163	325	14	11	-	-	25	350
	Died	-	-	-	-	2	2	-	2	-	-	2	4
	%	-	-	-	-	1.2	0.6	-	18.1	-	-	8	1.1
Mar, 23	No.	3	40	33	83	134	293	12	16	-	-	28	321
	Died	-	-	-	1	2	3	1	-	-	-	1	4
	%	-	-	-	1.2	1.5	1.0	8.3	-	-	-	3.5	1.2
Overall	Died	2	1	-	5	13	21	2	7	-	-	9	30
	%	1.4	0.3	-	0.5	0.7	0.5	1.2	1.8	-	-	1.4	0.6

Female (0-3 months calves) (Opening Balance + Born= 4+46 => 50; calf died = 4.0%)
Male (0-3 months calves) (Opening Balance + Born= 8+48 => 56; calf died = 3.57%)
Overall (0-3 months calves) (Opening Balance + Born = 12+94 => 106; calf died = 3.77%)

9.5. Causes of Mortality (quarter wise) during the period 1st April 22 to 31st March 2023

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	Total
Enteritis	1	-	-	3	4
Pneumonitis	1	-	2	3	6
Septicemia / Toxemia	-	2	2	1	5
Peritonitis	-	-	-	-	-
JD/TB	-	-	-	-	-
Milk Fever / metabolic diseases	-	-	-	-	-
TRP / TP	-	-	-	1	1
Parasitism	-	-	-	-	-
Sudden death	-	-	-	-	-
Peri-parturient disorders	-	1	-	-	1
General Debility	-	2	-	1	3
Miscellaneous	4	2	-	4	10
Total	**6**	**7**	**4**	**13**	**30**

9.6 Prophylactic Measures undertaken during 2022-23

Disease	Vaccination Date / No. of animals	No. of animals Tested / Positive		Dates and No. of animals treated for Parasitism
FMD	August 2022 & February 2023			
HS	September 2022 & March 2023			
BQ	September 2022 & March 2023			
Brucelloses				
JD				
TB				
IBR				
Mastites				

9.7. Female Conception Rate During the Period January to December 2022

AI No.→	1st			2nd			3rd			4th & above			Over all		
Parity↓	AIs	C	CR %	AIs	C	CR %	AIs	C	CR%	AIs	C	CR %	AIs	C	CR %
Heifers	44	24	54.54	23	12	52.17	9	6	66.66	3	-	-	79	42	53.16
1st calvers	29	16	55.17	14	2	14.28	8	5	62.50	7	1	14.28	58	24	41.37
Multiparous	65	35	53.84	34	17	50.00	15	7	46.66	9	1	11.11	123	60	48.78
Overall	**138**	**75**	**54.34**	**71**	**31**	**43.66**	**32**	**18**	**56.25**	**19**	**2**	**10.52**	**260**	**126**	**48.46**

AIs = No. of animals inseminated; C = No. of animals conceived ; CR % = Conception rate%

9.8 Quarter-wise conception rate During the Period January to December 2022

Quarter	No. of A I	Preg. animals	CR %
Jan – Mar	82	38	46.34
Apr- Jun	33	13	39.39
Jul- Sep	37	14	37.83
Oct- Dec	108	61	56.48
Overall	**260**	**126**	**48.46**

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. no.	Bull No.	Set No.	Total Number of AI	Total Conceived	CR%
1.	1315	19	23	9	39.13
2.	2759	19	8	4	50.00
3.	2848	20	23	13	56.52
4.	3004	20	11	5	45.45
5.	5427	20	76	32	42.10
6.	7584	20	56	30	53.57
7.	7649	20	30	17	56.66
8.	4354 PT	15	10	6	60.00
9.	6007 PT	15	15	4	26.66
10.	2459 PT	15	8	6	75.00
Overall			**260**	**126**	**48.46**

9.10 Bull Wise Semen Stock (April-2022 to March 2023)

S. No.	Bull No.	Centre	Opening balance on date 01.04.2022	Total semen received & produced	Utilization-NPBI			Total utilization	Closing Balance on date 31.03.23
					NDRI, Karnal		CIRB Hisar		
					Main Unit	Field Unit			
20th set bull									
1	2848*	GADVASU	200	200		195		195	5
2	3004	GADVASU	25	620		375		375	245
3	5427	CIRB	890	890	100	450		550	340
4	7649	NDRI	3870	8110	100	250	2980	3330	4780
5	7584	NDRI	2100	3770	250	350	2240	2840	930
6	2831	GADVASU	100	955	50	550		600	355
7	2793*	GADVASU	100	100		100		100	0
8	1454*	LUVAS	260	1040		1040		1040	0
9	2850	GADVASU		770	50	675		725	45
10	2814*	GADVASU		435		435		435	0
11	5588*	CIRB		260		200		200	60
12	5500	CIRB		1020	50	850		900	120
13	5592*	CIRB		260		200		200	60
14	2838	GADVASU		1040	50	250		300	740
15	M19	LUVAS		1040	50	750		800	240
16	5511	CIRB		260		250		250	10
Proven	4354	CIRB	235	235					235
Proven	2459	GADVASU	400	400					400
Proven	6007	NDRI	2556	2556	50			50	2506
Total			**10736**	**23961**	**750**	**6920**	**5220**	**12890**	**11071**

9.11 Average Body weight (kg) since 1999 (Indicate number of animals in parenthesis)

Year	Birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC
Female							
Since 1999	31.32	65.00	104.62	171.67	251.95	333.05	559.23
Current year	31.35	66.41	105.21	172.53	260.64	358.11	594.68
Male					**Adults**		
Current year	32.51	69.28	93.45	-	-	-	-

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	21	2619.2	358.1	2359.4	13.3
2nd	15	2584.3	354.7	2414.5	13.2
3rd	11	2793.3	346.2	2580.0	13.5
4th	11	2631.1	324.9	2541.8	14.4
5th & above	12	2656.4	347.0	2472.6	13.1
Overall	70	2647.3	348.4	2454.0	13.5

9.12.1 Average production performance of Buffaloes since Inception of Network

Year	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1993-1994	2513.70 (117)	311.00 (117)	2351.80 (137)	-
1994-1995	2382.30 (128)	325.90 (128)	2270.10 (128)	11.70 (128)
1995-1996	2750.90 (106)	323.10 (106)	2576.10 (106)	14.20 (106)
1996-1997	2636.50 (105)	330.00 (105)	2423.10 (105)	13.20 (105)
1997-1998	2336.10 (128)	301.00 (128)	2191.20 (128)	11.80 (128)
1998-1999	2190.00 (112)	328.30 (112)	2032.60 (112)	11.10 (112)
1999-2000	1951.00 (095)	316.80 (095)	1822.40 (102)	11.10 (102)
2000-2001	2075.30 (116)	292.30 (116)	2019.10 (126)	12.00 (126)
2001-2002	2070.80 (085)	315.90 (085)	1963.20 (091)	11.80 (091)
2002-2003	2209.44 (072)	330.07 (072)	2000.67 (081)	12.01 (081)
2003-2004	2009.08 (077)	315.23 (077)	1897.08 (089)	10.93 (092)
2004-2005	2091.94 (080)	317.00 (080)	2025.00 (098)	10.86 (098)
2005-2006	2226.97 (126)	301.25 (126)	2159.06 (142)	12.41 (142)
2006-2007	2143.65 (099)	307.39 (099)	2053.77 (111)	11.80 (111)
2007-2008	2254.75 (112)	322.15 (112)	2094.16(127)	12.50(127)
2008-2009	2419.13 (081)	341.61 (081)	2256.01 (086)	12.43 (086)
2009-2010	2272.54 (077)	313.04 (077)	2221.61 (084)	12.08 (084)
2010-2011	2146.04 (125)	310.69 (125)	2014.70 (130)	11.24 (130)
2011-2012	2344.16 (67)	331.83 (67)	2191.83 (67)	10.67 (67)
2012-2013	2381.05 (78)	304.87 (78)	2255.81 (83)	11.56 (83)
2013-2014	2631.90 (82)	332.68 (82)	2430.91 (82)	11.98 (98)
2014-2015	2486.33 (119)	305.15 (119)	2223.57 (124)	12.86 (124)
2015-2016	2727.78 (118)	329.77 (118)	2523.32 (118)	14.10 (118)
2016-2017	2716.96 (87)	335.97 (87)	2535.51 (87)	13.36 (87)
2017-2018	2523±58.3 (96)	335.3±6.1 (96)	2386.7±44.8 (96)	13.00±0.2 (96)
2018-2019	2390.93 (123)	307.39 (123)	2318.78 (123)	12.10 (123)
2019-2020	2256.1 (106)	296.82 (106)	2184.1 (106)	12.80 (106)
2020-2021	2390±62.55 (90)	346.73±8.3 (90)	2198.75±41.48 (90)	12.21±0.13 (90)
2021-2022	2587.11±71.87 (85)	319.94±8.07 (85)	2435.74±58.10 (85)	13.99±0.19 (85)
2022-23	**2647.33±75.80 (70)**	**348.40±8.24 (70)**	**2453.96±55.86 (70)**	**13.47±0.12 (70)**

9.12.2 Herd Life Production (up to ≥4th Lactation) during 2022-23

Animal No.	Date of Birth	Date of completion of ≥ 4th lactation	Date of 1st calving	LTMY	HLF Days	HPL Days	PL Days	UNPLDays	MY/HLF	MY/HPL
6109	11-09-2009	28-06-2022	21-06-2015	11372	4674	2564	1464	1219	2.43	4.43
6163	26-11-2009	30-11-2022	20-07-2013	14987	4753	3420	2227	1180	3.15	4.38
6293	02-11-2010	30-09-2022	05-08-2014	10212	4351	2978	1449	1596	2.34	3.42
6353	20-08-2011	24-08-2022	04-10-2014	14260	4023	2881	1952	922	3.54	4.94
6401	15-01-2012	24-01-2023	22-06-2015	10083	4028	2773	1830	943	2.50	3.63
6463	06-04-2012	29-11-2022	16-05-2016	10395	3890	2388	1443	936	2.67	4.35
6477	29-06-2012	10-07-2022	08-04-2016	14243	3664	2284	1524	758	3.88	6.23
6503	10-08-2012	13-04-2022	15-10-2017	10976	3534	1641	1267	502	3.10	6.68
6635	03-02-2013	22-06-2022	26-02-2017	11863	3427	1942	1449	627	3.46	6.10
6649	03-03-2013	25-06-2022	01-01-2017	6226	3402	2001	820	1149	1.83	3.11
6663	08-06-2008	25-01-2023	08-03-2013	8877	5345	3610	1374	2227	1.66	2.45
6684	25-12-2012	28-03-2023	28-10-2016	11952	3746	2342	1526	815	3.19	5.10
6774	20-08-2013	30-03-2023	10-03-2018	12053	3510	1846	1580	254	3.43	6.52
6799	20-10-2013	29-03-2023	25-02-2017	14682	3448	2223	1684	540	4.25	6.60
6847	26-01-2014	14-05-2022	12-09-2017	9510	3031	1705	1214	614	3.13	5.57
6852	15-02-2014	21-07-2022	08-08-2017	10091	3079	1808	1167	590	3.27	5.58
6895	30-04-2014	14-05-2022	03-09-2017	10708	2937	1714	1320	511	3.64	6.24
6919	10-07-2014	21-07-2022	08-12-2017	7801	2934	1686	1018	665	2.65	4.62
6922	16-07-2014	20-02-2023	15-01-2018	13042	3142	1862	1372	463	4.15	7.00
7202	08-06-2013	28-10-2022	03-11-2015	8869	3430	2551	1359	1192	2.58	3.47
7206	08-07-2013	30-12-2022	13-08-2016	6908	3463	2330	1068	1260	1.99	2.96
7207	08-07-2013	28-10-2022	16-08-2016	7884	3400	2264	1145	474	2.31	3.48
7363	16-05-2011	21-06-2022	01-01-2016	12517	4055	2363	1457	740	3.08	5.29
Average				**10848**	**3707**	**2312**	**1422**	**877**	**2.96**	**4.87**
Max				**14987**	**5345**	**3610**	**2227**	**2227**	**4.25**	**6.6**
Min				**6226**	**2934**	**1641**	**820**	**254**	**1.66**	**2.45**

HLF (Herd Life) = Date of birth to date of completion of 4th or more lactations Or date of disposal
PLF (Productive Days) = Date of first calving to total days in milk
UNPLF (Unproductive days) = Total days when buffalo not give milk from the date of first calving

9.13 Average Milk Compositions from 1st pril 2021 to 31st March 2022

Month	No. of Animals	Fat (%) (Mean±SE)	SNF (%) (Mean±SE)	Total solids (%)	Protein (%)	Lactose (%)
Apr, 22	90	8.24±0.09	10.08±0.03	18.31	3.78	5.69
May, 22	84	8.33±0.11	10.32±0.03	18.65	3.84	5.78
Jun, 22	79	8.34±0.12	10.10±0.04	18.45	3.76	5.67
Jul, 22	70	8.93±0.11	10.05±0.03	19.00	3.73	5.64
Aug, 22	71	8.29±0.14	10.07±0.04	18.37	3.70	5.55
Sep, 22	85	9.04±0.13	10.04±0.04	19.08	3.73	5.62
Oct, 22	79	8.62±0.13	10.09±0.04	18.70	3.72	5.62
Nov, 22	78	8.83±0.12	9.91±0.04	18.74	3.64	5.48
Dec, 22	84	8.18±0.08	10.05±0.04	18.23	3.70	5.61
Jan, 23	69	8.29±0.11	10.00±0.04	18.27	3.65	5.50
Feb, 23	89	8.27±0.11	10.03±0.04	18.30	3.68	5.56
Mar, 23	70	8.20±0.12	10.05±0.04	18.25	3.71	5.61
Overall	79	8.46±0.11	10.06±0.04	18.53	3.72	5.61

9.14: Reproductive Performance during the period 1st Apr, 2022 to 31st March 2023

Lactation / Parity	AFC (Months) (N)	SP (Days) (N)	Dry Period (Days) N	Calving Interval CI (Days) N
1	42.2 (40)	101.4 (7)	97.3 (7)	406.0 (7)
2		132.1 (7)	97.0 (7)	438.0 (7)
3		122.8 (5)	139.0 (5)	434.6 (5)
4		111.4 (5)	111.6 (5)	422.4 (5)
5th and above		128.2 (4)	127.2 (4)	433.0 (4)
Over all	**42.2 (40)**	**118.5 (28)**	**111.4 (28)**	426.8 (28)

Figures in parenthesis indicate the number (N) of animals

9.14.1 Reproduction Performance Since inception of Network

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
1993-1994	45.50 (44)	148.63 (97)	123.26 (98)	428.02 (98)
1994-1995	46.00 (37)	119.70 (70)	103.18 (71)	428.20 (70)
1995-1996	43.84 (27)	114.79 (72)	113.03 (72)	422.64 (72)
1996-1997	46.81 (27)	114.33 (66)	96.06 (66)	423.27 (66)
1997-1998	44.84 (34)	96.80 (59)	93.49 (59)	394.68 (60)
1998-1999	46.24 (54)	118.24 (63)	108.50 (62)	424.40 (62)
1999-2000	42.60 (29)	159.18 (82)	113.94 (52)	435.19 (52)
2000-2001	42.40 (42)	107.10 (53)	111.50 (56)	407.70 (56)
2001-2002	44.03 (34)	123.56(77)	118.65 (43)	428.12 (43)
2002-2003	44.02 (20)	140.87 (59)	82.98 (31)	405.90 (31)
2003-2004	43.87 (62)	131.65 (117)	103.59 (37)	438.58 (37)
2004-2005	43.37 (47)	126.45 (93)	106.03 (35)	427.99 (35)
2005-2006	39.90 (36)	149.06 (68)	109.61 (54)	413.31 (54)
2006-2007	41.42 (50)	131.40 (80)	113.86 (50)	419.02 (50)
2007-2008	41.82 (42)	119.61 (84)	121.95 (55)	441.01 (55)
2008-2009	40.75 (31)	130.58 (61)	102.04 (21)	423.71 (21)
2009-2010	41.08 (25)	145.96 (62)	107.08 (30)	412.54 (30)
2010-2011	41.26 (50)	145.06 (76)	119.36 (44)	442.40 (44)
2011-2012	42.13 (24)	120.66 (87)	110.83 (56)	428.33 (56)
2012-2013	41.58 (29)	123.93 (69)	96.94 (55)	401.96 (55)
2013-2014	41.87 (36)	128.37 (73)	100.73 (48)	423.74 (48)
2014-2015	40.39 (35)	134.71 (71)	111.45 (40)	420.97 (40)
2015-2016	39.29 (24)	134.03 (92)	130.75 (92)	429.99 (92)
2016-2017	43.21 (29)	132.20 (54)	110.81 (27)	428.44 (27)
2017-2018	42.29 (35)	138.20 (49)	127.4 (33)	432.4 (33)
2018-2019	44.39 (41)	139.00 (77)	154.00 (77)	446.0 (77)
2019-2020	44.52 (37)	133.50 (60)	162.63 (60)	443.6 (60)
2020-2021	45.1 (26)	140.3 (39)	127.4 (39)	440.1 (39)
2021-2022	58.7 (35)	142.7 (27)	141.6 (27)	452.0 (27)
2022-2023	**42.2 (40)**	**118.5 (28)**	**111.4 (28)**	**426.8 (28)**

9.15 Milk Production and Disposal during the period Apr, 2022- Mar, 2023

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk sold	Calf feeding	Expt.
April 2022	20155.5	Total milk produced was supplied to the milk plant, NDRI, Karnal		
May	17669.0			
June	16165.5			
July	14384.0			

August	13848.5	
September	15534.0	
October	18291.5	
November	20486.0	
December	23305.0	
January 2023	24105.5	
February	21031.0	
March	19987.5	
Total	**224963.0**	

9.16 Feed and fodder (Quintals) availability:

Months	Green fodder produced at Farm	Green fodder Purchased	Total
April	10230.0	-	10230.0
May	9699.3	-	9699.3
June	5615.0	-	5615.0
July	11788.4	-	11788.4
August	13018.8	-	13018.8
September	12020.7	-	12020.7
October	11134.6	-	11134.6
November	10962.3	-	10962.3
December	10988.9	-	10988.9
January	13526.9	-	13526.9
February	5926.8	-	5926.8
March	12225.5	-	12225.5
Total Green	127137.2	-	127137.2
Silage	-	-	-
Dry	**48059.5**	-	**48059.5**
Concentrate	**106736.9**	-	**106736.9**

9.17: Milk performance during during the period Apr, 2022- Mar, 2023

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 2022	87	82	169	51.47	7.7	4.0
May	84	73	157	53.50	7.1	3.9
June	80	62	142	56.33	6.8	3.8
July	73	68	141	51.77	6.3	32
August	74	73	147	50.34	5.8	3.2
September	84	70	154	54.55	6.2	3.4
October	86	70	156	55.13	6.8	3.8
November	96	63	159	60.38	7.1	4.2
December	98	66	164	59.76	7.6	4.6
January 2023	98	70	168	58.30	8.0	4.6
February	93	70	163	57.06	8.0	4.6
March	86	48	134	64.10	7.7	4.9
Total	**87**	**68**	**155**	**56.10**	**7.8**	**4.7**

9.17.1 Milking performance since inception

Year	No. of Animals in Milk	No. of Animals in Dry	Total No. of Animals	% in Milk	Wet Av. (kg)	Herd Av. (kg)
1993-1994	115	45	160	72.15	7.80	5.60
1994-1995	114	54	168	68.02	8.39	5.72
1995-1996	109	51	160	68.12	8.03	5.50
1996-1997	103	43	146	70.55	7.90	5.60

1997-1998	119	47	166	71.98	7.40	5.30
1998-1999	100	68	168	59.40	5.93	3.52
1999-2000	094	71	165	75.53	6.60	3.90
2000-2001	104	59	163	63.56	6.65	4.23
2001-2002	090	53	143	62.69	6.26	3.93
2002-2003	073	34	106	68.48	6.23	4.27
2003-2004	080	37	117	68.38	6.36	4.31
2004-2005	111	46	157	70.50	7.39	5.23
2005-2006	107	65	172	62.14	7.05	4.38
2006-2007	100	78	178	56.18	6.70	3.75
2007-2008	104	69	173	60.00	6.80	4.00
2008-2009	064	65	130	50.25	7.09	3.49
2009-2010	091	65	156	58.33	7.32	4.25
2010-2011	096	109	205	46.82	5.83	2.75
2011-2012	066	81	147	44.89	6.79	3.03
2012-2013	090	51	141	63.69	7.35	4.63
2013-2014	101	65	166	60.84	7.80	4.70
2014-2015	115	82	197	58.05	8.05	5.10
2015-2016	132	107	239	55.44	8.43	4.13
2016-2017	105	90	195	53.73	8.39	4.52
2017-2018	99	110	209	47.36	8.23	4.21
2018-2019	112	102	214	52.30	7.4	3.9
2019-2020	118	105	220	52.12	6.7	3.5
2020-2021	86	111	197	43.65	6.6	3.0
2021-2022	85	80	165	51.52	7.7	4.0
2022-2023	**87**	**68**	**155**	**56.10**	**7.8**	**4.7**

9.18: Bull wise daughters born (only numbers) during the period Apr, 2022- Mar, 2023

Set No.	Centre	Bull No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
19	LUVAS	1315	7	-	-
15	GADVASU	2459 P	2	-	-
19	GADVASU	2737	8	-	-
19	GADVASU	2759	16	-	-
20	GADVASU	2848	2	-	-
19	CIRB	5374	3	-	-
20	CIRB	5427	3	-	-
15	NDRI	6007 P	1	-	-
14	NDRI	6044 P	4	-	-
		Total	46	-	-

9.19 Bull wise daughters completing 1ST lactation during the Period April 2022 to March 2023

Bull No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
N.K.	7296	28-08-2016	03-09-2021	61.06	291	1637.0	1637.0
1893	7301	05-09-2016	04-08-2021	59.80	482	3823.5	**2828.0**
N.K.	7378	09-11-2016	15-09-2021	59.03	302	2561.5	2561.5
N.K.	7405	27-11-2016	03-08-2021	57.00	423	2502.5	2137.0
N.K.	7407	29-11-2016	11-11-2021	62.20	383	2058.0	1824.0
6290	7424	13-01-2017	03-12-2021	59.50	291	1698.5	1698.5
6379	7437	25-02-2017	12-10-2021	56.30	413	3240.0	**2965.5**
6646	7438	26-02-2017	28-12-2021	58.80	366	3140.0	**3013.0**
3267	7446	18-04-2017	20-09-2021	53.80	298	2401.0	2401.0
6379	7456	19-07-2017	19-09-2021	50.70	404	3227.0	**2874.0**

6379	7460	22-07-2017	20-09-2021	50.70	490	4033.5	**3125.0**
6646	7469	24-08-2017	28-09-2021	49.80	229	1799.0	1799.0
1027	7491	06-10-2017	04-12-2021	50.60	325	2700.0	2116.5
29	7515	20-11-2017	13-10-2021	47.40	467	3827.5	2138.5
3591	7587	09-04-2018	03-11-2021	43.40	298	2075.5	2075.5
101	7608	06-07-2018	09-02-2022	43.80	371	2895.5	2629.0
4687	7631	07-09-2018	29-05-2022	45.30	304	2769.0	2769.0
N.K.	7663	27-04-2016	28-08-2021	64.90	320	2212.0	2204.0
N.K.	7665	27-04-2016	26-08-2021	64.90	491	2459.0	2976.0
N.K.	7680	30-10-2015	18-09-2021	71.60	367	2305.5	2128.0
N.K.	7684	30-10-2015	04-10-2021	72.20	206	1542.5	1542.5

Out of 21 bulls used, daughters of 07 bulls had given SLMY greater than 2700 kg in NDRI herd

9.20 Breeding bulls Selected for current set during the period Apr, 2022- Mar, 2023

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best SLMY
1	7630	05-09-2018	M-51	6852	3343 /15.5
2	7759	18-01-2019	2565	7251	3188 / 16.5
3	7768	01-02-2019	2607	6922	3323 / 16.5
4	7990	19-08-2020	183 PT	6626	3991 / 18.0

9.20.1 PT Bulls for nominated mating during the period Apr, 2022 to Mar, 2023

Bull No.	Set No.	Centre	Dams' Best yield	Sire index/ Breeding Value	% Superiority
4354	15	CIRB	3528	2589	1.67
6007	15	NDRI	3260	2588	1.61
2459	15	GADVASU	4636	2587	1.58

9.20.2 List of breeding bulls as on 31.3.2023

Sr. No	Bull No.	DOB	Sire No.	Dam No.	Dam's best SLMY	Semen doses available
1.	6379	17-10-2011	4915	410	3505	3289
2.	6646	07-02-2013	N.K.	6627	3533	6245
3.	6753	13-07-2013	858	470	3389	3002
4.	6822	13-12-2013	2422	490	4187	-
5.	6942	23-08-2014	4439	6627	3533	11871
6.	7094	08-04-2015	N.K.	6625	3465	7275
7.	7147	14-08-2015	N.K.	6631	3018	8394
8.	7227	04-01-2016	6044	5851	3099	1630
9.	7277	22-07-2016	2459	6236	3508	-
10.	7263	28-05-2016	6290	6625	3465	4948
11.	7450	14-05-2017	6409	6116	3570	-
12.	7584	30-07-2018	6253	6147	3600	-
13.	7590	17-04-2018	3591	6122	3590	-
14.	7604	18-06-2018	7010	6477	3158	4778
15.	7545	29-12-2017	4705	6843	3050	-
16.	7568	24-02-2018	2501	7351	3010	-
17.	7619	03-08-2018	2565	6799	3172	-
18.	7630	05-09-2018	51	6852	3343	-
19.	7638	22-09-2018	4687	6795	3076	-
20.	7649	15-10-2018	2558	6735	3203	4950
21.	7511	17-11-2017	2133	470	3389	-
22.	7492	09-10-2017	1027	6906	2799	-
23.	7542	27-12-2017	2133	5620	3104	-
24.	7465	08-08-2017	6646	6852	3343	-
25.	7586	08-04-2018	2501	6946	3091	-

26.	7768	04-02-2019	2607	6922	3251	-
27.	7784	17-03-2019	6942	6722	3234	-
28.	7810	15-04-2019	6942	6848	3057	-
29.	7911	27-11-2019	7094	6478	2996	-
30.	7895	23-10-2019	2558	6795	3076	-
31.	7973	15-03-2020	183	6477	3158	-
32.	7477	05-09-2019	6646	6255	2921	-
33.	7990	19-08-2020	183	6626	3991	-
34.	8049	24-11-2020	7147	7359	3085	-
35.	8054	25-11-2020	1219	6780	3006	-
36.	8080	04-04-2021	3591	6843	3050	-
37.	8082	25-02-2021	4905	7046	3228	-
38.	7524	28-11-2017	1053	6905	3518	-
39.	7759	18-01-2019	2565	7251	3188	-
40.	8129	20-09-2021	7604	7460	3125	-
41.	8149	10-10-2021	7604	6478	2926	-
42.	8164	05-11-2021	2357	6477	3158	-
43.	8100	01-08-2021	2357	6871	3272	-
44.	8092	27-09-2021	7604	6895	3177	-
45.	8141	03-10-2021	2357	7045	3006	-
46.	8150	12-10-2021	5246	7437	2966	-
47.	8159	02-11-2021	7604	7423	2880	-
48.	8180	04-12-2021	2674	7491	2699	-
49.	8185	27-12-2021	2737	6774	3466	-
50.	8197	09-02-2022	5310	7608	2629	-
51.	8198	14-02-2022	6044	5620	3104	-
52.	8200	25-02-2022	6044	7352	3015	-
53.	8249	04-09-2022	2759	6895	3177	-
54.	8250	05-09-2022	2759	7574	2915	-
55.	8295	18-11-2022	6007	7162	3011	-

9.21 Target achieved during the year during the period

Trait	**Target**	**(2018-19)**	**(2019-20)**	**(2020-21)**	**(2020-21)**	**(2022-23)**
Av. Age at first calving (months)	40	44.39 (41)	44.52 (37)	45.10 (26)	58.7 (35)	42.2 (40)
Av. Service period (days)	130	139.0 (77)	133.5 (60)	140.3 (39)	142.7 (27)	118.5 (28)
Calf mortality (0-3 months)	≤ 3 %	18.99	11.49	4.07	7.44	3.77
Wet average (kg)	≥8.5 kg	7.4	6.7	6.60	7.70	7.80
Herd average (kg)	≥5.5 kg	3.9	3.5	3.00	4.00	4.70

Activity carried out during the period

The NDRI center is involved for genetic improvement of Murrah Buffalo breed along with other centers under Network Project on Buffalo Improvement

i) **Technical Programme:**

The breeding programme in the Murrah herd was followed for test mating of 19th and 20th set of bulls. Five bulls from 20th set and two bulls from 19th set were used till March 2022. Semen was received/collected from 10 bulls of 20th set and three proven bulls from 15th set were used, (bull no. 4354, 2459, and 6007). The dam's best lactation 305 day milk yield of bulls of NDRI under 20th set had ranged from 3203 to 4814 kg.

ii) Targets and Achievements

The herd strength of breedable buffaloes was 217 in 2022-23. Average age at first calving of buffaloes was 42.4 months. The average service period of buffaloes has been estimated as 118.50 days. The overall female conception rate was 48.46% for the buffaloes inseminated during Jan-

Dec, 2022. The calf mortality (0-3 months) during the year was only 3.77%. The wet and herd average was 7.80 and 4.7 kg, respectively. The average Milk Fat, SNF, Total Solid, Protein and Lactose were estimated as 8.46, 10.06, 18.53, 3.2 and 5.61%, respectively.

Selection of bulls

Total 04 elite Murrah male calves were reserved during the period (2022-23) on the basis of Expected Predicted Difference and dam's best 305day or less lactation milk yield, breed characteristics and physical conformity for selection of young male calves for future breeding. Finally, four young bull with their dam's best 305 days lactation milk yield of ranged from 3188 kg in first lactation to 3991 158 kg was reserved. On the basis of 15th set evaluation out of three top ranking bulls, the Bull no. 6007 from NDRI ranked second and was declared as proven bull and selected for nominated mating from 1st January 2022 to 31st July 2023.

Progeny Test Evaluation – Set-wise

The information on 305 days milk yield of daughters completing first lactation during 2022-23 were collected and compiled for genetic evaluation of Murrah bulls.

Technologies developed / Success story(s)

Supply of Quality germplasm

The NDRI Centre has produced a total 51432 doses of frozen semen, out of which 21807 doses from the bulls of 20th set were procured / produced during the period. The NDRI unit has supplied 6920 doses of frozen semen to the lead center and field units, out of which 750 doses were supplied to Field unit of NDRI Karnal. A total of 12890 FSD were utilized for 20th set bulls. In addition, doses of semen were supplied from ABRC for research purpose in the institute, though sale to farmers and other dairy development organizations during the period.

The germplasm of genetically superior progeny tested proven bulls are being used on elite cows in organized herds for production of high-pedigreed bulls for further multiplication and production of superior germplasm and establishment of elite herds. Superior semen of proven and high-pedigreed bulls of NDRI center is being used by various dairy development agencies and dairy farmers for bringing genetic improvement of Murrah buffaloes.

Bulls for elite mating

The breeding programme in the herd was followed for nominated mating using semen of four proven Murrah Bulls. About 07 Murrah buffaloes were identified as elite animals. The average best lactation milk yield of elite Murrah buffaloes was 2936 kg which was 24.72% higher than the herd average. The best lactation milk yield of elite Murrah buffaloes ranged between 1542.5 kg to 33125 kg in 305 days. Forty-six daughters and 48 male calves were born in the herd of which five female and three males were born to elite dams and proven sires. Total 224963 kg milk was produced by average 87 milch animals during the year.

Gaps/ Constraints, if any

The center has faced the impact of the constraint of high mortality in Murrah happened during 2019-20. The number of elite females has been dropped.

Future programme

The efforts will continue to further improving the wet and herd average performance of buffaloes for achieving the targets specified in the project.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2021-22		Released ICAR Share as per R E	Expenditure as per AUC		Closing Balance
Total	ICAR Share		ICAR Share	State Share	
13.98	13.98	13.98	13.92208	0.00	(+) 0.05792

Herd Performance

Herd strength was 378 out of which 217 were breedable buffaloes (>2year). During the period 94 calving took place consisting of 48 males, 46 females, 2 still births and 11 abortions. The calf mortality (0-3 months) was improved to 3.77 %, from previous year (7.44%). Female conception improved from 43.46 to 48.46 percent. During the report period 23961 semen doses were produced and 12890 frozen semen doses were consumed /distributed at farm and field. In all 11071 frozen semen doses from superior bulls are available at the centre.

Average total lactation milk production increased from 2587 kg (85) to 2647 kg (70); 305 days or less days average milk yield increased from 2436 kg (85) to 2454 kg (70), Lactation length was 348 days (70). Age at first calving significantly improved from 58.70 months (35) to 42.20 months (40), Similarly, average service period declined from 143 days (27) to 119 days (28); average dry period from 142 (27) to 111 days (28) and average calving Interval from 452 days (27) to 427 days (27). The centre wet average and herd average improved to 7.8 and 4.7 kg in 2022-23 from 7.7 and 4.0 kg in 2021-22, respectively. During the report period 56.10 percent animals were in milk as compared to 51.52 percent in 2021-22.

Accomplishment and Targets Achieved:

Trait	**Target**	**(2018-19)**	**(2019-20)**	**(2020-21)**	**(2021-22)**	**(2022-23)**
Av. Age at first calving (months)	40	44.39 (41)	44.52 (37)	45.10 (26)	58.7 (35)	42.2 (40)
Av. Service period (days)	130	139.0 (77)	133.5 (60)	140.3 (39)	142.7 (27)	118.5 (28)
Calf mortality (0-3 months)	≤ 3 %	18.99	11.49	4.07	7.44	3.77
Wet average (kg)	≥8.5 kg	7.4	6.7	6.60	7.70	7.80
Herd average (kg)	≥5.5 kg	3.9	3.5	3.00	4.00	4.70

Recommendations:

- Breedable buffalo population should be increased to 250 in herd of Main Unit, NDRI.
- Continuous efforts should be made to enhance the production performance of buffaloes to meet the target.
- More number of semen doses to be produced.

ICAR- INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR
Report Period: 2022-23

1. **Name of centre** : I.C.A.R.-I.V.R.I., Izatnagar
2. **Project Code** : OXX00185
3. **Project Title** : Network Project on Buffalo Improvement
   Subproject : Performance recording and improvement of Murrah buffalo
4. **Date of Start** : 01.07.1993
5. **Objectives** :

   i. To establish elite herd of 150 Murrah for the production of genetically superior young bulls.
   ii. To evaluate sires through institutional / associated herd progeny testing scheme
   iii. To produce, test, propagate and conserve high genetic merit male germplasm.

6. **Technical Programme:**
   a) Establishment and maintenance of an elite herd of Murrah buffalo breed with a herd strength of 150 breedable females
   b) Selection and testing of minimum 15 bulls of Murrah breed in every 18 / 24 months cycle.
   c) Production of minimum 10,000 (Murrah) frozen semen doses from each test bull.
   d) Maintain a minimum number of 8000 (Murrah) and 2000 (other breeds) frozen semen doses until the particular SET gets evaluated.
   e) Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
   f) Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
   g) Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days & 1500 kg in Murrah) and Peak yield, milk yield per day of herd life (total milk produced from date of birth till completion of 4th or more lactation).
   h) Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds.
   i) Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
   j) Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. **Staff associated with the project:**

Discipline	**Name of Scientist / Staff**	**Status PI/Co-PI/ Associated)**
AGB	Dr. A.K.S. Tomar, Pr. Scientist	Principal Investigator
	Dr. G.K. Gaur, Pr. Scientist	Project Associate
	Dr. A.K. Pandey, Pr. Scientist	Project Associate (w.e.f. 2022-23)
ARGO	Dr. S. K. Ghosh, Pr. Scientist	Project Associate
	Dr. M.K. Patra, Scientist	Project Associate (w.e.f. 2017-18)
ANFT	Dr. Narayan Dutta, Pr. Scientist	Project Associate
LPM	Dr. Triveni Dutt, Director	Project Associate
	Dr. H.O. Pandey, Sci. (LPM)	Project Associate (w.e.f. 2017-18)
Health / Others	Dr. (Er.) Mukesh Singh, Pr. Scientist (FMP)	Project Associate
	Dr. Rajeev Ranjan Kumar, Sr. Scientist, LPT Div./ Dr. A. K. Biswas, Sr. Scientist, LPT/ Dr. Devender Kumar, Sr. Scientist (LPT)	Project Associate (w.e.f. 26th June, 2021 to March, 2022)/ (w.e.f. 2022-23)
	Dr. K. Mahendran, Scientist (Medicine)	Project Associate (w.e.f. 2021-22)
	Scientist - Division of Surgery (Rotational arrangement)	Project Associate

No. of staff	
Administrative staff	None
Technical staff	None
Contractual staff (~~RA / SRF /~~ YP-I, ~~YP-II~~)	One (up to 31st March, 2023) - continue

8. Financial Statement: Head wise budget allocation and utilization; revenue receipts

Financial Year	Head wise Budget allocated (lakh Rs.)			Utilization (Lakh Rs.)			Revenue Generated (Lakh Rs.)
	Recurring contingency	Non-recurring (Equipment)	Total	Recurring contingency	Non-recurring (Equipment)	Total	
2022-23	10.00	1.00	11.00	9.97419	0.90673	10.88092	65.24652*
							9.00700**
Grand Total	**10.00**	**1.00**	**11.00**	**9.97419**	**0.90673**	**10.88092**	**75.98552*** **

* Through sale of 151026.0 kg milk; ** Sale of 30 buffaloes
*** Sale of 8660 frozen semen doses of Murrah buffalo by GP center

9.1 Herd Strength (2022-23)

Sr. No.	Category	Addition			Disposal				CB
		OB	B / P	T	D	T	S	E	CB
	Female								
1.	Below 3 months	2	46	-	6	34*	-	-	8
2.	3-12 months	25	-	67*	2	59*	-	-	31
3.	1-2 years	27	-	26*	-	27*	-	-	26
	Above 2 years	42	-	57*	-	49*	2	-	48
4.	Buffaloes in Milk	78	-	19*	2	21*	4	-	70
5.	Buffaloes Dry P /NP	36	-	21*	4	-	9	-	44
	Sub Total	**210**	**46**	**190***	**14**	**190***	**15**	**-**	**227**
	Males								
1.	Below 3 months	7	38	-	3	34*	-	-	8
2.	3-12 months	34	-	73*	1	6 75*	-	-	25
3.	1-2 years	44	-	36*	-	51 6*	12	-	11
	Above 2 years	1	-	6*	-	2*	-	-	5
4.	Breeding bulls	9	-	2*	-	-	3	-	8
5.	Bullocks / Teasers / others	2	-	-	-	-	-	-	2
	Sub Total	**97**	**38**	**117***	**4**	**57 117***	**15**	**-**	**59**
	Grand Total	**307**	**84**	**307***	**18**	**57 307***	**30**	**-**	**286**

OB = Opening Balance as on 1st April 21 D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T/* = Internal Transfer ** Purchased CB = Closing Balance as on 31st March

9.2 Calving statistics including abnormalities (2022-23)

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse
April 22	-	1	-	-	-	-	-
May	1	-	-	1	-	1	-
June	2	-	-	1	-	-	-
July	3	3	-	-	-	-	1
August	5	8	1	-		-	-
September	7	6	-	4	-	2	1
October	4	3	-	-	-	1	-
November	6	3	-	-		-	-
December	6	3	-	2	-	-	1
January 23	3	-	-	1	-	-	-
February	4	2	-	-	-	-	-
March	-	-	-	1	-	-	-
Overall	41	29	1	10	-	4	3

Sex ratio (Male : Female)= 58.57 : 41.43; SB% = 1.42% (1*100)/70; Abortion% = 14.28% (10*100)/70

9.3. Disposal of Animals (2022-23)

Female	**Primary cause of disposal**							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves								
0 to 3 months	-	-	-	-	-	6	-	6
3-12 months	-	-	-	-	-	2	-	2
Heifers								
1-2 years	-	-	-	-	-	-	-	-
> 2 years	-	-	2	-	-	-	-	2
Buffaloes								
Milch	2	-	2	-	-	2	-	6
Dry	1	-	7	1	-	4	-	13
Sub Total	**3**	**-**	**11**	**1**	**-**	**14**	**-**	**29**
Males	**Primary cause of disposal**							
Calves								
0 to 3 months	-	-	-	-	-	3	-	3
3-12 months	-	-	-	-	-	1	6	7
1 to 2 year	12	-	-	-	-	-	51	63
>2 year	-	-	-	-	-	-	-	-
Breeding bulls	3	-	-	-	-	-	-	3
Bullock/Teaser/Others	-	-	-	-	-	-	-	-
Sub Total	**15**	**-**	**-**	**-**	**-**	**4**	**57**	**76**
Grand Total	**18**	**-**	**11**	**1**	**-**	**18**	**57**	**105**

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Sex	**Female**						**Male**					**Overall Herd**
Class	**0-3 m**	**3-12 m**	**1-2 yr**	**> 2 yr**	**Milk + Dry**	**Overall Female**	**0-3 m**	**3-12 m**	**1 -2 Yr**	**>2 yr**	**Overall Male**	
No.	48	92	53	253	230	256	45	107	100	-	135	391
Died	6	2	-	6	6	14	3	1	-	-	4	18
%	**12.5**	**4.00**	**-**	**2.37**	**2.61**	**5.46**	**6.66**	**1.75**	**-**	**-**	**2.96**	**4.60**

Percent calf Mortality = 9.68% (9*100)/93

9.5. Causes of Mortality (quarter wise) during the period (2022-23)

Particulars	**1st quarter**	**2nd quarter**	**3rd quarter**	**4th quarter**	**Total**
A. Respiratory System:					
Pneumonia/Broncho Pneumonia/Chronic Supp. Pneumonia	-	-	3	-	3
Hemorrhagic Enteritis /Gastroenteritis	-	-	-	-	-
B. Digestive System:					
Septicemia & Toxemia/ Enteritis leading to Septicemia, Acute Abomasamitis & Septicemia, Fib. Pleuritis, Acute Peritonitis Septicemia due to Navel ill/Joint ill	-	-	-	-	-
C. Others					
Still birth / NSD/Bacterial infection/Premature birth	-	1	-	-	1
Splenic Rupture /acute Selenitis	-	-	-	-	-
P.M. report not available	-	-	-	-	-
Chronic supp Myositis & peritonitis	-	-	-	-	-
Abortion/ NSD /bacterial infection	1	3	-	-	4
Protein Enteropathy or Nephropathy	-	-	-	-	-
Post mortem report not available	-	3	3	9	15
Total	**1**	**7**	**6**	**9**	**23**

9.6 Prophylactic measures undertaken (2022-23)

Vaccination	No. of animals		Screen-ing	No. of animals		No of animals treated for Parasitism etc.
	Available	Inoculated		Tested	Result	
F.M.D.	-	566	Faecal samples	26	22 (-ve), 04 (+ve)	Postnatal Coverage 84
H.S.	-	276				Endoparasites 212
Brucella	-	30	Blood sample	8	03 (-ve), 01-Anaplasma 01-Leukocystosis and low PCV Value 01-Leukocytosis with Eosinophilia 01-NA	Coccidiostat 130 Liq. Vitamin supplement 100 Feed supplement 122
LSD	-	510	Serum	2	02(-ve)	

9.7. Female Conception Rate During the Period April 2022 to March 2023

AI No.→	1st			2nd			3rd			4th			5th & above			Overall		
Parity↓	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR%**
Heifers	31	20	64.52	11	6	54.55	7	1	14.29	5	3	60	3	2	66.7	**57**	**32**	**56.14**
Adults	82	44	53.66	37	18	48.65	18	10	55.56	8	7	87.5	0	0	0	**145**	**79**	**54.48**
Overall	**113**	**64**	**56.64**	**48**	**24**	**50.00**	**25**	**11**	**44.00**	**13**	**10**	**76.92**	**3**	**2**	**66.67**	**202**	**111**	**54.95**

AIs = No. of animals inseminated; C = No. of animals conceived; CR % = Conception rate%

9.8 Quarter-wise conception rate (2022-23)

Quarter	No. of A I	Preg. animals	CR %
January – March (Previous year)	10	7	70%
April - June	46	23	50%
July - September	88	51	57.95%
October- December	58	30	51.72%
Overall	202	111	54.95%

9.9. Bull wise conception rate (inseminated during April, 2022 to March 2023)

Sl. No	Bull No.	Set No.	Total No of AI	Total Conceived	CR %
1.	19	20th	7	4	57.14
2.	1454	20th	10	9	90.00
3.	2793	20th	20	4	20.00
4.	2814	20th	12	8	66.67
5.	2831	20th	19	6	31.58
6.	2848	20th	11	6	54.55
7.	2850	20th	17	11	64.71
8.	3004	20th	15	7	46.67
9.	5427	20th	12	11	91.67
10.	5481	20th	6	3	50.00
11.	5500	20th	4	3	75.00
12.	5505	20th	16	9	56.25
13.	5511	20th	5	3	60.00
14.	5588	20th	14	7	50.00
15.	7584	20th	13	7	53.85
16.	7649	20th	4	4	100.00
17.	3591 PT	11th	4	1	25.00

18.	6044 PT	14th	4	3	75.00
19.	4354 PT	15th	4	2	50.00
20.	6007 PT	15th	5	3	60.00
Over all			**202**	**111**	**54.95**
No. of services per conception			**1.82 (202/111)**		

9.10 Bull Wise Semen Stock (April, 2022 to March, 2023)

Sl. No.	Set No.	Bull No	Opening balance (1st April, 2021	Semen Doses received	Doses used / Consumption	Balance (as on 31/03/2022)
1.	20th	B-1454	0.0	125	43	82
2.	20th	B-19	0.0	100	30	70
3.	20th	B-2793	0.0	125	66	59
4.	20th	B-2814	0.0	75	60	15
5.	20th	B-2831	0.0	125	100	25
6.	20th	B-2848	0.0	40	40	0.0
7.	20th	B-2850	0.0	125	68	57
8.	20th	B-3004	0.0	125	84	41
9.	11th	**B-3591PT**	0.0	20	18	02
10.	15th	**B-4354PT**	0.0	20	20	0.0
11.	20th	B-5427	0.0	75	60	15
12.	20th	B-5481	0.0	120	30	90
13.	20th	B-5500	0.0	100	12	88
14.	20th	B-5505	0.0	125	72	53
15.	20th	B-5511	0.0	100	20	80
16.	20th	B-5588	0.0	75	67	8
17.	15th	**B-6007PT**	0.0	20	20	0.0
18.	14th	**B-6044PT**	0.0	20	20	0.0
19.	20th	B-7584	0.0	75	57	18
20.	20th	B-7649	0.0	75	22	67
Grand Total			0.0	1665	909	**770**

9.11.1 Average body weight (kg) since inception

Year	Birth	3 m	6 m	12 m	18 m	24 m	At AFC
Female							
1997-98	24.84±0.59 (19)	92.50±1.77 (18)	123.75±0.71 (12)	229.29±2.09 (14)	254.50±0.26 (10)	366.25±0.50 (8)	-
2002-03	29.10±0.98 (09)	80.00±7.35 (04)	107.08±7.22 (12)	195.62±10.32 (16)	277.14±10.53 (07)	347.27±13.71 (11)	-
2003-04	31.44±0.98 (17)	54.50±2.26 (10)	98.43±6.43 (16)	190.00±12.32 (11)	297.69±10.38 (13)	342.81±10.38 (16)	-
2004-05	30.44±1.06 (34)	59.00±3.13 (15)	95.00±8.05 (10)	175.00±11.30 (06)	271.66±12.91 (12)	381.00±13.24 (10)	-
2005-06	30.75±0.83 (29)	57.66±1.99 (15)	85.71±10.09 (21)	173.42±9.82 (19)	280.38±12.42 (13)	355.45±11.81 (11)	-
2006-07	31.39±0.89 (28)	59.44±2.69 (18)	94.33±4.84 (15)	180.76±9.53 (13)	268.68±9.59 (19)	355.75±10.10 (20)	-
2007-08	30.30±0.92 (29)	66.50±1.79 (30)	107.86±4.83 (28)	179.04±6.33 (26)	245.67±8.75 (15)	313.64±7.99 (11)	475.38±21.28 (13)
2008-09	30.45±0.58 (33)	63.40±2.06 (25)	100.00±3.41 (23)	178.25±8.03 (20)	241.11±10.11 (27)	319.29±11.42 (21)	477.81±18.97 (16)
2009-10	30.59±0.75 (37)	77.11±2.32 (26)	123.80±6.20 (21)	186.31±9.09 (19)	263.69±1176 (23)	343.75±14.64 (20)	509.00±18.49 (15)
2010-11	29.52±5.31 (34)	84.43±7.75 (16)	122.81±7.75 (16)	230.43±6.46 (23)	292.10±5.03 (38)	344.44±7.31 (18)	483.75±16.70 (20)
2011-12	32.09±0.96 (23)	58.18±2.94 (19)	114.69±4.97 (16)	223.06±9.42 (18)	311.25±7.65 (16)	377.90±6.53 (24)	498.44±16.72 (16)
2012-13	33.63±0.78 (24)	69.96±2.46 (24)	126.30±4.82 (23)	233.53±13.84 (17)	334.62±8.98 (13)	391.25±8.84 (16)	535.71±25.87 (07)
2013-14	32.83±1.13 (23)	65.41±2.79 (22)	121.96±4.38 (23)	253.04±10.54 (23)	330.45±8.49 (22)	409.69±10.64 (16)	539.58±23.83 (12)
2014-15	34.75±0.72 (29)	76.44±3.96 (27)	108.33±4.27 (15)	227.38±7.63 (21)	342.86±5.52 (21)	412.80±6.67 (25)	530.56±20.14 (18)
2015-16	30.69±1.30 (26)	63.11±2.13 (18)	96.14±2.94 (22)	205.54±7.78 (28)	311.46±11.05 (24)	411.50±8.44 (20)	505.56±27.33 (09)
2016-17	36.38±0.94 (29)	75.95±2.71 (22)	108.68±3.58 (19)	206.58±9.51 (19)	303.25±7.77 (20)	378.04±9.90 (28)	546.58±9.88 (19)
2017-18	33.46±0.99 (24)	76.42±1.80 (31)	111.55±2.94 (29)	200.00±5.43 (28)	295.23±10.43 (22)	378.89±10.57(18)	320.91±10.30 (23)
2018-19	33.71±0.66 (28)	72.46±2.79 (13)	118.20±2.58 (25)	215.00±6.42 (22)	303.97±5.18 (29)	392.14±6.58 (28)	647.06±14.97 (17)
2019-20	33.52±0.61 (29)	61.22±2.11 (32)	115.56±4.21 (27)	219.17±4.81 (30)	282.40±7.67 (25)	378.86±6.47 (22)	595.50±19.72 (20)
2020-21	34.04±0.95 (27)	81.96±2.94 (23)	120.33±2.93 (30)	181.61±5.11 (28)	273.15±5.95 (27)	340.69±7.15 (29)	565.43±14.92 (23)
2021-22	34.59±0.78 (29)	72.63±1.51 (27)	122.07±2.67 (29)	216.52±3.72 (27)	282.00±4.00 (30)	350.89±5.95 (28)	583.91±14.56 (23)
2022-23	34.33±0.64 (46)	69.26±1.50 (34)	108.79±3.03 (33)	209.04±5.44 (26)	275.36±6.75 (28)	350.37±5.77 (27)	590.22±11.58 (23)
Male						**Adults**	
2002-03	29.00±0.80 (5)	82.00±8.77 (5)	-	-	-	-	
2003-04	31.89±0.84 (23)	62.50±2.53 (8)	99.06±6.43 (16)	203.33±23.60 (3)	355.00±21.61 (3)	390.00 (1)	
2004-05	34.60±1.17 (28)	62.20±2.43 (25)	100.33±6.57 (15)	200.83±11.30 (6)	-	355.00 (1)	
2005-06	32.64±0.77 (34)	58.23±1.87 (17)	107.61±10.09 (21)	199.61±11.87 (13)	280.38±12.42 (13)	383.00±17.52 (5)	
2006-07	32.56±1.01 (22)	68.12±2.86 (16)	102.27±5.66 (11)	210.71±12.99 (7)	290.00±29.57 (02)	360.00 (1)	
2007-08	30.71±0.85 (34)	68.97±1.57 (39)	116.54±4.09 (39)	214.67±8.33 (15)	314.00±15.15 (05)	390.00±11.86 (5)	
2008-09	31.70±0.53 (40)	61.61±1.85 (31)	103.15±3.14 (27)	185.79±8.24 (19)	230.00±21.45 (06)	392.50±37.01 (2)	
2009-10	30.70±0.83 (30)	70.00±2.65 (20)	101.47±6.89 (17)	189.16±8.09 (24)	275.31±14.11 (16)	319.00±29.28 (5)	
2010-11	31.15±5.39 (33)	73.00±6.46 (23)	123.87±5.57 (31)	220.66±8.00 (15)	292.22±7.31 (18)	360.00±13.87 (5)	
2011-12	33.42±0.83 (31)	69.23±2.61 (24)	132.77±4.68 (18)	230.00±14.13 (8)	305.00±21.63 (2)	-	
2012-13	37.53±0.71 (29)	68.91±2.52 (23)	126.95±5.30 (19)	235.00±52.18 (8)	-	-	
2013-14	33.91±0.93 (34)	76.55±2.35 (31)	128.33±4.28 (24)	241.50±15.98 (10)	290.00±23.01 (3)	-	
2014-15	38.12±0.74 (34)	78.39±1.89 (23)	111.52±4.08 (23)	219.55±12.60 (11)	-	340.00±65.00 (2)	
2015-16	33.70±0.99 (33)	71.73±2.16 (26)	104.48±3.75 (29)	248.33±11.33 (18)	383.33±44.10 (3)	-	
2016-17	37.11±1.09 (28)	73.35±2.74 (23)	117.41±4.10 (27)	238.64±8.18 (11)	389.55±9.08 (11)	437.50±12.50 (2)	
2017-18	32.05±1.70 (22)	79.30±2.70 (23)	113.10±4.33 (21)	191.32±8.14 (19)	291.00±9.71 (10)	367.50±17.50 (5)	
2018-19	35.90±0.81 (31)	77.23±2.33 (13)	127.50±3.24 (26)	225.71±9.97 (7)	320.00 (2)	-	

2019-20	34.71±0.82 (34)	66.16±2.40 (38)	111.91±3.15 (34)	201.17±5.91 (23)	298.00±9.70 (5)	-	
2020-21	35.02±0.62 (50)	76.53±1.80 (47)	118.06±2.85 (36)	194.81±6.73 (27)	282.00±11.89 (5)		
2021-22	36.55±0.92 (40)	77.58±1.59 (33)	121.42±2.40 (43)	210.03±4.10 (40)	271.33±10.62 (15)	-	-
2022-23	34.00±0.77 (38)	71.28±2.16 (29)	117.58±3.15 (38)	228.86±5.34 (35)	290.83±12.68 (6)	385.00±24.66 (3)	
Overall Body Weight (in kg) at							
Year	**At Birth**	**3 Months**	**6 Months**	**12 Months**	**18 Months**	**24 Months**	**At AFC**
1992-93	26.30 (30)	60.78 (11)	120.30 (11)	201.43 (11)	265.31 (08)	350.41 (10)	-
1993-94	25.81±1.51 (16)	63.95±8.00 (19)	102.67±10.13 (15)	170.59±13.06 (17)	263.82±24.35 (17)	319.47±27.86 (09)	-
1994-95	25.97±0.71 (31)	51.52±2.39 (04)	77.12±1.39 (26)	148.82±3.66 (34)	217.00±7.88 (15)	284.05±7.32 (16)	-
1995-96	24.25±0.88 (08)	56.67±1.67 (03)	105.00 (01)	165.00±5.00 (05)	180.33±6.14 (15)	286.25±4.31 (24)	-
1996-97	24.38 (16)	86.67 (03)	117.50 (04)	217.50 (02)	248.15 (04)	368.00 (04)	-
1997-98	24.84 (19)	92.50 (18)	123.75 (12)	224.29 (14)	254.50 (10)	366.25 (08)	-
1998-99	26.98 (20)	89.50 (21)	125.41 (13)	220.00 (06)	240.30 (07)	350.81 (08)	-
1999-00	23.60±0.36 (20)	43.60±1.37 (10)	80.46±4.74 (11)	153.33±7.91 (09)	245.00±14.72 (07)	310.67±9.33 (15)	-
2000-01	24.36±0.39 (33)	50.55±3.71 (11)	99.28±3.14 (14)	195.00±5.44 (10)	261.50±8.43 (10)	342.50±9.40 (08)	-
2001-02	26.73±1.03 (11)	59.37±2.85 (08)	59.37±4.08 (09)	183.63±9.06 (11)	284.23±12.70 (13)	359.44±10.69 (09)	-
2002-03	29.10±0.98 (09)	80.00±7.35 (04)	107.08±7.22 (12)	195.62±10.32 (16)	277.14±10.53 (07)	347.27±13.71 (11)	-
2003-04	31.66 (40)	58.50 (18)	98.75 (32)	196.66 (14)	326.34 (16)	366.40 (17)	-
2004-05	32.52 (62)	60.60 (40)	97.66 (25)	187.91 (12)	271.66 (12)	368.00 (11)	501.50± (10)
2005-06	31.77 (63)	57.96 (32)	96.66 (42)	186.51 (32)	300.19 (20)	369.22 (16)	600.50± (10)
2006-07	31.98±0.67 (50)	63.78±1.96 (34)	98.30±3.72 (26)	195.74±8.05 (20)	279.34±15.54 (21)	357.87±23.15 (21)	588.37±15.69 (52)
2007-08	30.53±0.62 (63)	67.74±1.19 (69)	112.19±3.17 (67)	196.85±5.23 (41)	279.83±8.75 (20)	351.82±7.15 (16)	617.89±14.28 (57)
2008-09	31.07±0.39 (73)	62.51±1.38 (56)	101.57±2.32 (50)	182.02±5.75 (39)	235.56±11.86 (33)	355.89±19.37 (23)	477.81±18.97 (16)
2009-10	30.64±0.56 (67)	73.55±1.76 (46)	112.64±4.64 (38)	187.74±6.08 (43)	269.50±9.18 (39)	331.37±16.36 (25)	509.00±18.49 (15)
2010-11	30.34±3.79 (67)	78.71±5.04 (39)	123.34±4.77 (46)	225.55±5.14 (38)	292.16±4.43 (56)	352.22±7.84 (23)	483.75±16.70 (20)
2011-12	32.75±0.63 (54)	63.40±1.95 (43)	123.73±3.41 (34)	226.53±7.84 (26)	308.13±7.21 (18)	377.90±6.53 (24)	498.44±16.72 (16)
2012-13	35.58±0.53 (53)	69.43±1.76 (47)	126.63±3.57 (42)	234.26±11.42 (25)	334.62±8.98 (13)	391.25±8.84 (16)	535.71±25.87 (7)
2013-14	33.37±0.72 (57)	70.98±1.79 (53)	125.15±3.06 (47)	247.27±8.80 (33)	330.45±7.97 (25)	409.69±10.64 (16)	539.58±23.83 (12)
2014-15	36.57±0.56 (63)	77.34±2.29 (50)	110.26±2.96 (38)	224.69±6.53 (32)	342.86±5.52 (21)	407.41±8.00 (27)	530.56±20.14 (18)
2015-16	32.37±0.81 (59)	68.20±1.66 (44)	100.88±2.53 (51)	222.28±7.13 (46)	319.44±11.50 (27)	411.50±8.44 (20)	505.56±27.33 (9)
2016-17	36.74±0.71 (57)	74.62±1.91 (45)	113.80±2.87 (46)	218.33±7.23 (30)	333.87±9.55 (31)	382.00±9.65 (30)	546.58±9.88 (19)
2017-18	32.78± 0.96 (46)	77.65± 1.54 (54)	112.20± 2.47 (50)	196.49± 4.60 (47)	293.91± 7.71 (32)	377.75± 9.60 (20)	527.35±17.99 (23)
2018-19	34.86±0.54 (59)	74.85±1.84 (26)	122.94±2.16 (51)	217.59±5.42 (29)	305.01±4.89 (31)	392.14±6.58 (28)	647.06±14.97 (17)
2019-20	34.16±0.52 (63)	63.90±1.64 (70)	113.52±2.55 (61)	211.36±3.90 (53)	285.00±6.63 (30)	378.86±6.47 (22)	595.50±19.72 (20)
2020-21	34.68±0.52 (77)	78.31±1.57 (70)	119.09±2.04 (66)	188.09±4.26 (55)	274.53±5.32 (32)	340.69±7.15 (29)	565.43±14.92 (23)
2021-22	35.72±0.63 (69)	75.35±1.14 (60)	121.68±1.78 (72)	212.64±2.88 (67)	278.44±4.42 (45)	350.89±5.95 (28)	583.91±14.56 (23)
2022-23	34.18±0.49 (84)	70.19±1.28 (63)	113.49±2.24 (71)	220.41±4.02 (61)	278.09±6.00 (34)	353.83±5.90 (30)	590.22±11.58 (23)

9.12 Average Production Performance of Buffaloes Completing their Lactation (2022-23)

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	23	2318.36±107.44	380.91±15.43	2094.29±78.58	9.29±0.40
2nd	16	2394.71±122.54	325.63±17.85	2238.97±94.60	10.66±0.36
3rd	19	2609.12±110.25	352.16±21.83	2393.24±65.97	11.83±0.49
4th	7	2582.30±174.35	338.43±30.15	2343.04±112.57	11.71±0.97
5th & above	15	2255.55±138.70	341.73±16.06	2119.68±107.05	10.35±0.56
Overall	**80**	**2414.00±56.86**	**351.96±8.76**	**2220.75±41.52**	**10.58±0.24**

* Test day recording started w.e.f. August 2022.

9.12.1 Average production performance of Buffaloes since Inception of Network

Year	Lact. Length (days)	TLMY (Kg)*	SLMY (kg)*	Peak yield (kg)
1992-93	297.91±9.24 (34)	1502.60±57.03 (34)	1457.72±48.65 (34)	07.88±0.35 (26)
1993-94	276.32±8.46 (28)	1557.30±57.07 (28)	1537.17±49.53 (28)	09.05±0.33 (30)
1994-95	259.25±6.62 (32)	1546.66±51.03 (32)	1535.94±40.61 (32)	09.58±0.30 (35)
1995-96	323.15±7.65 (27)	1522.72±55.66 (27)	1456.50±51.77 (27)	07.40±0.39 (21)
1996-97	341.10±13.41 (20)	1738.33±94.52 (20)	1629.27±76.30 (20)	07.91±0.38 (23)
1997-98	320.35±19.41 (23)	1830.99±119.31 (23)	1714.57±95.93 (23)	08.34±0.39 (22)
1998-99	320.05±12.09 (22)	1980.32±97.68 (22)	1980.32±97.68 (22)	08.45±0.39 (21)
1999-00	309.94±11.65 (18)	2106.83±107.58 (18)	2025.83±98.47 (18)	09.78±0.35 (26)
2000-01	277.15±27.11 (20)	2011.15±169.51 (20)	1897.80±147.16 (20)	10.56±0.39 (22)
2001-02	317.42±9.75 (28)	2090.67±78.93 (28)	2101.89±75.21 (19)	10.12±0.36 (28)
2002-03	298.55±9.95 (05)	1999.43±88.39 (55)	2043.49±66.45 (55)	10.73±0.45 (55)
2003-04	306.51±14.68 (26)	2070.94±98.94 (26)	2103.31±118.1 (26)	10.99±0.68 (26)
2004-05	299.05±8.98 (31)	2182.47±92.90 (31)	2216.03±86.06 (31)	11.25±0.47 (31)
2005-06	307.66±9.70 (45)	2166.92±92.42 (45)	2217.55±89.44 (32)	09.96±0.62 (45)
2006-07	319.85±6.96 (43)	2338.20±89.28 (43)	2412.86±88.60 (27)	11.00±0.43 (43)
2007-08	296.51±3.93 (56)	2379.09±66.65 (56)	2525.47±109.09 (28)	11.89±0.33 (56)
2008-09	291.89±4.87 (43)	2257.76±49.49 (43)	2208.95±106.07 (16)	11.00±0.28 (43)
2009-10	298.50±6.77 (51)	2418.25±77.48 (51)	2570.48±91.81 (26)	11.82±0.35 (51)
2010-11	286.40±4.89 (56)	2157.78±64.94 (56)	2136.48±63.14 (56)	11.16±0.38(56)
2011-12	308.75±7.72 (49)	2208.41±70.08 (49)	2276.82±82.85 (27)	11.54±0.37(49)
2012-13	316.43±8.41(38)	2249.40±8.46 (38)	2242.31±108.05(20)	11.01±0.34(38)
2013-14	304.27±7.95 (47)	2113.36±56.07 (47)	2037.79±62.44 (47)	11.52±0.25 (47)
2014-15	288.81±8.02 (53)	2188.82±55.81 (53)	2135.85±51.77 (53)	10.89±0.31 (53)
2015-16	298.47±8.99 (51)	2382.24±74.18 (51)	2301.49±65.44 (51)	12.30±0.35 (51)
2016-17	305.09±8.04 (55)	2280.66±80.82 (55)	2194.19±72.83 (55)	10.96±0.34 (55)
2017-18	320.76±11.12 (50)	2178.88±82.43 (50)	2128.58±56.25 (45)	10.14±0.30 (50)
2018-19	344.43±15.43 (40)	2387.44±84.17 (40)	2204.67±68.49 (40)	10.54±0.28 (40)
2019-20	325.92±8.43 (63)	2404.94±65.15 (63)	2307.40±50.75 (60)	11.04±0.24(63)
2020-21	349.51±10.77 (57)	2410.76±50.44 (57)	2224.41±37.11 (57)	10.63±0.24 (57)
2021-22	339.53±7.99 (59)	2420.25±58.80 (59)	2272.70±44.35 (59)	11.01±0.34 (59)
2022-23	351.96±8.76 (80)	2414.00±56.86 (80)	2220.75±41.52 (80)	10.58±0.24 (80)
* Test day recording started w.e.f. August 2022.				

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

Period	LTMY (kg)	Productive Life (d)	Productive Days (d)	Unproductive Days (d)	MY/day of HFL (kg/d)	Herd Life (d)	MY/day of Productive Life (kg/d)
2017-18	12853.87	2599.74	1719.32	880.42	3.33	3874.26	5.14
2018-19	13721.90	2680.92	1805.25	875.67	3.50	3895.50	5.21
2019-20	13804.73	2707.04	1864.44	842.60	3.53	3904.96	5.28
2020-21	12408.70	2516.67	1715.00	801.58	3.30	3688.88	4.99
2021-22	12761.10	2474.68	1733.00	741.77	3.46	3666.91	5.16

2022-23	12861.92	2471.15	1726.92	744.23	3.42	3693.73	5.20

Note: HLF (Herd Life- Date of birth to date of completion of 4th or more lact. or date of disposal); Productive Days (date of first calving to total days in milk), Unproductive days (total days when buffalo not give milk from the date of first calving)

9.13 Average Milk Composition from April 2022 to March 2023

Month	No. of Samples	% Fat	SNF (%)	Total Solids (%)
April, 2022				
May, 2022	80	6.80	9.73	16.53
June, 2022				
July, 2022	70	6.80	9.28	16.08
August, 2022				
September, 2022	62	6.60	8.78	15.38
October, 2022				
November, 2022	61	6.80	9.00	15.80
December, 2022				
January, 2023	60	6.61	9.35	15.97
February, 2023	66	6.57	9.71	16.29
March, 2023				
Overall	399	6.69	9.30	16.00

9.14 Reproductive Performance (2022-23)

Lactation / Parity	AFC (m)	N →	SP (days)	DP (days)	CI (days)
1	39.15±1.23 (23)	14	168.50±16.68	170.29±21.79	500.36±23.76
2	-	13	150.92±21.52	133.46±12.02	459.46±19.56
3	-	7	113.86±23.30	127.86±25.91	426.14±23.90
4	-	1	112.00	134.00	419.00
≥5	-	11	110.64±20.34	114.45±10.23	418.55±20.79
Overall	**39.15±1.23 (23)**	**46**	**140.15±10.29**	**139.28±9.07**	**456.17±11.73**

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (m)	Service Period (d)	Dry Period (d)	Calving Interval (d)
1992-93	33.61±1.72 (10)	119.67±33.72 (08)	129.86±10.63 (07)	403.63±21.77 (08)
1993-94	39.38±2.99 (07)	100.90±16.01 (10)	133.15±12.72 (13)	406.08±16.77 (12)
1994-95	38.27±1.70 (10)	77.33±05.56 (09)	129.10±09.72 (20)	377.00±08.00 (20)
1995-96	37.90±1.08 (14)	100.00±11.78 (06)	118.71±11.77 (07)	401.14±16.55 (07)
1996-97	42.08±3.38 (04)	125.14±11.23 (07)	146.00±38.31 (08)	424.00±23.55 (07)
1997-98	40.14±3.38 (06)	82.55±06.54 (11)	101.73±25.10 (11)	391.55±13.11 (11)
1998-99	43.42±2.28 (08)	152.50±25.80 (11)	12.58±08.87 (10)	437.83±15.33 (10)
1999-00	48.80±7.03 (06)	189.82±28.65 (16)	110.36±13.67 (11)	422.46±21.47 (11)
2000-01	42.37±2.81 (04)	164.94±22.66 (17)	126.66±10.74 (09)	410.78±13.05 (09)
2001-02	44.35±2.58 (11)	134.25±24.63 (12)	134.00±15.33 (12)	440.52±23.81 (12)
2002-03	41.20±2.90 (04)	404.60±96.25 (05)	310.77±54.92 (09)	585.50±69.01 (04)
2003-04	41.82±3.19 (08)	108.36±15.51 (19)	256.81±35.81 (29)	553.20±36.24 (29)
2004-05	42.55±1.75 (08)	149.71±15.59 (30)	212.75±29.94 (37)	480.71±28.12 (37)
2005-06	42.25±2.43 (10)	179.91±28.47 (54)	204.41±41.40 (38)	477.45±42.50 (37)
2006-07	41.87±2.26 (10)	139.01±15.40 (40)	171.09±21.44 (28)	452.42±21.30 (30)
2007-08	45.84±0.96 (28)	114.97±07.56 (62)	150.33±19.04 (43)	443.24±21.39 (43)
2008-09	39.73±1.79 (48)	152.44±11.71 (48)	167.02±10.70 (48)	451.51±10.57 (48)
2009-10	41.32±4.73 (15)	121.77±11.25 (59)	154.69±14.01 (63)	444.64±13.01 (63)
2010-11	39.59±1.16 (25)	175.27±16.26 (26)	183.24±21.07 (60)	449.08±15.74 (60)

2011-12	45.61±3.21 (20)	152.91±20.66 (29)	207.38±22.22 (39)	460.89±17.90 (39)
2012-13	39.69±2.79 (7)	213.49±26.37 (30)	232.93±21.36 (31)	479.29±22.88 (31)
2013-14	38.20±2.15 (18)	140.07±12.79 (39)	170.63±11.86 (39)	470.87±14.03 (39)
2014-15	37.64±1.33 (18)	123.84±10.72 (55)	162.27±16.31 (44)	439.48±15.97 (44)
2015-16	40.23±2.64 (9)	142.02±14.76 (51)	148.24±11.26 (49)	447.37±15.72 (49)
2016-17	38.99±1.15 (19)	145.85±9.53 (52)	171.45±13.54 (40)	457.65±15.02 (40)
2017-18	38.64±1.16 (14)	140.77±15.44 (35)	158.53±11.18 (40)	482.80±19.53 (35)
2018-19	38.62±1.05 (16)	169.22±15.96 (46)	181.47±13.70 (36)	495.83±18.93 (36)
2019-20	39.24±2.11 (20)	172.68±19.55 (47)	169.11±14.95 (47)	448.70±12.77 (47)
2020-21	39.03±0.84 (23)	137.24±11.09 (50)	154.76±11.14 (50)	434.22±11.67 (50)
2021-22	39.38±1.30 (23)	140.78±11.24 (46)	131.87±5.72 (46)	443.07±9.28 (46)
2022-23	39.15±1.23 (23)	140.15±10.29 (46)	139.28±09.07 (46)	456.17±11.73 (46)

9.15 Milk Production and Disposal (2022-23)

Month	**Total milk produced (kg)**	**Disposal (Kg)**		
		Milk sold	**Calf feeding**	**Expt.**
April, 2022	13102.0	The whole milk was given to DT Section (LPT) for disposal		
May, 2022	12588.0			
June, 2022	11260.0			
July, 2022	10815.0			
August, 2022	10682.0			
September, 2022	10851.0			
October, 2022	11608.0			
November, 2022	11049.0			
December, 2022	13681.0			
January, 2023	15084.0			
February, 2023	14355.0			
March, 2023	15951.0			
Total	151026.0			

9.16 Feed and fodder (Quintals) availability (2022-23)

Quarter	**Type of fodder**	**Qty. produced at Farm**	**Qty.* Purchased**	**Actually fed (Qtls)***	**Balance**
I	Green /Semi Dry	-	-	3630.7	-
	Dry	-	-	458.2	-
	Silage	-	-	573.8	-
	Concentrate	-	-	4552.4	-
II	Green /Semi Dry	-	-	408.1	-
	Dry	-	-	522.0	-
	Silage	-	-	4901.1	-
	Concentrate	-	-	428.3	-
III	Green /Semi Dry	-	-	549.9	-
	Dry	-	-	5089.4	-
	Silage	-	-	572.2	-
	Concentrate	-	-	588.6	-
IV	Green /Semi Dry	-	-	18173.6	-
	Dry	-	-	1866.7	-
	Silage	-	-	2154.2	-
	Concentrate	-	-	3630.7	-

Total	**Green /Semi Dry**	-	-	**458.2**	-
	Dry	-	-	**573.8**	-
	Silage	-	-	**4552.4**	-
	Concentrate	-	-	**408.1**	-

*Concentrate mixture supplied/purchased by F.T. Unit of Institute

Table 9.17 Milk performance during (April 2022- March 2023)

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 2022	76.47	34.53	111.00	68.89	5.71	3.93
May, 2022	73.32	37.00	110.00	66.58	5.54	3.68
June, 2022	70.57	40.19	112.00	63.71	5.33	3.35
July, 2022	67.10	46.40	113.00	59.10	5.20	3.07
August, 2022	68.23	47.26	115.48	59.08	5.38	3.18
September, 2022	67.80	49.30	117.10	57.90	5.70	3.30
October, 2022	70.10	42.90	113.00	62.03	5.86	3.63
November, 2022	64.00	48.80	112.80	56.74	5.98	3.39
December, 2022	68.48	44.19	112.68	60.78	6.55	3.98
January, 2023	75.94	37.97	113.90	66.67	6.65	4.43
February, 2023	74.50	39.50	114.00	65.35	6.98	4.56
March, 2023	75.35	39.32	114.68	65.71	7.01	4.61
Overall	**70.99**	**42.28**	**113.30**	**62.71**	**5.99**	**3.76**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal Dry	Total Animal	% in Milk	Wet Ave. * (kg)	Herd Ave. * (kg)
1992-93	22.44	13.56	36	62.33	4.31	2.68
1993-94	38.15	25.85	64	59.60	4.62	2.75
1994-95	38.62	44.38	83	46.53	3.90	1.81
1995-96	29.17	41.83	71	41.08	3.63	1.49
1996-97	28.20	31.80	60	47.00	4.19	1.96
1997-98	26.67	23.33	50	53.34	4.84	2.58
1998-99	20.30	22.70	43	47.20	5.79	2.73
1999-00	22.64	11.36	31.70	71.41	4.77	4.17
2000-01	26.97	10.03	38.73	69.63	5.42	3.80
2001-02	32.61	19.17	51.78	59.80	5.82	3.64
2002-03	33.64	29.98	63.62	51.75	4.94	2.47
2003-04	36.82	54.79	91.61	39.67	5.94	2.46
2004-05	37.68	53.90	91.58	40.95	5.99	2.53
2005-06	45.64	53.22	98.87	46.16	6.14	3.07
2006-07	41.42	35.33	76.75	53.96	6.15	3.42
2007-08	62.03	33.16	93.23	66.53	5.98	4.05
2008-09	53.45	31.23	84.69	63.12	6.69	4.27
2009-10	45.28	41.66	86.94	52.08	6.68	3.34
2010-11	46.67	43.33	90.00	51.85	5.88	3.14
2011-12	40.68	31.56	72.27	57.44	5.82	3.39
2012-13	39.16	23.08	62.25	62.92	5.66	3.59
2013-14	44.94	22.84	67.78	65.97	5.85	3.91
2014-15	42.93	23.36	66.05	65.15	6.80	4.49
2015-16	43.61	21.88	65.47	66.49	6.48	4.33
2016-17	46.02	27.42	73.25	62.85	6.00	3.77
2017-18	50.51	27.73	78.34	64.52	5.77	3.72

2018-19	49.95	22.98	72.42	67.64	6.43	4.40
2019-20	62.99	34.96	98.15	63.96	5.95	3.81
2020-21	67.88	36.38	104.99	65.14	5.84	3.88
2021-22	71.67	38.66	110.38	64.76	5.86	3.84
2022-23	70.99	42.28	113.30	62.71	5.99	3.76

9.18 Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
5374	638,645	2	-	-
2737	626	1	-	-
5333	628,656,657,658,659,664,665*	7	-	-
5320	632,635,642	3	-	-
7604	636,643,660	3	-	-
1312	637	1	-	-
5246	639,667,673	3	-	-
5181	647,653	2	-	-
5310	648,672,675	3	-	-
2759	649	1	-	-
1315	662,666*	2	-	-
5332	670	1	-	-
5427	678,682,687*,691,692,693*,694*,696*697,698,704	11	-	-
7584	685,686*,689,707	4	-	-
7649	695,706	2		

* Died

9.19 Bull wise daughters completing 1st lactation

Sl. No.	Bull No.	Daughter number	Date of Birth	Date of Calving	AFC (days)	Lact. Length (d)	TLMY (kg)	SLMY (kg)	Remarks
1.	605	286/17	25/02/2017	03/10/21	1681	356	2457.6	2349.1	-
2.	3591	293/17	22/06/2017	20/08/21	1520	371	3518.0	3376.2	-
3.	6409	312/17	21/09/2017	14/11/21	1515	294	1699.7	-	-
4.	4705	315/17	04/10/2017	28/01/21	1212	444	2996.2	2414.7	-
5.	2501	325/17	02/12/2017	28/07/21	1184	304	2080.9	-	-
6.	3267	328/17	16/12/2017	29/12/20	1109	474	2254.5	1921.0	Auctioned on 24/9/2022
7.	1027	333/18	12/02/2018	06/11/21	1363	388	2369.8	2079.9	-
8.	1053	338/18	22/06/2018	26/7/21	1130	540	3207.1	2498.4	-
9.	605	342/18	13/07/2018	26/11/21	1232	417	2147.8	1876.7	-
10.	Unknown	357/18	10/06/2018	18/07/21	1134	521	2776.3	1983.3	Purchased
11.	Unknown	358/18	16/06/2018	19/08/22	1225	36	00	-	Died on 30/12/2022 (P)
12.	605	362/18	25/07/2018	09/08/21	1111	318	2007.2	1987.9	-
13.	4733	365/18	31/07/2018	23/09/22	1150	327	2131.9	2105.6	-
14.	4715	366/18	01/08/2018	28/08/21	1116	320	2068.0	2045.1	-
15.	4715	368/18	16/08/2018	29/11/21	1201	314	1117.2	1109.7	-
16.	4715	370/18	06/09/2018	24/09/22	1479	85	298.2	-	Died on 6/2/2023
17.	M-51	376/18	24/09/2018	25/12/21	1188	458	2939.9	2387.5	-
18.	2607	377/18	25/09/2018	29/10/21	1130	330	2174.2	2167.3	-
19.	Sikandar	381/18	05/10/2018	24/11/21	1146	347	1679.1	1638.2	-
20.	M-51	382/18	06/10/2018	05/08/21	1034	322	2124.5	2085.1	-
21.	4715	383/18	08/10/2018	11/08/21	1038	424	2444.5	2139.4	-

22.	2558	385/18	21/10/2018	28/11/21	1134	327	1682.5	1654.2	-
23.	2558	386/18	23/10/2018	17/9/21	1060	323	1880.0	1787.1	-
24.	2558	399/18	22/12/2018	02/07/21	923	476	2010.1	1590.4	-
25.	4715	400/19	11/02/2019	07/12/21	1030	379	2433.0	2282.1	-
26.	M-53	402/19	14/02/2019	31/05/22	1202	301	2049.1	-	-
27.	4837	416/19	08/07/2019	09/12/22	1250	12	31.4	-	-
28.	M-51	431/19	18/08/2019	24/05/22	1010	22	00	-	Abortion
29.	4837	436/19	05/09/2019	23/09/22	1114	28	00	-	Abortion
30.	B1-330	455/19	21/10/2019	29/09/22	1074	22	00	-	Abortion

9.20 Breeding bulls selected for current set (21th set)

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best SLMY
1	297	18/08/2017	869	4705	2914.5/4th Lac.
2	374	18/09/2018	1012	4733	2951.0/2nd Lac.

9.20.1 PT Bulls for nominated mating

Bull No.	Set No.	Centre	Dams' Best yield	Rank	Breeding Value	% Superiority
3591	11 Set	CIRB	2598	II	2177	0.14
6044	14 Set	NDRI	3567	II	2479	2.43
4354	15 Set	CIRB	3528	I	2589	1.67
6007	15 Set	NDRI	3260 (1)	II	2588	1.61

9.20.2 List of Future breeding bulls (as on 31.03.2023)

Sr. No.	Bull No.	Date of birth	Dam No.	Sire No.	Dams best SLMY (kg) / Parity	Semen doses available	Expected predicted Difference (EPD)
1.	235/2016	24/05/2016	1012	4363	3270.0/II	-	-
2.	374/2018	18/09/2018	1012	4733	3270.0/II	-	-
3.	456/2019	02/11/2019	720	183	3267.5/II	-	-
4.	499/2020	24/08/2020	1088	2269	3242.6/II	-	-
5.	532/2020	18.11.2020	1091	2671	3034.5/II	-	-
6.	536/2020	03.12.2020	128/14	1219	3075.6/I	-	-
7.	555/2021	30.03.2021	132/14	5147	3445.1/III	-	-
8.	596/2021	27.10.2021	1012	2677	3275.0/II	-	-
9.	633/2022	08.06.2022	132/14	7604	3445.1/III		
10.	235/2016	24/05/2016	1012	4363	3270.0/II		

9.21 Target achieved during the year

Trait	Target	2018-19*	2019-20*	2020-21*	2021-22*	2022-23
Av. Age at first calving (months)	40	38.62 ±1.05 (16)	37.33±1.56 (18)	39.03± 0.84 (23)	39.38± 1.30 (23)	39.15± 1.23 (23)
Av. Service period (days)	130	169.22±15.96 (46)	128.40±10.93 (43)	137.24±11.09 (50)	140.78±11.24 (46)	140.15±10.29 (46)
Calf mortality	≤ 3 %	4.10 %	6.58 %	0.00 %	2.63 %	9.68 %
Wet average (kg)	≥8.5 kg	6.43 kg	5.95 kg	5.84 kg	5.86 kg	5.99 kg
Herd average (kg)	≥5.5kg	4.40* kg	3.81 kg	3.88 kg	3.84 kg	3.76 kg

** Based on pail yields*

10. Salient Research Achievements:

(a) **Herd Strength:** The opening balance (herd strength) of Murrah buffaloes as on 01/04/2022 was 307 (97 males and 210 females). Additions in the herd were due to birth of 46 female and 38 male calves (84 calves). Deletions from the herd were due to death of 18 animals (4 males and 14 females), external transfer of 57 males and auction/sale of 30 buffaloes (15 males and 15 females). In all, 105 animals were deleted from the herd due to various reasons, whereas 84 animals were added due to new births. The new calvings showed a peak of 13 calvings during August-September, 2022. There were no calvings during March, 2022. The male: female ratio of new calvings was 58.57 : 41.43. The closing balance of the buffalo herd as on 31/03/2023 was 286 buffaloes 227 females and 59 males, Table 9.1 and 9.2).

Out of total 30 animals culled/sold during the current year (15 males and 15 females, Table 9.1 and 9.3), all buffaloes were sold/auctioned due to surplus/reproductive problems/weak & old (Table 9.3).

(b) **Mortality (Detailed):** The overall mortality percent during the current year was 4.60%. The overall female and male group mortality percents were 5.46 and 2.96%, respectively (Table 9.4). A total of 18 deaths (14 females and 4 males) were were recorded in IVRI buffalo herd during the current year. The major causes of mortality are presented in Table 9.5.

Prophylaxis: The prophylaxis measures taken in the Murrah Buffaloes have been presented in Table 9.6.

(d) **Reproductive Performance:** The overall conception rate was 54.95% (Table 9.7). The respective figures in heifer and adult groups were 56.14 and 54.48 %, respectively. The overall calving abnormalities were 18 (1 still birth, 10 abortions, 4 ROP and 3 prolapse cases, Table 9.2). The quarter wise and bull wise conception rates are presented in Table 9.8 and 9.9. Bull wise semen stock position during the report period is presented in Table 9.10.

The means for age at first calving, service period, dry period and calving interval were 39.15±1.23 months, 140.15±10.29 days, 139.28±9.07 days and 456.17 days, respectively (Table 9.14 and 9.14.1).

Bull wise daughters born, bull wise daughters completing first lactation, breeding bulls selected for current set, PT bulls for nominated matings and list of future breeding bulls as on 31/03/2023 are presented in Table 9.18 to 9.20.2, respectively.

(e) **Growth performance:** The means for overall live body weights at birth, 3, 6, 12, 18 and 24 months of age were 32.78± 0.96, 77.65± 1.54, 112.20± 2.47, 196.49± 4.60, 293.91± 7.71 & 377.75± 9.60 kg, respectively. The respective values for females and males were 34.33±0.64, 69.26±1.50, 108.79±3.03, 209.04±5.44, 275.36±6.75 & 350.37±5.77 and 34.00±0.77, 71.28±2.16, 117.58±3.15, 228.86±5.34 & 290.83±12.68 kg, respectively. The weight at first calving during the current year was 590.22±11.58 kg (Table 9.11.1).

(f) **Milk Production Performance:** Buffaloes produced 151026.0 kg milk during the period under report (Table 9.15). Means for overall wet and herd averages were 5.99 and 3.76 kg, respectively (Table 9.17 and 9.17.1). On an average, 62.71% of the total adult females were in the milk during this period (Table 9.17). The means for total lactation milk yield, average lactation length, standard lactation milk yield and peak yield were 2414.00±56.86 kg, 351.96±8.76 days, 2220.75±41.52 kg and 10.58±0.24 kg, respectively (Table 9.12 and Table 9.12.1). The values for LTMY, productive life, productive days, unproductive days, MY/day of HFL, herd life and MY/day of productive life were 12861.92 kg, 2471.15 days, 1726.92 days, 744.23 days, 3.42 kg/d, 3693.73 days and 5.20 kg/day, respectively (Table 9.12.2). The means for fat, SNF and total solids % were 6.69, 9.30 and 16.00%, respectively (based on 399 samples, Table 9.13). The analysis for lactational traits was done for animals expressing total lactation milk yield ≥ 1500 kg and/or LL≥150.

(g) **Feeds and Fodder Availability:** The feeds and fodder supplied to the buffaloes of the project are presented in Table 9.16.

Publications/Presentations: List of Publications:

(i) Papers in research journals (national/international):

1. Vani, A., Kumar, Subodh, Kumar, Sanjeev, Chauhan, Anuj, Sahoo, Nihar Ranjan, Verma, Med Ram, Tomar, A.K.S. and Pushpendra Kumar (2022). Exploration of allelic variants in short tandem repeats (STRs) fanking milk production QTLs and their association with milk production traits in Indian water buffaloes. *Tropical Animal Health and Production*, 54 (222): 1-9 (https://doi.org/10.1007/s11250-022-03215-6).

2. Jayswal, Kavipriya, Kala, Anju, Chaudhary, L.C., Kumar, Akhilesh and Tomar, A.K.S. (2022). Autochthonous buffalo–gut origin Pediococcus pentosaceus RM119 decreased diarrhoea and enhanced gut health, immunity in neonatal Murrah calves. *Animal Biotechnology* (LABT), Article ID: LABT 2138415, https://doi.org/10.1080/10495398.2022.2138415.Published online: 30 Oct 2022.

(ii) Technical bulletins/Books/Book Chapters : One

(iii) Scientific/Teaching reviews : -Nil-

(iv) Presentations in Conferences/Symposia/Seminars/Other Form : 07

(v) Contributions made in compilation/documentation : 06

(vi) Any other (please specify):

(a) Kisan Goshthis Organized : Two

(b) Thesis guided (as Chairman, SAC) : 04

(c) Invited Lectures : 05

11. Expected Socio-economic impact in the tract:

Surplus Murrah buffaloes along with breeding males have been sold in the public auction to the local dairy farmers. It will not only improve the milk and meat production in the field in the form of Murrah/graded Murrah progenies but will also uplift the socioeconomic status of the dairy farmers of northern India.

12. Constraints (if any): Paucity of project staff

13. Focus of the work in the coming year:

i. To increase the number of elite buffaloes in the herd.
ii. To carry out the envisaged technical programme for fulfillment of laid down objectives.
iii. To distribute superior germ-plasm to the buffalo farmers in field.
iv. To establish a high yielding nucleus herd of Murrah buffaloes at IVRI Izatnagar.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Balance
Total	ICAR Share		ICAR Share	State Share	
11.00	11.00	11.00	10.88092	0.00	(+) 0.11908

Herd Performance:

Herd strength at the centre was 286 animals including 162 breedable buffaloes (>2 year). During the report period 70 calving were reported consisting of 41 males and 29 females, 1 still birth and 10 abortions. The calf mortality (0-3 months) was 9.68 % much more as compared to 2.63 in last year. Conception rate was improved to 54.95 from 45.12 % in 2021-22.

The average total lactation milk yield and 305 days or less day milk yield was 2414 and 2221 kg lower than the last year. Reproductive performance viz AFC, SP and DP were 39.15 months, 140 days and 139 days, respectively. Wet and herd averages are reported as 5.99 kg and 3.76 kg respectively. An average of 62.71 percent animals were in milk as compare to previous year 64.76 percent.

Accomplishment and Targets Achieved:

Trait	Target	2018-19)	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	38.62 ±1.05 (16)	37.33±1.56 (18)	39.03± 0.84 (23)	39.38± 1.30 (23)	39.15± 1.23 (23)
Av. Service period (days)	130	169.22±15.96 (46)	128.40±10.93 (43)	137.24±11.09 (50)	140.78±11.24 (46)	140.15±10.29 (46)
Calf mortality (0-3 months)	≤ 3 %	4.10 %	6.58 %	0.00 %	2.63 %	9.68 %
Wet average (kg)	≥8.5 kg	6.43 kg	5.95 kg	5.84 kg	5.86 kg	5.99 kg
Herd average (kg)	≥5.5kg	4.40* kg	3.81 kg	3.88 kg	3.84 kg	3.76 kg

Recommendations:

- Needs emphasis to improve production traits and service period to meet the target.
- Proper care and management of calves to reduce calf mortality

NETWORK PROJECT ON MURRAH BUFFALO IMPROVEMENT
LUVAS UNIT, HISAR

1. **Name of Centre**: Buffalo Research Centre
Department of Livestock Production Management
LUVAS, Hisar

2. Project Code 5508 C(b) LPM-3 ICAR

3. Project Title Network Project on Murrah Buffalo Improvement

4. **Date of start:** 1993

5.Objectives:

- To establish elite herd of 50 to 100 Murrah (at each center) for the production of genetically superior young bulls.
- To evaluate sires through institutional / associated herd/field progeny testing.
- To produce, test, propagate and conserve high genetic merit male germplasm

6. Technical Program: Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 500 and 300 breedable females (Murrah). Selection and testing of minimum 15 bulls of Murrah / 4-6 bulls for other breeds in every 18 / 24 months cycle. Production of minimum 10,000 (Murrah) and 3000 to 5000 (Other breeds) frozen semen doses from each test bull. Maintain a minimum number of 8000 (Murrah) and 2000 (other breeds) frozen semen doses until the particular SET gets evaluated. Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set. Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers. Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield, Milk yield per day of herd life (total milk produced from date of birth till completion of 4^{th} or more lactation). Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds. Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities. Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records.

7. Staff associated with the project:

Discipline	**Name of Scientist / Staff**	**Status PI/Co-PI/ Associated)**
LPM	Dr. Dipin Chander Yadav Dr. Man Singh	PI Co-PI
AGB	Dr. S.S. Dhaka	Associated
VGO	Gynaecologist (As per requirement)	-
Health / Others	TVCC (as and when required)	-
Administrative staff	Nil	
Technical staff	Nil	
Contractual staff (RA / SRF / YP-I, YP-II)	Nil	

8. Financial Statement: Head wise budget allocation and utilization; revenue receipts

SOE	**Allotment**	**Expenditure**	**Balance**
M&S(General)	4400000	4400000	0
M&S(SCSP)	100000	100000	0
Total	**4500000**	**4500000**	**0**

9. Herd performance

As stated below in table 9.1 to 9.21.

9.1 Herd Strength During the Period 4/2022 to 3/2023

Category		Addition			Disposal				
S. N.		**OB**	**B/P**	**T**	**D**	**T**	**S**	**E**	**CB**
Female									
1.	Calves 0 – 3 months	9	48		1	-51	0		5
2.	Calves >3 – 12 months	37		+51	-	-45	01		42
3.	Heifers 1 – 2 years	32		+45	-	-31	1	1	44
	> 2 years	70		+31	-	-40	8		53
4.	Buffaloes in Milk	77		+40	1	-19	6		91
5.	Buffaloes Dry P /NP	33		+19	3	-	6		43
	Sub Total	258	48		5		22	1	278
Male									
1.	Calves 0 – 3 months	12	56		3	-58	2		5
2.	Calves >3 – 12 months	35		+58	1	-45	2		45
3.	1 – 2 years	24		+45	-	-16	12		41
	> 2 years	22		+16	-	-3	20		15
4.	Breeding bulls	0		+3		-2	1		0
5.	Bullocks/Teaser/Other	2		+2		-	1		3
	Sub Total	95	56		4		38		109
	Grand Total	353	104		9		60	1	387

OB = Opening Balance D = Death S= Sale E= Experimental
T = Transfer CB = Closing Balance B= Birth

9.2 Calving Statistics During the Period 4/2022 to 3/2023

Month	**Male**		**Female**		**Dystokia**		**Prolepses**		**Still Birth**		**Abortion**		**Overall**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
April, 21	3		2		-		-		-		-		5	
May	6		4		1	0.90	-		-		-		11	
June	7		5		-		-		-		-		12	
July	7		2		-		-		-		-		9	
August	5		6		-		-		-		-		11	
September	6		8		-		-		1	0.90	-		15	
October	7		5		-		-		2	1.81	-		14	
November	4		5		-		-		1	0.90	-		10	
December	6		6		-		-		-		-		12	
January,22	3		3		-		-		-		-		6	
February	2		2		-		-		-		-		4	
March	0		0		-		-		-		1	0.90	1	
Overall	**56**		**48**		1	0.90	-		4		1	0.90	110	

Sex ratio Male: Female (53.85:46.15), SB% = 3.64 %, Abortion % = 0.90%, Dystocia % = 0.90 %

9.3 Disposal of Animals During the Period 4/2022 to 3/2023

Female	**Primary cause of disposal**							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves								
0 to 3 months	-	-	-	-	-	1	-	1
3-12 months	1	-	-	-	-	-	-	1
Heifers								
1-2 years	1	-	-	-	-	-	1	6
> 2 years	1	-	7	-	-	-	-	8
Buffaloes								
Milch	-	1	-	1	4	1		7
Dry	-	1	-	-	5	3		9
Sub Total	3	2	7	1	9	5	1	28
Males	**Primary cause of disposal**							
Calves								
0 to 3 months	2	-	-	-	-	3	-	5
3-12 months	2	-	-	-	-	1	-	3
1 to 2 year	12	-	-	-	-	-	-	12
. >2 year	20	-	-	-	-	-	-	20
Breeding bulls	1	-	-	-	-	-	-	1
Bullock+Teaser +Others	1	-	-	-	-	-	-	1
Sub Total	38	-	-	-	-	4	-	42
Grand Total	41	2	7	1	9	9	1	70

9.4 Month-wise Mortality During the Period 4/2022 to 3/2023

	Female						**Male**					**Overall Herd**
Month	**0-3 Month**	**3-12 Month**	**1-2 Yrs.**	**Above 2 Yrs.**	**Milk + Dry**	**Overall Female**	**0-3 Month**	**3-12 Month**	**1 -2 Yrs.**	**>2 yrs.**	**Overall Male**	
No. Died	1	-	0	-	4	5	3	1	-	-	4	9
%												

Calves (0-3) Mortality =3.2 % (4/125)

9.5 Causes of Mortality (quarter-wise) During the Period 4/2022 to 3/2023

Particulars	**1st quarter (April-June)**	**2nd quarter (July-Sept)**	**3rd quarter (Oct-Dec.)**	**4th quarter (Jan.-March)**	**Total**
Enteritis	1	1	1	-	3
Pneumonities	-	-	1	1	2
Septicamia / Toxaemia	-	-	-	-	-
Peritonitis	-	1	-	-	1
JD/TB	-	-	-	-	-
Milk Fever/metabolic diseases	-	-	-	-	-
TRP / TP	-	-	-	-	-
Parasitism	-	-	-	-	-
Accidental death	-	-	-	-	-
Peri-parturient disorders	-	-	-	-	-
Miscellaneous	2	-	1	-	3
Total	**3**	**2**	**3**	**1**	**9**

9.6 Prophylactic Measures Taken During the Period 4/2022 to 3/2023

Disease	Vaccination Date / No. of animals	No. of animals Tested / Positive		Dates and No. of animals treated for Parasitism
FMD	Whole herd (twice a year)	-	-	All calves upto the age of 1 year at regular interval
HS	Whole herd (twice a year)	-	-	
BQ	-	-	-	
Brucellosis	Calf-hood vaccination (Regular interval)	-	-	
JD	Screening done	-	-	
TB	Screening done	-	-	
IBR	-	-	-	
Mastitis	Milch herd (Once a year)	-	-	

9.7 Female conception rate during January 2022 to December 2022

AI No.→	1st			2nd			3rd			4th & above			Over all		
Parity↓	**AIs**	**C**	**CR %**	**AIs**	**C**	**CR %**	**AIs**	**C**	**CR%**	**AIs**	**C**	**CR %**	**AIs**	**C**	**CR %**
Heifers	34	16	47.0	18	10	55.5	7	2	28.5	4	1	25.0	63	29	46.0
Adults	109	59	65.5	54	23	42.5	23	12	52.1	10	2	20.0	196	96	48.9
Overall	**143**	**75**	**52.4**	**72**	**33**	**45.8**	**30**	**14**	**46.6**	**14**	**3**	**21.4**	**259**	**125**	**48.26**

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8 Quarter-wise conception rate (1.1.2022 to 31.12.22)

Quarter	No. of A I	Preg. animals	CR %
January – March	77	35	45.4
April - June	40	20	50.0
July - September	74	40	54.0
October- December	68	30	44.1
Overall	**259**	**125**	**48.26**

9.9 Bull-wise Conception Rate During the Period 4/2022 to 3/2023

S.No.	Bull No.	SET No.	Total No. of AIs.	Total Conceived	CR%
1.	2737	19	6	2	33.33
2.	19	20	6	5	83.3
3.	1454	20	13	8	61.5
4.	2793	20	8	3	37.5
5.	2814	20	13	8	61.5
6.	2831	20	11	6	54.5
7.	2838	20	8	6	75.5
8.	2848	20	9	4	44.44
9.	2850	20	8	4	50.0
10.	3004	20	18	7	38.89
11.	5427	20	16	5	31.2
12.	5500	20	28	11	39.2
13.	5511	20	12	5	41.6
14.	5588	20	10	3	30
15.	7584	20	12	8	66.6
16.	7649	20	13	8	61.5
17.	4196 PT	14	16	7	43.7

18.	4354 PT	15	12	6	50.0
19.	6007 PT	15	12	7	58.3
20.	2459 PT	15	28	12	42.8
Overall			**259**	**125**	**48.26**

No. of services per conception 2.07:1

9.10 Bull-wise Semen Stock During the Period 4/2022 to 3/2023

Bull No.	Set no.	Opening balance	Semen produced /Received	Consumption for AI/ Supplied	Balance
4196	14th set	23	-	23	-
5320	19th set	20	-	20	-
5310	19th set	30	-	30	-
5505	20th set	-	60	-	60
5481	20th set	-	60	-	60
2850	20th set	48	100	92	56
7584	20th set	40	50	60	30
2848	20th set	46	50	96	-
2814	20th set	6	50	56	-
3004	20th set	-	100	100	-
7649	20th set	-	80	50	30
5427	20th set	-	100	100	-
1454	20th set	-	50	50	-
5588	20th set	-	50	50	-
5500	20th set	-	110	110	-
6007 PT	15th set	-	55	55	-
4354 PT	15th set	-	65	59	6
2459 PT	15th set	-	55	47	8
5511	20th set	-	60	60	-
19	20th set	-	100	80	20
2793	20th set	-	80	60	20
2831	20th set	-	80	71	9
2838	20th set	-	100	68	32

9.11 Body Weights since Inception of Network Project

Year	Birth (n)	3 Months (n)	6 Months (n)	12 Months (n)	18 Months (n)	24 Months (n)	At AFC (n)
Female							
1994-95	34.0	62.8	97.1	150.7	203.2	262.5	470.03
1995-96	36.48	51.20	77.89	106.75	138.79	191.28	448.08
1996-97	35.26	53.7	90.5	118.65	146.59	206.49	423.18
1997-98	36.65	55.7	94.25	123.75	148.42	217.1	439.53
1998-99	36.87	55.94	94.4	112.31	149.94	217.1	439.53
1999-00	35.43	57.11	102.1	139.27	163.66	241.97	417.74
2000-01	39.49 (71)	59.52 (40)	104.76 (37)	134.0 (32)	164.69 (31)	237.38 (30)	494.59 (27)
2001-02	37.6 (56)	50.85 (41)	84.69 (32)	167.9 (27)	238.6 (35)	300.9 (35)	470.1 (11)
2002-03	37.3 (87)	74.8 (88)	105.9 (77)	177.0 (49)	259.6 (40)	-	457.4 (40)
2003-04	37.2 (87)	74.8 (88)	105.9 (77)	177.0 (49)	259.6 (40)	345.1 (36)	457.4 (40)
2004-05	36.7 (85)	74.8 (85)	105.4 (75)	183.7 (68)	260.6 (48)	341.0 (39)	459.2 (26)
2005-06	35.8 (81)	64.3 (53)	89.9(23)	140.1 (25)	190.6 (20)	295.6 (16)	463.8 (12)
2006-07	36.8 (87)	71.2 (73)	103.2 (61)	141.5 (41)	181.9 (29)	262.5 (38)	467.4 (21)
2007-08	36.6 (85)	66.2 (78)	105.8 (63)	201.6 (50)	249.0 (36)	302.7 (34)	463.2 (24)
2008-09	36.3 (65)	66.4 (37)	94.5 (43)	146.7 (26)	184.2 (87)	246.6 (57)	459.4 (267)

2009-10	36.6 (71)	70.8 (70)	105.0(52)	154.4(43)	199.8 (49)	244.2 (38)	502.5 (24)
2010-11	35.8 (75)	72.3 (75)	108.0(52)	166.4(62)	209.3 (50)	287.9 (46)	522.9 (33)
2011-12	35.0 (71)	68.5 (63)	101.6(49)	175.6(40)	269.6 (46)	311.6 (34)	512.6 (23)
2012-13	36.4 (86)	68.2 (64)	105.1(51)	189.2(38)	278.4 (46)	302.8 (31)	528.7 (39)
2013-14	36.1 (83)	76.2 (41)	122.7(13)	185.5(43)	280.5 (30)	326.0 (19)	521.4 (32)
2014-15	37.2 (75)	63.8 (60)	84.9 (57)	174.5(25)	247.6 (26)	325.9 (25)	511.0 (17)
2015-16	35.7 (96)	54.4 (60)	92.3 (30)	189.7(30)	249.5 (30)	300.0 (30)	485.8 (27)
2016-17	36.2 (57)	65.6 (55)	98.7 (27)	174 (22)	250.6 (15)	302.0 (3)	447.5 (36)
2017-18	34.6±0.18 (48)	57.0±0.79 (44)	89.0±1.6 (38)	154.3±2.8 (44)	207.3±6.3 (26)	300.1±12.3 (4)	461.4±7.3 (27)
2018-19	34.4±0.4 (42)	52.7±0.5 (100)	84.2±1.2 (82)	149.6±3.0 (49)	223.5±4.4 (24)	291.0±10.9 (5)	462±5.4 (21)
2019-20	35.0±0.2 (46)	52.9±1.0 (41)	83.7±1.7 (33)	146.6±2.4 (36)	198.7±9.7 (15)	317.8±19.3 (12)	460.1±5.8 (24)
2020-21	35.0±0.4 (43)	50.9±0.9 (38)	90.4±1.3 (28)	143.9±3.1 (32)	198.6±8.5 (19)	258.3±2.6 (12)	411.6±7.1 (22)
2021-22	34.0 ±0.3 (48)	57.6±0.5 (68)	84.8±1.07 (61)	138.5±3.3 (41)	207.8±3.81 (44)	270.4±4.01 (25)	403.6±5.03 (33)
2022-23	**35.6 ±0.4 (48)**	**57.9±0.68 (35)**	**80.3±1.35 (21)**	**136.7±1.33 (35)**	**221 ±55.2 (16)**	**281±3.18 (17)**	**420±8.81 (40)**
Male							
2016-17	36.4 (59)	60.7 (50)	90.3 (28)	170.9 (17)	282 (6)	-	-
2017-18	35.3±0.16 (29)	58.9±1.01 (32)	87.6±1.7 (44)	153.7±2.8 (46)	219.9±6.8 (14)	318.7±5.8 (3)	-
2018-19	35.1±0.3 (44)	56.7±0.6 (68)	87.1±1.3 (58)	156±2.7 (32)	218.2±3.8 (14)	285±0 (1)	-
2019-20	35.4±0.2 (45)	55.9±1.1 (34)	83.2±2.0 (30)	136.3±4.8 (7)	247.6±2.6 (8)	310.4±7.4 (5)	-
2020-21	36.4±0.3 (45)	58.6±0.8 (33)	95.5±1.1 (29)	163.3±3.7 (12)	203.1±2.6 (11)	272.0±2.3 (10)	-
2021-22	35.0±0.19 (53)	58.8±0.59 (80)	89.5±1.1 (65)	159.2±2.46 (40)	236.3±5.35 (29)	286.7±5.59 (12)	-
2022-23	**35.2±0.4 (56)**	**68±0.67 (38)**	**86±0.98 (25)**	**145.6±3.67 (37)**	**242±3.12 (16)**	**326±6.8 (22)**	-

9.12 Average Production Performance During the Period 4/2022 to 3/2023

Lact. No.	No. of obs.	Av. Lact. Yield (kg)	Av. Lact. Length (days)	305-day Milk Yield (kg)	Av. Peak yield
1st	30	2991.3	333	2884	12.0
2nd	23	3036	310	2917	13.3
3rd	14	3153	308	3069	14.2
4th	10	3179	320	3076	14.1
5th& above	15	3059	303	2979	13.7
Overall	**92**	**3059±62.62**	**317±4.6**	**2957±49.4**	**13.2±0.2**

Figures in parenthesis indicate number of observations

9.12 Average Production Performance since Inception of Network Project.

Year	Av. Lactation Yield in kg (N)	Av. Lactation Length in days (N)	Av. 305 or less day Milk Yield in kg (N)	Av. Peak yield (N)
1995-96	2033.0 (70)	285.0 (70)	1987.5 (70)	10.8 (70)
1996-97	1896.5 (75)	269.4 (75)	1880.8 (75)	10.0 (75)
1997-98	2150.3 (83)	297.2 (83)	2103.7 (83)	10.9 (83)
1998-99	1815.0 (51)	302.6 (51)	1964.7 (51)	10.2 (51)

1999-00	1798.1 (64)	311.5 (64)	1688.7 (64)	10.0 (64)
2000-01	2226.4 (42)	305.0 (42)	2183.1 (42)	11.0 (34)
2001-02	2205.4 (50)	307.2 (50)	2119.4 (50)	11.0 (50)
2002-03	2659.0 (46)	329.7 (46)	2522.3 (46)	12.7 (46)
2003-04	2115.5 (75)	293.6 (75)	2061.9 (75)	11.5 (75)
2004-05	2215.8 (61)	311.13 (61)	2134.4 (61)	11.3 (61)
2005-06	2346.9 (77)	307.8 (77)	2251.9 (77)	11.2 (89)
2006-07	2407.9 (75)	325.2 (75)	2261.4 (75)	11.4 (75)
2007-08	2199.2 (80)	286.0 (80)	2129.6 (80)	11.2 (80)
2008-09	2124.8 (76)	295.1 (76)	2040.6 (76)	10.5 (76)
2009-10	1885.5 (84)	288.2 (84)	1857.6 (84)	9.97 (84)
2010-11	2158.8 (66)	309.7 (66)	2041.8 (66)	9.9 (66)
2011-12	2544.4 (54)	332.4 (54)	2377.7 (54)	11.1 (54)
2012-13	3010.3 (55)	319.3 (55)	2879.8 (55)	13.5 (55)
2013-14	2966.7 (65)	318.3 (65)	2808.3(65)	13.3 (65)
2014-15	2653.4 (62)	300.2 (62)	2584.4 (62)	12.9 (62)
2015-16	2664.9±63.71 (78)	304.5±6.5 (78)	2576.8±56.9 (78)	13.0±1.8 (78)
2016-17	3138.4±76.27 (60)	328.0±7.48 (60)	2967.0±64.1 (60)	13.8±3.25 (60)
2017-18	3373.4±94.83 (69)	354±8.52 (69)	3050±72.7 (69)	14.2±2.93 (69)
2018-19	3193.6±91.4 (66)	313.9±6.1 (66)	3067.3±84.1 (66)	15.1±0.3 (66)
2019-20	3107.0±54.2 (60)	301.4±3.0 (60)	3090.4±54.1 (60)	14.6±0.3 (60)
2020-21	3147.9±76.3 (65)	322.0±5.4 (65)	2976.3±52.4 (65)	13.5±0.3 (65)
2021-22	2902±56.12 (101)	311.9±4.36 (101)	2793.0±49.91(101)	13.6±0.22 (101)
2022-23	3059±62.62 (92)	317.0±4.6 (92)	2957.0±49.4 (92)	13.2±0.22 (92)

Figures in parenthesis indicate number of observations.

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

Sr. No.	Traits	2020-21		2020-21		2022-23	
		No.	Average	No.	Average	No.	Average
1.	Herd Life (days)	18	3326	26	3348	21	3306
2.	Productive Days	18	1523.5	26	1554.6	21	1500.9
3.	Unproductive days	18	511.2	26	467.3	21	521.6
4.	Productive Life (days)	18	2034.7	26	2021.9	21	2022.5
5.	Life time milk Yield (kg)	18	15715.2	26	15054.15	21	15385.6
6.	Milk yield / day HLF (kg)	18	4.7	26	4.5	21	4.6
7.	Milk yield / day PLF (kg)	18	7.7	26	7.4	21	7.6
8.	Milk Yield / day productive days	18	10.3	26	9.7	21	10.2

Note: HLF (Herd Life- Date of birth to date of completion of 4th or more lact. Or date of disposal) Productive Days (date of first calving to total days in milk), Unproductive days (total days when buffalo not give milk from the date of first calving)

9.13. Average Milk Fat Component During the Period 4/2022 to 3/2023

Month	Animal in milk (N)	Av. Fat (%)	SNF	Protein	Lactose
April, 2022	74	7.02	-	-	-
May	71	6.85	-	-	-
June	73	6.87	-	-	-
July	75	6.67	-	-	-
August	70	6.61	-	-	-
September	78	6.62	-	-	-

October	86	6.68	-	-	-
November	92	6.69	-	-	-
December	102	6.99	-	-	-
January, 23	104	7.00	-	-	-
February	103	6.80	-	-	-
March	99	6.65	-	-	-
Overall	**85**	**6.78**	-	-	-

9.14 Reproduction Performance During the Period 4/2022 to 3/2023

Traits	**Lactation No.**					**Overall Mean±SE (N)**
	1 Mean ±SE	**2 Mean±SE**	**3 Mean±SE**	**4 Mean±SE**	**5 & above Mean±SE)**	
Average Age at Calving (Months)	44.8±0.9 (40)	-	-	-	-	**44.8±0.9 (40)**
Average Service Period (Days)	-	184 (21)	146 (13)	91 (14)	136 (16)	**144.8±8.7 (64)**
Average Dry Period (Days)	-	144 (21)	144 (13)	96 (14)	141 (16)	**133±7.1 (64)**
Average Calving Interval (Days)	-	490 (21)	468 (13)	395 (14)	445 (16)	**454±8.9 (64)**

9.14.1 Reproduction Performance since Inception of Network Project.

Year	**AFC (Days/ months)**	**Average Service Period (days)**	**Average Dry Period (days)**	**Average Calving Interval (days)**
1993-94	1570.2	107.5	-	-
1994-95	1560.6	163.1	132.7	459.5
1995-96	1575.8 (26)	135.0 (54)	161.0 (36)	456.0 (40)
1996-97	1438.2 (44)	107.0 (63)	109.7 (31)	408.5 (76)
1997-98	1480.4 (28)	107.7 (55)	143.1 (55)	389.2 (55)
1998-99	1439.5 (22)	108.7 (47)	156.0 (38)	417.2 (46)
1999-00	1502.0 (15)	148.3 (49)	148.6 (49)	459.0 (49)
2000-01	1540.0 (17)	146.0 (25)	137.0 (25)	479.6 (25)
2001-02	1400.1 (14)	147.0 (31)	128.0 (31)	457.0 (31)
2002-03	47.01 months (27)	165.3 (47)	156.4 (47)	472.1 (47)
2003-04	40.4 (40)	87.6 (42)	115.9 (42)	396.4 (42)
2004-05	40.0 (26)	95.8 (52)	128.0 (52)	402.2 (52)
2005-06	41.0 (31)	147.8 (128)	156.2 (26)	454.8 (128)
2006-07	41.8 (15)	165.2 (60)	162.6 (64)	472.5 (60)
2007-08	44.4 (30)	164.9 (57)	147.1 (57)	467.2 (57)
2008-09	48.4 (54)	139.1 (54)	146.0 (54)	444.0 (54)
2009-10	45.7 (27)	156.86 (68)	163.6 (68)	459.3 (68)
2010-11	45.8(33)	155.38 (38)	160.3 (38)	461.8 (38)
2011-12	46.0 (23)	154.0 (47)	147.8 (47)	462.8 (47)
2012-13	46 (39)	112.1 (36)	100.8 (36)	411 (36)
2013-14	43.6 (33)	118.0 (39)	119.8 (39)	423 (39)
2014-15	45.9 (17)	116.8 (52)	135.6 (52)	425 (52)
2015-16	41.7±1.28 (27)	127.5±10.2 (58)	126.1±6.6 (58)	434.2±10.48 (58)
2016-17	42.0±7.08 (34)	129±9.6 (43)	120±8.85 (43)	434.6±10.07 (43)

2017-18	42.2±0.87 (27)	135.43±12.51 (46)	113.29±5.98 (46)	444.59±12.41 (46)
2018-19	42.5±0.83 (21)	144.9±10.7 (60)	111.4±7.0 (60)	454.1±11.1 (60)
2019-20	43.5±0.49 (22)	122.6±7.5 (64)	111.7±6.0 (64)	430.5±7.9 (64)
2020-21	43.1±0.8 (27)	127.3±9.2(67)	128.5±7.5 (67)	437.3±9.2 (67)
2021-22	46.5±0.8 (33)	117.9±12.11 (68)	114.45±6.28 (68)	419.9±8.91 (68)
2022-23	**44.8±0.9 (40)**	**144.8±8.7 (64)**	**133±7.1 (64)**	**454±8.9 (64)**

Figures in parenthesis indicate number of observations

9.15 Milk Production and DisposalDuring the Period 4/2022 to 3/2023

Month	Total milk produced (kg)	Disposal		
		Liquid Milk	Calf feeding	Expt.
April, 22	18197	17423	774	-
May	17850	17428	422	-
June	19394	18702	692	-
July	20118	19294	824	-
August	18498	17612	886	-
September	20359	18299	2060	-
October	23794	21418	2376	-
November	25179	23059	2120	-
December	27659	26491	1168	-
January, 23	28252	27654	598	-
February	24477	24015	462	-
March	25821	25449	372	-
Total	**269598**	**256844**	**12754**	**-**

9.16 Feed & Fodder (Qtls.) During the Period 4/2022 to 3/2023

Month	Type of fodder/feed	Qty. produced at Farm (qtl.)	Qty. Purchased	Actually fed	Balance
Total	Green	21263.05		21263.05	-
	Silage	-		-	-
	Dry	4669.0		4669.0	-
	Concentrate	4125.26		4125.26	-

9.17 Milking Performance During the Period 4/2022 to 3/2023

Month	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 22	74	38	112	66.0	9.1	6.0
May	71	42	113	62.8	9.2	5.9
June	73	45	118	61.8	9.6	6.0
July	75	45	120	62.5	9.6	6.0
August	70	41	111	63.0	9.6	6.1
September	78	40	118	66.1	9.5	6.2
October	86	38	124	69.3	9.5	6.7
November	92	36	128	71.8	9.9	7.1
December	102	28	130	78.4	9.0	7.1
January, 23	104	28	132	78.7	9.7	7.7
February	103	31	134	76.8	9.5	7.4
March	99	35	134	73.8	9.3	6.9
Overall	**85**	**37**	**122**	**69.2**	**9.4**	**6.6**

9.17.1 Milking Performance since Inception of Network Project

Month	No. of animals (in milk)	No. of animals (Dry)	Total animals	Animals in milk (%)	Wet Average (kg)	Herd Average (kg)
1993-94	42	43	85	49.0	6.3	3.8
1994-95	49	39	88	55.7	7.2	3.4
1995-96	53	39	92	57.1	7.3	4.0
1996-97	76	46	122	62.4	7.0	4.3
1997-98	68	36	104	65.4	6.5	3.7
1998-99	71	27	98	70.0	6.2	4.2
1999-00	60	23	83	72.5	5.2	3.8
2000-01	55	17	72	75.8	6.7	5.1
2001-02	48	22	70	68.6	7.5	5.2
2002-03	47	25	72	65.3	7.5	5.0
2003-04	68	29	97	70.0	7.3	5.1
2004-05	68	36	104	65.4	7.7	5.0
2005-06	63	32	95	66.5	7.7	5.2
2006-07	65	31	96	68.0	7.8	5.3
2207-08	66	34	100	66.0	7.6	5.1
2008-09	62	33	95	66.0	7.1	4.7
2009-10	69	41	110	62.7	6.8	4.3
2010-11	64	30	94	68.1	7.3	5.0
2011-12	58	24	82	71.5	8.5	6.1
2012-13	58	30	88	65.1	10.0	6.6
2013-14	61.0	35.0	96.5	64.1	9.4	6.0
2014-15	64	36	100	64.3	8.7	5.6
2015-16	72	42	114	63	9.9	6.2
2016-17	80	41	121	66.1	9.7	6.6
2017-18	81	28	109	74.3	10.3	7.6
2018-19	76	29	104	73.2	11.0	8.0
2019-20	78	26	104	75.1	10.4	7.7
2020-21	73	36	109	67	9.6	6.3
2021-22	81.5	35	116	68.8	9.25	6.5
2022-23	**85**	**37**	**122**	**69.2**	**9.4**	**6.6**

9.18 Bull-wise Daughters Performance (1st lactation) During the Period 4/2022 to 3/2023

Bull No.	Set No	Total No. of daughters born	No. of daughters reaching A.F.C.	No. of daughters completing 1st Lactation
2737	19 Set	5	-	1
2674	19 Set	2	-	2
5181	19 Set	2	-	7
2357	14 Set	1	-	-
7604	19 Set	5	-	-
5246	19 Set	1	-	1
1315	18 Set	9	-	-
6044	14 Set	1	-	-
2759	19 Set	1	-	4
5320	19 Set	2	-	-
6044	14 Set	1	-	-
5333	19 Set	2	-	1
4196	14 Set	8	-	-
5374	19 Set	1	-	1
7649	20Set	1	-	-
5427	20 Set	1	-	-

3004	20 Set	1	-	-
2814	20 Set	3	-	-
2848	20 Set	1	-	-
4889	20 Set	-	3	-
2383	14 Set	-	1	-
3267	11 Set	-	1	-
B1.330	17 Set	-	4	-
2185	12 Set	-	5	-
3591	11 Set	-	2	-
M-53	17 Set	-	4	-
SIKANDAR	17 Set	-	2	-
1027	16 Set	-	1	-
183	12 Set	-	3	-
1053	16 Set	-	1	-
m-51	17 Set	-	2	-
2565	17 Set	-	1	-
4687	17 Set	-	1	-
DARA	17 Set	-	2	-
1148	17 Set	-	1	-
2558	17 Set	-	2	-
4733	17 Set	-	1	-
2607	17 Set	-	1	-
6942	17 Set	-	1	-
2594	17 Set	-	1	-
1693	10 Set	-	-	1
7263	18 Set	-	-	3
7094	18 Set	-	-	2
5232	19 Set	-	-	6
7147	18 Set	-	-	1
5310	19 Set	-	-	1
TOTAL		**48**	**40**	**31**

9.19 Bull-wise Daughters Completing 1st Lactation During the Period 4/2022 to 3/2023

Bull No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
1693	1362	30.05.17	24.11.20	41.8	515	5171	3609
2045	1302	18.10.16	08.04.21	53.7	370	3421	3169
M-29	1386	30.09.17	21.04.21	42.7	365	3531	3191
4592	1335	23.12.16	15.05.21	52.7	338	2859	2777
2133	1385	26.09.17	27.05.21	44.0	328	3362	3272
2133	1384	23.09.17	02.06.21	44.3	330	3326	3196
4403	1320	28.11.16	09.08.21	56.3	321	3375	3293
6409	1429	02.03.18	29.08.21	41.9	300	2277	2277
2467	1410	02.12.17	04.09.21	45.0	281	2295	2295
2045	1332	12.12.16	28.06.21	55.5	382	3877	3365
1053	1397	26.10.17	25.07.21	45.0	400	3634	3023
6753	1427	10.02.18	17.09.21	43.1	359	2989	2908
1053	1391	09.10.17	18.09.21	47.1	333	3162	3030
1053	1398	01.11.17	29.10.21	47.9	363	3150	2798
1027	1404	13.11.17	05.12.21	47.7	287	2589	2589
4705	1446	12.05.18	17.11.21	42.0	312	2871	2842
M-51	1477	07.08.18	23.11.21	39.6	331	2582	2491
3591	1413	06.12.17	22.12.21	48.5	315	2403	3252
2467	1411	03.12.17	07.01.22	49.0	316	3249	3231

2133	1406	18.11.17	06.02.22	50.5	376	3283	2975
4592	1422	31.01.18	27.02.22	48.8	300	3211	3211
4687	1465	16.07.18	02.03.22	43.5	298	2505	2505
2185	15	09.10.18	02.03.22	40.8	294	2450	2450
2467	1418	13.01.18	16.03.22	50.1	297	2505	2505
183	1455	20.06.18	25.03.22	45.0	355	3041	2840
2383	1447	24.05.18	27.03.22	46.0	132	1052	1052
2185	1468	25.07.18	31.03.22	44.2	326	2886	2745
4889	1421	30.01.18	03.04.22	50.1	298	1935	1935
2383	1450	02.06.18	24.04.22	46.7	302	2790	2790
4889	1430	13.03.18	19.05.22	50.0	298	2280	2280
3267	1370	19.07.17	08.05.22	57.0	318	2729	2677

9.20 List of Breeding bulls Selected for current set (20th)

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best lact.305 or days less yield (kg)
1	1454	19.06.18	976	183 PT (Set-12)	3355/17.4
2	19	29.10.18	777	M51 (Set-17)	3695/21.6

9.20.1 PT bulls used during the year form 15th set

Bull No.	Set No.	Centre	Dams' Best yield	Sire Index	Breeding Value	% Superiority
4354	15 Set	CIRB	3528	I	2589	1.67
6007	15 Set	NDRI	3260 (1)	II	2588	1.61
2459	15 Set	GADVASU	4636	III	2587	1.58

9.20.2 List of Future breeding bulls

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dams best SLMY (kg) / Parity	Semen doses available	Expected predicted Difference (EPD)
1	109	17.09.19	1068	53 M SET 17	3660/16.3	-	-
2	112	29.09.19	943	6942 SET 17	4390/17.2	-	-
3	145	29.05.20	953	183 PT SET 13	4296/19.7	-	-
4	151	02.07.20	911	183 PT SET 13	3997/16.8	-	-

9.21 Targets Achieved During the Year

Sr. No.	Trait	Target Fixed	2018-19	2019-20	2020-21	2021-22	2022-23
1	Av. Age at first Ist. Calving (months)	40.0	42.5±0.83 (21)	43.5±0.49 (22)	43.1±0.8 (27)	46.5±0.8 (33)	44.8±0.9 (40)
2	Av. Service Period. (days)	130	145±10.7 (60)	123±7.5 (64)	127±9.2 (67)	118±12.1 (68)	144.8±8.7 (64)
3	Calf Mortality (0-3 months)	≤ 3 %	5.50 %	4.72 %	1.85 %	5.22 %	3.20 %
4	Wet Average (kg)	≥ 8.5 kg	11.0 Kg	10.4 kg	9.6 kg	9.25 kg	9.40 kg
5	Herd Average (kg)	≥ 5.5 kg	8.0 Kg	7.7 kg	6.3 kg	6.50 kg	6.60 kg

10. Salient Research Achievements (example):

The LUVAS Murrah Centre has been making steady progress in meeting out the objectives of the Network Project which are reflected in the Annual Progress Report. Some of the salient findings:

i) Overall Wet average and Herd average were 9.4 kg and 6.6 kg, respectively.

ii) Overall 305d lactation milk yield and total lactation milk were reported 2957 kg and 3059 kg, respectively.

iii) Service period and calving interval during the period was observed 144 days and 454 days, respectively.

iv) During the period 1st April, 2022 to 31st March 2023, overall mortality rate was 1.96%.

11. Publications

12. Socioeconomic impact / Success stories:

- Propagated superior Murrah bulls to Village Gram Panchayats, Govt. organizations and progressive farmers.
- Imparted Skill development training on Dairy Farming to ninety beneficiaries under SCSP.
- Exposure visit of farmers by Director of Extension Education, LUVAS and other agencies at regular interval.

13. Constraints if any

Financial assistance may be provided to improve the existing facilities in the buffalo farm such as:

- Improving the Micro Climate of Milking Parlour.
- Modification of old sheds and working yard.
- Budgetary allocation for procurement of farm machinery like tractor, TMR, Chaff cutter etc.

14. Focus of work in the coming year: Improving the performance of herd and as per the guidelines of Network Project on Buffalo (Murrah) improvement**.**

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022 -23		Released ICAR Share as per R E	Detail as per PUC 2022-23	
Total	ICAR Share		Expenditure (ICAR Share)	Balance (ICAR Share)
45.00	33.00+1.00*	34.00*	34.00*	0.00

* Includes 1.00 lakhs for SCSP

Herd Performance

Herd strength at the centre was 387 heads with 187 breedable buffaloes (>2 year). A total of 104 calves were added due to birth. During the period of report calf mortality (0-3 months) was 3.20 % as compared to 5.22 % in 2021-22. Conception rate was improved to 48.26 % in 2022-23 as compared to 45.00 % in 2021-22.

Average lactation yield increased from 2902 kg (101) in 2021-22 to 3059 kg (92) in 2022-23. Similarly, 305 or less day average milk yield also increased from 2793 (101) to 2957 kg (92). The lactation length 317 days (92). The age at first calving reduced from 46.5 months (33) in last year to 44.8 months (40) in 2022-23, However other reproductive traits viz., dry period, service period and calving interval were increased during the period to 133 days (64), 145 days (64) and 454 days (64), respectively. Wet and herd averages showed marginal improvement to 9.40 and 6.60 kg/d, respectively. The corresponding figures were 9.25 and 6.50 kg/d in last year. During the report period 69.20 percent animals were in milk as compared to 68.82 percent in 2021-22.

Accomplishment and Targets Achieved:

Sr. No.	Trait	Target Fixed	2018-19	2019-20	2020-21	2021-22	2022-23
1	Av. Age at first Ist. Calving (months)	40.0	42.5±0.83 (21)	43.5±0.49 (22)	43.1±0.8 (27)	46.5±0.8 (33)	44.8±0.9 (40)
2	Av. Service Period. (days)	130	145±10.7 (60)	123±7.5 (64)	127±9.2 (67)	118±12.1 (68)	144.8±8.7 (64)
3	Calf Mortality (0-3 months)	≤ 3 %	5.50 %	4.72 %	1.85 %	5.22 %	3.20 %
4	Wet Average (kg)	≥ 8.5 kg	11.0 Kg	10.4 kg	9.6 kg	9.25 kg	9.40 kg
5	Herd Average (kg)	≥ 5.5 kg	8.0 Kg	7.7 kg	6.3 kg	6.50 kg	6.60 kg

Recommendations:

- Production performance of the LUVAS herd needs to be maintained.
- Emphasis should be given on reproduction to improve service period and AFC.

ICAR RESEARCH COMPLEX FOR EASTERN REGION, PATNA (BIHAR)

Report Period 2022-23

1. **Name of centre** : ICAR Research Complex Eastern Region Patna
2. **Project Code**
3. **Project Title** : Network Project on Murrah Buffaloes
4. **Date of Start** : July 2014
5. **Objectives** :

   Performance recording and improvement of Murrah buffaloes and evaluate sires through institutional / associated herd/field progeny testing, produce, test, propagate and conserve high genetic merit male germplasm

6. **Technical Programme:**
   - Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 500 and 300 breedable females (Murrah).
   - Selection and testing of minimum 15 bulls of Murrah / 4-6 bulls for other breeds in every 18 / 24 months cycle.
   - Production of minimum 10,000 (Murrah) and 3000 to 5000 (Other breeds) frozen semen doses from each test bull.
   - Maintain a minimum number of 8000 (Murrah) and 2000 (other breeds) frozen semen doses until the particular SET gets evaluated.
   - Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
   - Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
   - Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield, Milk yield per day of herd life (total milk produced from date of birth till completion of 4th or more lactation). New Table
   - Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds.
   - Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
   - Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. **Staff associated with the project:**

Discipline	Name of Scientist / Staff	Status PI/Co-PI/ Associated)
AGB	Dr PC Chandran, Sr. Sci. Dr Rakesh Kumar, Sci.	Principal Investigator Co- Principal Investigator
Veterinary Medicine	Dr Pankaj Kumar, Sr. Sci.	Co- Principal Investigator
ARGO	Dr Chandra Sekar Azad, Asst. Professor	Co- Principal Investigator
Vety. Surgery	Dr RK Tiwari, Asst. Prof.	Co- Principal Investigator
Veterinary Pathology	Dr PK Ray, Sr. Sci.	Co- Principal Investigator
Contractual staff (RA / SRF / YP-I, YP-II)	Nil	

8. Financial Statement : Head wise budget allocation and utilization; revenue receipts

Fund utilization in Network Project for 2022-23 (Amount in Lakhs)											
Heads	**Capital**						**Salary**	**General**			
	Works	**Equip.**	**Library**	**Livestock**	**Furniture**	**Others**		**TA**	**HRD**	**Contingency**	**Total**
Fund released	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	15.00
Fund utilized	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.91	0.09

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	**Addition**			**Disposal**				**CB**
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	**CB**
	Female								
1.	Below 3 months	5	17	-	1	18	-	-	3
2.	3-12 months	5		18		5			18
3.	1-2 years Above 2 years	10 13		5 10		10 5			5 18
4.	Buffaloes in Milk	22		17	2	11			26
5.	Buffaloes Dry P /NP	26		11		12	10		15
	Sub Total	81	17	61	3	61	10		85
	Males								
1.	Below 3 months	5	14		2	15			2
2.	3-12 months	5		15		12	5		3
3.	1-2 years Above 2 years	8 2		12 8		8	10 9		2 1
4.	Breeding bulls								
5.	Bullocks / Teasers	1							1
	Sub Total	21	14	35	2	35	24		9
	Grand Total	102	31	96	5	96	34		94

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March

9.2 Calving Statistics including abnormalities

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April, 2022	1	0						1
May	1	1						2
June	3	4					3	7
July	2	5						7
August	1	1						2
September	0	0						0
October	2	0						2
November	2	1						3
December	0	0		1				0
January, 2023	2	2		1				4
February	0	1		1				1
March	0	2						2
Overall	**14**	**17**		**3**			**3**	**31**

Sex ratio Male : Female (1:1.2)

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 23

Female	Primary cause of disposal							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves								
0 to 3 months	-	-	-	-	-	-	-	-
3-12 months	-	-	-	-	-	-	-	-
Heifers								
1-2 years	-	-	-	-	-	-	-	-
> 2 years	-	-	-	-	-	-	-	-
Buffaloes								
Milch	10	-	-	-	-	-	-	10
Dry	-	-	-	-	-	-	-	-
Sub Total	10	-	-	-	-	-	-	10
Males	**Primary cause of disposal**							
Calves								
0 to 3 months	-	-	-	-	-	-	-	-
3-12 months	5	-	-	-	-	-	-	5
1 to 2 year	10	-	-	-	-	-	-	10
. >2 year	9	-	-	-	-	-	-	9
Breeding bulls	-	-	-	-	-	-	-	-
Bullock+Teaser +Others	-	-	-	-	-	-	-	-
Sub Total	24	-	-	-	-	-	-	24
Grand Total	34	-	-	-	-	-	-	34

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Female							Male					Overall Herd
	0-3 Month	3-12 Month	1-2 Yrs.	Above 2 Yrs.	Milk + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs.	>2 yrs.	Overall Male	
No.	17	18	5	18	41	99	14	3	2	2	21	94
Died	1	0	0	0	2	3	2	0	0	0	2	05
%	5.88	0.00	0.00	0.00	4.88	3.03	14.29	0.00	0.00	0.00	9.52	5.32

Calf mortality (0 to 3 months) = 7.32 % (3/41)

9.5. Causes of Mortality (quarter wise) during the period April 2022 to March 2023

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	Total
Enteritis	1	-	-	-	1
Pneumonitis	1				1
Septicaemia/ Toxaemia	-	-	-	-	-
Peritonitis	-	-	-	-	-
JD/TB	-	-	-	-	-
Milk Fever / metabolic disorders	-	-	-	-	-
TRP / TP	-	-	-	-	-
Parasitism	-	1	-	-	1
Accidental death	-	-	-	-	-
Peri-parturient disorders	-	-	2	-	2
Misc. (Snake bite)	-	-	-	-	-
Total	2	1	2	-	5

9.6 Prophylactic Measures undertaken

Disease	**Vaccination Date / No. of animals**	**No. of animals** Tested / Positive		**Dates and No. of animals treated for Parasitism**
FMD	24.02.2023	-	-	Calves are dewormed once in two months; And the adult animals are dewormed once in 6 months
HS	25.03.2023	-	-	
BQ		-	-	
Brucellosis	-	-	-	
JD	-	-	-	
TB	-	-	-	
IBR	-	-	-	

9.7. Female Conception Rate during the Period January to December 2022

AI No.→	1st			2ND			3RD			4TH & above			Over all		
Parity↓	AIs	C	CR %	AIs	C	CR %	AIs	C	CR%	AIs	C	CR %	AIs	C	CR %
Heifers	05	02	40.0	02	01	50.0	01	01	100.0	0	0	0	08	04	50.0
Adults	15	07	46.7	19	11	57.9	03	02	66.7	04	2	50.0	41	22	53.7
Overall	20	09	45.0	21	12	57.1	04	03	75.0	04	2	50.0	49	26	53.1

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8 Quarter-wise conception rate

Quarter	No. of A I	Preg. animals	CR %
January – March Previous year	04	01	25.0
April – June	12	06	50.0
July – September	17	10	58.8
October- December	16	09	56.3
Overall	49	26	53.1

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. No.	Bull No.	SET No.	Total Number of AI	Total Conceived	CR%
1	19	XX	3	2	66.7
2	1454	XX	3	1	33.3
3	2793	XX	3	2	66.7
4	2814	XX	3	2	66.7
5	2831	XX	4	2	50.0
6	2838	XX	3	1	33.3
7	2848	XX	3	2	66.7
8	2850	XX	3	1	33.3
9	3004	XX	4	2	50.0
10	5427	XX	4	2	50.0
11	5481	XX	2	1	50.0
12	5500	XX	3	2	66.7
13	5588	XX	4	2	50.0
13	7584	XX	5	3	60.0
14	7649	XX	2	1	50.0
Overall			**49**	**26**	**53.1**
No. of services per conception					**1.88**

9.10 Bull Wise Semen Stock

Sr. No	Set No	Bull No	OB	Doses produced / received	Doses used /disseminated			Balance
					Supply	Sold	Exp.	
1.	XX	5427	50	25	14	--	16	45
2.	XX	5481	50	--	8	--	19	23
3	XX	5588	50	--	15	--	14	21
4	XX	1454	50	--	12	--	25	13
5	XX	7584	50	25	18	--	24	33
6	XX	7649	50	--	10	--	20	20
7	XX	2793	50	--	12	--	27	11
8	XX	2814	50	--	11	--	19	20
9	XX	2831	50	25	14	--	32	29
10	XX	2848	50	--	10	--	28	12
11	XX	2850	50	--	10	--	24	16
12	XX	3004	50	25	14	--	27	34
13	XX	2838	--	50	12	--	22	16
14	XX	5500	--	50	10	--	18	22
15	XX	19	--	50	8	--	20	22
Grand Total			**600**	**250**	**178**		**335**	**337**

9.11.1 Average body weight (kg) since inception (Indicate number of animals in parenthesis):

Body weight was not taken as the balance is under repairing.

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	1	1979.88	359	1737.78	10.5
2nd	8	2776.84±128.87	371.50±24.60	2428.35±90.38	14.73±1.78
3rd	6	2804.92±305.71	378.50±11.15	2348.33±142.35	15.12±2.18
4th	1	2100.12	302	2100.12	12.0
5th & above	3	2653.16±340.22	357.02±16.26	2582.23±290.06	13.60±1.81
Overall	**19**	**2688.62±134.72**	**374.47±12.77**	**2373.76±88.54**	**14.31±1.52**

9.12.1 Average production performance of Buffaloes Since Inception of Network

Year	Lact. Length (days)	TLMY (kg)	SLMY (kg)	Peak yield (kg)
2014-15	421.21±8.56 (13)	2176.98±89.23 (13)	1827.22±46.22 (13)	9.72±0.32 (13)
2015-16	329.04±6.35 (18)	2018.9±60.35 (18)	1865.6±36.75 (18)	9.06±0.28 (18)
2016-17	351.80±10.65 (19)	1932.25±18.12 (19)	1736.04±21.48 (19)	9.27±0.28 (19)
2017-18	405.42±35.15 (12)	2404.76±203.77 (12)	1996.65±122.6 (12)	12.34±0.48 (12)
2018-19	370.27±23.5 (16)	2356.17±147.22 (16)	1984.85±135.23 (16)	13.08±0.38 (16)
2019-20	329.38±12.15 (20)	2127.44±18.50 (20)	2088.45±19.16 (20)	12.75±2.11 (20)
2020-21	336.31±18.19 (31)	2166.04±89.10 (31)	1824.42±63.04 (31)	9.93±0.43 (31)
2021-22	335.01±21.16 (25)	2135.44±89.10 (25)	1944.40±78.37 (25)	10.21±0.43 (25)
2022-23	**374.47±12.77 (19)**	**2688.62±134.72 (19)**	**2373.76±88.54 (19)**	**14.31±1.52 (19)**

9.13 Average Milk Composition from April 2022 to March 2023

Month	N	Fat	SNF	Protein	Lactose	SCC
April	40	7.32	8.89			
May	40	7.57	9.08			
June	40	7.18	9.22			
July	20	7.27	9.26			
August	20	7.34	9.17			
September	20	7.31	9.04			
October	20	7.56	8.93			
November	20	7.55	8.94			
December	20	7.42	9.07			
January	20	7.31	9.11			
February	20	7.40	9.14			
March	20	7.51	9.22			
Overall	**300**	**7.39**	**9.09**			

9.14: Reproductive Performance

Lactation / Parity	AFC (Months)	N →	SP (Days)	DP (Days)	CI (Days)
1	54.00	1	-	-	-
2		9	136.85±17.11	105.57±21.87	441.66±24.16
3		8	121.36±12.53	116.33±21.58	430.44±21.58
4		2	140.11±28.67	120.44±27.46	435.18±30.34
5^{th} and above		5	134.85±17.16	119.36±16.18	443.17±28.55
Over all	54.00	25	131.54±14.63	114.02±20.92	437.69±24.37

9.14.1 Reproduction Performance Since inception of Network

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2014-15		146.3±8.98 (9)	124.9±5.91 (9)	569.4±14.54 (9)
2015-16		139.86±4.76 (12)	94.17±1.70 (12)	424.90±1.42 (12)
2016-17		183.1±6.25 (14)	122.2±3.13 (14)	481.2±6.56 (14)
2017-18		195.3±8.21 (12)	110.4±6.58 (12)	515.2±7.12 (12)
2018-19		157.22±9.28 (18)	92.25±10.47 (18)	463.12±22.17 (18)
2019-20		130.92±12.55 (20)	91.97±13.22 (20)	425.91±40.62 (20)
2020-21	48.34±5.26 (3)	130.45±11.47 (31)	99.90±12.62 (31)	467.82±23.74 (31)
2021-22	51.35±12.44 (3)	123.31±12.44 (25)	110.55±16.15 (25)	445.59±24.18 (25)
2022-23	54.00 (1)	131.54±14.63 (25)	114.02±20.92 (25)	437.69±24.37 (25)

9.15 Milk Production and Disposal

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk sold	Calf feeding	Expt.
April 2022	4328	3670	654	4
May	4487	3794	689	4
June	4162	3568	590	4
July	4585	3947	634	4
August	6173	5184	985	4
September	6044	5080	960	4
October	5496	4707	785	4
November	6056	5160	892	4
December	6599	5567	1028	4
January 2023	6130	5180	946	4
February	5595	4811	780	4
March	6339	5360	975	4
Total	65994	56028	9918	48

9.16 Feed and fodder (Quintals) availability

Months	Green fodder produced at Farm	Green fodder Purchased	Total
April 2022	285.4	-	285.4
May	297.1	-	297.1
June	348.4	-	348.4
July	364.3	-	364.3
August	455.2	-	455.2
September	586.8	-	586.8
October	551.0	-	551.0
November	351.5	-	351.5
December	250.8	-	250.8
January 2023	262.7	-	262.7
February	284.2	-	284.2
March	351.3	-	351.3
Total Green	4388.7	-	4388.7
Silage	-	-	-
Dry	750	1050	1800
Concentrate	-	1122	1122

9.17: Milk performance during April 22 to March 23

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 22	21	27	48	43.75	6.87	3.01
May	20	28	48	41.67	7.48	3.12
June	23	26	49	46.94	6.03	2.83
July	28	23	51	54.90	5.46	3.00
August	29	23	52	55.77	7.10	3.96
September	29	23	52	55.77	6.95	3.87
October	29	21	50	58.00	6.32	3.66
November	30	20	50	60.00	6.73	4.04
December	28	22	50	56.00	7.86	4.40
January 23	30	20	50	60.00	6.81	4.09
February	28	17	45	62.22	6.66	4.14
March	30	15	45	66.67	7.04	4.70
overall	27.08	22.08	49.17	55.08	6.77	3.73

9.17.1 Milking performance since inception

Year	No. of Animals in Milk	No. of Animals dry	Total Animals	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2014-15	8.17	10.83	19	42.98	3.98	1.71
2015-16	13.5	11.0	61	51.83	7.45	3.91
2016-17	19.1	9.4	68.1	66.1	6.39	4.51
2017-18	16.92	8.42	77.8	68.37	4.30	2.93
2018-19	14.75	10.67	25.33	58.01	4.85	3.08
2019-20	27.42	16.5	43.92	52.12	5.12	3.25
2020-21	27.25	19.17	46.41	58.75	4.42	2.58
2021-22	26.42	21.08	47.50	55.46	5.44	3.02
2022-23	27.08	22.08	49.17	55.08	6.77	3.73

9.18: Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
B-851	XIII	2	2	2
4324	XIV	3	3	3
4328	XIV	1	1	1
4354	XIV	2	2	2
4363	XIV	1	1	1
4438	XIV	3	3	3
2565	XV	1	1	1
2594	XV	1	1	1
2607	XV	2	2	2
4733	XV	1	1	1
M51	XV	2	2	2
4705	XVI	2	2	1
4889	XVI	1	1	
2467	XVI	2	2	
4905	XVIII	1		
1150	XVIII	2		
1209	XVIII	3		
1219	XVIII	2		
4995	XVIII	2		
1315	XIX	2		
5320	XIX	2		
5310	XIX	2		
2759	XIX	1		
2737	XIX	2		
2674	XIX	1		
5181	XIX	1		
5232	XIX	1		
5246	XIX	1		
7604	XIX	1		
5427	XX	1		
7584	XX	1		
2831	XX	1		

9.19 Bull wise daughters completing 1ST lactation

Bull No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
B-851	40	20.03.2015	07.01.2020	55	368	2045	1745
4438	78	10.05.2016	07.07.2019	33	399	1527	1316
4328	81	09.07.2016	26.10.2020	51	340	1639	1350
B-851	42	15.05.2015	16.11.2020	65	278	1524	1524
4438	48	15.01.2016	16.11.2020	57	325	1730	1685
4324	75	16.03.2016	15.03.2019	33	251	1440	1440
4324	87	09.09.2016	16.12.2020	51	323	1668	1598
4354	86	26.08.2016	23.01.2021	52	291	1526	1526
4705	102	15.10.2017	21.06.2022	57	295	1733	1733
4889	98	03.05.2017	10.02.2022	58	448	2727	2126
2467	115	08.01.2018	09.07.2022	55	313	2076	2047

9.20 Breeding bulls Selected for current set : Nil

9.20.1 PT Bulls for nominated mating : Nil

9.20.2 List of Future breeding bulls : Nil

9.21 Target achieved during the year

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	-	-	48.34±5.26 (3)	51.35±12.44 (3)	54.00 (1)
Av. Service period (days)	130	157±9.28 (18)	131±12.55 (20)	130±11.47 (31)	123±12.44 (25)	132±14.63 (25)
Calf mortality (0-3 months)	≤ 3 %	45.45%	2.77%	0.0	4.16 %	7.32%
Wet average (kg)	≥8.5 kg	4.85	5.12	4.42	5.44	6.77
Herd average (kg)	≥5.5 kg	3.08	3.25	2.58	3.02	3.73

Publications

Kumari, R, Dayal, S., Raman, R.K., Chandran, P.C., Kumar, S., Ray, P.K., Kamal, R.K., Kumar, J., Dey, A., Sarma, K. and Kumar, U. (2022). Expression dynamics of ISGs and chemokines in maternal whole blood as an indicator of healthy embryonic implantation in buffalo. Indian Journal of Animal Sciences, 92 (10): 1165-1169.

Chandran, P.C., Dey, A., Barari, S.K. and Kamal, R. (2023). Scenario and strategies for sustainable buffalo production in Eastern region of India. Buffalo Bulletin. 42: 1-9.

Socioeconomic impact / Success stories:

During the year 2022-23, a total of 30 farmers were imparted training on 'Small interventions to improve livestock productivity vis-à-vis to enhance the income of small and marginal farmers' under SCSP funds of NPBI funded by ICAR-Central Institute for Research on Buffaloes, Hisar, Haryana.

The participating farmers were trained on scientific techniques for productivity enhancement in different livestock species including buffaloes. Apart from theoretical information, farmers were given training on clean milk production, deworming and certain first aid techniques.

Apart from direct training, the farmer beneficiaries were also offered concentrated cattle feed, Napier root slips in order to improve and sustain the productivity.

Constraints if any : Shortage of land for farming and fodder cultivation.

Focus of work in the coming year : Continue focus on reproduction performances of buffaloes.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2021-22		Released ICAR Share as per R E	Expenditure as per AUC		Balance (ICAR Share)
Total	ICAR Share		ICAR Share	State Share	
15.00*	14.00+1.00*	15.00*	14.90707	--	+ 0.09293

* Includes Rs. 1.00 lakhs for SCSP

Herd Performance

The herd strength of farm was 94 head as on March 23, comprising 59 breedable buffaloes. 31 calves added due to birth during the year. The calf mortality (0-3 months) was remained 7.32% as compared to 4.16% in 2021-22. The Conception rate improved to 53.1 percent in 2022-23 as compared to 48.30 percent during the year 2021-22.

Average TLMY, SLMY and Peak yield were significantly improved to 2689 kg (19), 2374 kg (19) and 14.31 kg (19), respectively during the year 2022-23 from 2135 kg (25), 1944 kg (25) and 10.21 kg (25), respectively in 2021-22. The average lactation length was 374 days during the year. The wet average (6.77 kg/d) and herd average (3.73 kg/d) also improved to a great extent as compared to 5.44 kg/d and 3.02 kg/d, respectively in previous year. The service period, dry period and calving interval were 132 days (25), 114 days (25) and 438 days (25) during the period. The AFC was very high at 54 months

A. Accomplishment and Targets Achieved:

Trait	**Target**	2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23**
Av. Age at first calving (months)	40	-	-	48.34±5.26 (3)	51.35±12.44 (3)	54.00 (1)
Av. Service period (days)	130	157±9.28 (18)	131±12.55 (20)	130±11.47 (31)	123±12.44 (25)	132±14.63 (25)
Calf mortality (0-3 months)	≤ 3 %	45.45%	2.77%	0.0	4.16 %	7.32%
Wet average (kg)	≥8.5 kg	4.85	5.12	4.42	5.44	6.77
Herd average (kg)	≥5.5 kg	3.08	3.25	2.58	3.02	3.73

Recommendations:

- The AFC is continuously increasing from 48.34 months in 2020-21 to 54 months in 2022-23, require special attention.
- Breedable buffalo population required to increase as revised target of 100.

ICAR-CIRB SUB CAMPUS, NABHA

1. **Name of the center** : Central Institute for Research on Buffaloes, Sub campus, Nabha
2. **Project Code** : 18-3/97 ASR-II Dated 29/03/2001
3. **Project title** : Network project on improvement of Nili-Ravi buffaloes
4. **Date of Start** : 11/10/ 2001

5. Objectives: The objective of the project is to envisage and undertake progeny testing for improvement of Nili-Ravi breed of buffaloes. Priority and emphasis will be on performance recording and improvement of the breed and on semen quality testing laboratory.

6. Technical Programme: As approved for the Network programme.

7. **Staff position**: Redeployment

8. **Herd Performance**: Presented in table 9.1 to 9.21

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition							CB
		OB	**B/P**	**P**	**T**	**D**	**T**	**S**	**CB**
Female									
1.	Below 3 months	19	60	-	-	03	64	01	11
2.	3-12 months	50	-	-	137	01	141	01	44
3.	1-2 years	64	-	-	68	01	63	-	68
	Above 2 years	96	-	-	182	-	170	12	96
4.	Buffaloes in Milk	119	-	-	136	03	125	21	106
5.	Buffaloes Dry P /NP	36	-	-	125	02	85	36	38
	Sub Total	**384**	**60**	**-**	**648**	**10**	**648**	**71**	**363**
Male									
1.	Below 3 months	17	75	-	-	03	71	05	13
2.	3-12 months	44	-	-	133	-	120	10	47
3.	1-2 years	14	-	-	58	-	18	34	20
	Above 2 years	22	-	-	14	-	08	09	19
4.	Breeding bulls	04	-		08	-	--	04	08
5.	Bullocks/Teasers / others	01	-	-	-	-	-	-	01
	Sub Total	**102**	**75**	**-**	**213**	**03**	**217**	**62**	**108**
	Grand Total	**486**	**135**		**861**	**13**	**865**	**133**	**471**

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March 2023

9.2 Calving Statistics including abnormalities

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 22	03	03	-	-	-	-	-	06
May	01	0	-	04	-	-	-	01
June	0	01	-	02	-	-	-	01
July	02	01	-	03	-	-	-	03
August	10	15	-	02	-	-	-	25
September	12	12	-	-	-	-	-	24
October	11	04	-	-	-	-	-	15
November	16	07	-	-	-	-	-	23
December	06	03	-	-	-	-	-	09
January 2023	06	07	-	-	-	-	-	13
February	02	03	-	-	-	-	-	05
March	06	04	-	-	-	-	-	10
Overall	**75**	**60**	**-**	**11**	**-**	**-**	**-**	**135**

Sex ratio Male: Female (75: 60)

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 23

Female	Primary cause of disposal							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Exp. purposes	Total
Calves								
0 to 3 months	01	-	-	-	-	03	-	04
3-12 months	01	-	-	-	-	01	-	02
Heifers								
1-2 years	-	-	-	-	-	01	-	01
> 2 years	12	-	-	-	-	-	-	12
Buffaloes Milch/ Dry	57	-	-	-	-	05	-	62
Sub Total	**71**	-	-	-	-	**10**	-	**81**
Males	**Primary cause of disposal**							
Calves								
0 to 3 months	05	-	-	-	-	03	-	08
3-12 months	10	-	-	-	-	-	-	10
1 to 2 year	34	-	-	-	-		-	34
. >2 year	09	-	-	-	-		-	09
Breeding bulls	04	-	-	-	-		-	04
Bullock+Teaser+Others	-	-	-	-	-		-	-
Sub Total	**62**	-	-	-	-	**03**	-	**65**
Grand Total	**133**	-	-	-	-	**13**	-	**146**

9.4. Mortality during the Period 1st April 22 to 31st March, 2023

	Female						Male					Overall Herd
	0-3 Month	3-12 Month	1-2 Yrs.	Above 2 Yrs.	Milk + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs.	>2 yrs.	Overall Male	
No.	79	187	132	278	144	444	92	177	72	49	177	621
Died	03	01	01	-	05	10	03	-	-	-	03	13
%	3.80	0.53	0.76	-	3.47	2.25	3.26	-	-	-	1.69	2.09

Note: calf mortality 3.50% (6/171)

9.5. Causes of Mortality (quarter wise) during the period April 2022 to March 23

Particulars	*1st quarter*	*2nd quarter*	*3rd quarter*	*4th quarter*
A. Respiratory System				
1. Broncho-pneumonia	-	-	-	-
2. Acute Resp. failure	-	-	-	-
3. Pheumo-Enteritis	-	-	-	-
B. Digestive system	-	01	-	-
1. Enteritis	-	-	-	-
2. Gastritis	-	-	-	-
3. Impaction	-	-	-	-
4. Peritonitis		01		
5. Hepatitis	-	-	-	-
6. Tympanitis	-	01	-	-
C. Cardio-vascular System	-	01	-	-
D. Urogenital System	-	-	-	-
1. Pyelonephritis	-	-	-	-

E. Others				
1. Premature birth	-	01	-	-
2. Congenital abnormality	01	-	-	-
3. Joint-ill/ Naval ill	-	01	01	-
4. Euthanasia	-	-	-	-
5. Accident	01	-	-	-
6.Neurological disorder	-	01	-	02
7.Tetanus	-	-	-	-
8.Snake bite	-	-	-	-
9.Babesiosis/Anaplasma	-	01	-	-
10.Echinococcus	-	-	-	-
11.Miscellaneous & Others	-	-	-	-
Total	**02**	**08**	**01**	**02**

9.6 Prophylactic Measures undertaken 2022-2023

Vaccination	*No. of animals*		*Screening*	*No of animals*		*No of animals treated for Parasitism*
	Available	*Inoculated*		*Tested*	*Results*	
FMD	926[$]	926[$]	TB *	18	0 +ve	95 calves dewormed
HS	926	926	JD*	18	0 +ve	
BQ			Brucellosis**	29	0 +ve	
RP			Mastitis***	42	12 +ve	
Brucellosis	74	74	Campylobacteriois #	18	0 +ve	
LSD	470	400				

[$]Vaccination done twice in the year; * Based on Intradermal Tuberculin PPD/Johnin PPD
** Based on RBPT/SAT; ***Based on CMT; #Based on report provided by NRDDL, Jalandhar

9.7. Female Conception Rate During the Period January to December 2022

AI No.→	1st			2nd			3rd			4th & above			Over all		
Parity↓	AIs	C	CR%	AIs	C	CR%	AIs	C	CR%	AIs	C	CR %	AIs	C	CR%
Heifers	47	21	44.68	35	15	42.86	16	6	37.50	31	9	25.81	129	50	38.76
Adults	129	56	43.41	76	33	43.42	34	13	38.24	33	15	45.45	272	117	43.01
Overall	176	77	43.75	111	47	43.24	50	19	38.00	64	24	37.50	401	167	41.65

AIs = No. of animals inseminated; C = No. of animals conceived; CR % = Conception rate per cent

9.8 Month wise conception rate during the period January to December 2022

Month.	Total AI	Total Conceived	CR%
Jan, 22	50	23	46.64
Feb	24	10	41.66
Mar	41	14	34.15
Apr	34	10	29.41
May	31	10	32.26
June	22	7	31.82
July	8	4	50.00
Aug	16	9	56.25
Sep	31	13	41.94
Oct	43	19	44.19
Nov	54	24	44.44
Dec, 22	47	24	51.06
TOTAL	**401**	**167**	**41.65**

9.8.1: Quarter-wise conception rate

Quarter	No. of AI	Pregnant animals	CR %
January – March (Previous year)	115	47	40.87
April - June	87	27	31.03
July - September	55	26	47.27
October- December	144	67	46.53
Overall	**401**	**167**	**41.65**

9.9. Bull-wise Conception Rate During the period January to December, 22

Sr. No.	Bull No.	SET No.	Total Number of AI	Total Conceived	CR%
1	03	5th	09	2	22.22
2	27	5th	95	42	44.21
3	551	9th	12	05	35.71
4	561	9th	133	58	43.61
5	556	9th	07	01	14.29
6	705	9th	19	09	47.31
7	710	9th	91	40	43.96
8	579	9th	19	05	26.32
9	674	9th	16	06	31.25
			401	**167**	**41.65**

9.10 Bull Wise Semen Stock

Sr. No	Bull No.	Set No.	O.B.	Doses produced / received	Doses used /disseminated		Balance
					Consumption for AI/Testing	Sold.	
1	411	1st	545				545
2	464		552			50	502
3	473		642				642
4	479		619				619
5	523	2nd	634			100	534
6	524		1358				1358
7	525		458			45	413
8	535		813		10		803
9	562		894				894
10	577		1121			25	1096
11	596	3rd	800				800
12	674		1204				1204
13	702		883		10		873
14	716		1150				1150
15	719		996				996
16	771		566				566
17	791		1066				1066
18	802		946				946
19	806	4th	1450				1450
20	878		1960			60	1900
21	881		606			107	499
22	891		887			40	847
23	900		751				751
24	902		1031			195	836
25	905		1197			100	1097
26	916		1403		60		1343
27	930		1256			190	1066

28	941		1230				1230
29	991	5th	2074			30	2044
30	3		493		27		466
31	25		1815			200	1615
32	27		2457		230	134	2093
33	63		3500				3500
34	113		1741			60	1681
35	168	6th	538				538
36	181		919				919
37	245		2827				2827
38	252		526		6	10	510
39	254		2055		7	40	2008
40	298	7th	1909			60	1849
41	308		667				667
42	312		680				680
43	336		212				212
44	342		2800				2800
45	352		2047			94	1953
46	359		2359				2359
47	435	8th	1336				1336
48	480		1454		10	80	1364
49	487		9886		10	27	9849
50	501		2476			75	2401
51	507		3689			60	3629
52	511		1192				1192
53	516		3107			165	2942
54	543		5167			95	5072
55	551	9th	5535		40	225	5270
56	556		5193		40	216	4937
57	565		126				126
58	579		1482		47		1435
59	674		4206		19	342	3845
60	705		2421	30	40	230	2181
61	728	10th	1149	1197	26	49	2271
62	753		494	494			988
63	773		185	269		30	424
64	800		1891	1982	23	40	3810
65	852		1185	1284	21	20	2428
66	856		401	779	15	31	1134
67	782		60				60
68	865		65				65
Total			**109337**	**6035**	**641**	**3225**	111506

9.11 Average Body weight (kg) since inception: Information not available

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	Av. Lactation Yield(kg)	Av. Lactation length (days)	305-days yield (kg)	Av. Peak Yield (kg)
1st	46	2673±95.15	332±7.27	2528±74.07	12.63±0.36
2nd	18	2650±165.0	292±12.83	2587±156.62	15.42±0.89
3rd	16	2842±188.03	281±10.70	2825±185.82	16.16±0.87
4th	17	2665±132.77	295±11.37	2604±114.53	14.67±0.61
5th & above	16	2837±162.88	302±11.15	2762±139.48	15.23±0.78
Overall	**113**	**2715±61.21(113**	**309±4.85(113)**	**2624±53.92(113)**	**14.25±0.30**

9.12.1 Average production performance of Buffaloes Since Inception of Network

Year	Lact. Length (days)	TLMY (kg)	SLMY (kg)	Peak yield (kg)
1991-92	373 (68)	2017 (68)	1813 (68)	
1992-93	309 (105)	1974 (105)	1921 (105)	
1993-94	328 (70)	1776 (70)	1744 (70)	
1994-95	350 (77)	2043 (77)	1944 (77)	
1995-96	354 (70)	2049 (70)	1894 (70)	
1996-97	392 (81)	2092 (81)	1807 (81)	
1997-98	354 (67)	2126 (67)	2056 (67)	
1998-99	341 (97)	2153 (97)	2056 (97)	
1999-00	337 (99)	1968 (99)	1874 (99)	
2000-01	305 (89)	1890 (89)	1812 (89)	
2001-02	296 (86)	1926 (86)	1885 (86)	10.00.(86)
2002-03	293 (105)	2007 (105)	1941 (105)	10.49(105)
2003-04	307 (93)	1968 (93)	1895 (93)	10.49(93)
2004-05	315 (116)	1974 (116)	1848 (116)	8.00(116)
2005-06	306 (102)	2190 (102)	2090 (102)	10.0(102)
2006-07	304 (118)	1921 (118)	1795 (118)	9.0(118)
2007-08	302 (122)	1787 (122)	1629 (122)	9.10(122)
2008-09	289 (108)	2036 (108)	1929 (108)	9.94(108)
2009-10	302 (146)	1927 (146)	1822 (146)	9.40(146)
2010-11	292 (115)	2042 (115)	1972 (115)	10.54(115)
2011-12	279 (88)	2045 (88)	1998 (88)	10.60(88)
2012-13	264 (123)	2048 (123)	2017 (123)	11.14(123)
2013-14	285(109)	2297(109)	2241(109)	12.20(109)
2014-15	303(115)	2464(115)	2384(115)	12.38(115)
2015-16	305(110)	2564(110)	2471(110)	12.4(110)
2016-17	298(136)	2452(136)	2377(136)	12.3(136)
2017-18	282± 4.80 (110)	2363± 60.83 (110)	2321± 55.25 (110)	12.7± 0.28 (110)
2018-19	311± 5.18 (111)	2797± 63.94 (111)	2679± 52.63 (111)	13.7± 0.29 (111)
2019-20	304±4.68 (105)	2688±63.44 (105)	2597±54.68 (105)	13.38±0.26 (105)
2020-21	300±4.39 (114)	2647±61.43 (114)	2594±58.69 (114)	13.78±0.27 (114)
2021-22	294±4.62 (130)	2609.41±66.62(130)	2535.42±57.06 (130)	14.0±0.30 (130)
2022-23	**309±4.85 (113)**	**2715±61.21 (113**	**2624±53.92 (113)**	**14.25±0.30 (113)**

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

No. of Buff	HLF (days)	PLF (days)	MY/HLF	MY/PL	PD (days)	UPD (Days)
33	3413 (33)	2159 (33)	4.55 (33)	6.92 (33)	1565 (33)	593 (33)

HLF (Herd life) = Date of birth to date of completion of 4th or more lactation or date of disposal
PLF (Production life) = Date of first calving to date of completion of 4th or more lactation
PD (Productive days) = Total days in milk completion of 4th or more lactation;
UPD (Unproductive days) = Production life – Productive days
MY/HLF = Milk yield per days of herd life; **MY/PL** = Milk yield days of production life

9.13 Average Milk Composition from April 2022 to March 2023

Month	N	% Fat	Solid not fat	Protein	Lactose	Total Solids
April 22	117	7.38	9.79	3.7	5.47	17.17
May	111	7.7	9.66	3.7	5.43	17.36
June	98	7.95	9.55	3.63	5.38	17.50
July	87	7.94	9.54	3.3	5.37	17.48
August	85	7.5	9.77	3.7	5.47	17.27
September	105	8.13	9.41	3.55	5.32	17.54
October	108	7.4	9.77	3.68	5.4	17.17
November	111	7.4	9.99	3.7	5.5	17.39
December	113	7.3	9.9	3.7	5.5	17.20
January 2023	113	7.39	10.08	3.69	5.58	17.47
February	115	7.5	9.9	3.6	5.4	17.40
March	105	7.6	9.8	3.7	5.5	17.40
Overall	**106**	**7.6**	**9.76**	**3.7**	**5.44**	**17.36**

9.14: Reproductive Performance 2022-23

Lactation / Parity	AFC (Months) (N)	N →	Service period (Days)	Dry period (Days)	Calving interval (Days)
1	43.54±0.51 (51)				
2		34	164±15.57	169±12.07	470±15.38
3		11	134±25.40	157±23.33	440±24.88
4		18	114±13.77	138±14.73	421±14.85
5th and above		23	105±15.34	133±13.03	413±15.06
Over all		**86**	**134±8.95**	**151±7.30**	**441±8.83**

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (days)	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
1988-89	1273±44 (27)	41.88	205±14.0 (69)	211 (76)	518±16.0 (72)
1989-90	1301±35 (16)	42.80	186±29.0 (58)	177 (58)	511±36.0 (58)
1990-91	1297±40 (20)	42.66	276±22.0 (56)	197 (56)	517±25.0 (56)
1991-92	1411±24 (39)	37.53	312±24.0 (58)	243 (58)	622±25.0 (58)
1992-93	1438±37 (28)	47.30	207±17.0 (68)	180 (67)	490±16.0 (67)
1993-94	1356±39 (28)	44.60	211±22.0(58)	176 (58)	513±22.0 (58)
1994-95	1476±31 (29)	48.55	232±21.0 (63)	207 (63)	527±19.0 (63)
1995-96	1529±48 (24)	50.29	243±20.0 (52)	199 (52)	539±19.0 (52)
1996-97	1371±30 (31)	45.10	260±14.0 (69)	176 (89)	561±15.0 (69)
1997-98	1262±23 (32)	41.51	246±51.0 (60)	183 (60)	550±53.0 (59)
1998-99	1230±35 (26)	40.46	170±29.0 (89)	150 (89)	481±30.0 (89)
1999-00	1197±16 (22)	39.38	134±09.0 (91)	134 (91)	467±10.0 (91)
2000-01	1213±14 (45)	39.90	143±10.0 (80)	131 (80)	443±11.0 (80)
2001-02	1266±18 (31)	41.64	137±09.0 (83)	133 (83)	445±09.0 (83)
2002-03	1277±19 (58)	42.00	132±08.0 (90)	132 (90)	440±08.0 (90)
2003-04	1266±17 (59)	41.64	138±09.0 (78)	136 (78)	443±09.0 (78)
2004-05	1306±28 (39)	42.96	155±10.1(89)	146 (89)	463±10.2 (89)
2005-06	1294±27 (58)	42.57	167±10.9 (72)	157 (72)	474±10.6 (72)
2006-07	1214±29 (57)	39.93	165±14.7 (58)	160 (58)	478±14.3 (58)
2007-08	1241±22 (43)	40.82	165±11.2 (74)	150 (74)	458±11.1 (74)
2008-09	1206±18 (69)	39.67	172±11.8 (70)	172 (70)	489±16.3 (70)

2009-10	1249±24 (52)	41.09	170±14.0 (76)	163 (76)	478±14.1 (76)
2010-11	1250±19 (47)	41.12	191±13.7 (71)	170 (71)	500±13.7 (71)
2011-12	1207±18 (43)	39.70	136±20.2 (48)	150 (48)	464±23.0 (48)
2012-13	1205±18 (52)	39.64	126±10.8 (75)	151 (75)	436±10.9 (75)
2013-14	1210±25 (42)	39.80	127±10.6 (67)	159 (67)	447±8.53 (97)
2014-15	1213±20 (36)	39.90	112±7.89 (88)	138 (88)	420±8.09 (88)
2015-16	1217±19 (56)	40.03	145.3±9.20 (88)	150 (88)	453.3±9.20 (88)
2016-17	1260±19 (28)	41.45	140.4±7.00 (118)	147 (118)	448±7.07 (118)
2017-18	1248±17 (49)	41.05±0.56	135±8.46 (95)	157± 5.56 (95)	444±8.44 (95)
2018-19	1235±19 (55)	40.61±0.63	129±8.55 ((77)	148± 5.93 (77)	438±8.54 (77)
2019-20	1270±13.93 (42)	41.78±0.78	157±7.27 (94)	157±15.27(94)	466±7.29 (94)
2020-21	1357±16.34 (39)	44.66±0.54 (39)	136±7.1 (106)	144±5.85 (106)	444±7.25 (106)
2021-22	1325±13.00 (51)	43.62±0.42 (51)	116±7.26 (85)	130±6.42 (85)	419±7.30 (85)
2022-23	**1324±15.54 (51)**	**43.54±0.51 (51)**	**134±8.95 (86)**	**151±7.30 (86)**	**441±8.83 (86)**

9.15 Milk Production and Disposal durin 2022-23

Month	**Total milk produced (kg)**	**Disposal (Kg)**		
		Milk sold	**Calf feeding**	**Expt.**
April 22	30465.30	25863.50	3700.46	14.0
May	27206.90	23091.50	3319.47	3.5
June	22036.10	19559.50	1831.77	3.0
July	20652.20	17775.00	2273.17	2.5
August	17855.0	15448.0	1884.95	2.0
September	22819.40	18849.0	3303.26	2.5
October	24925.90	20825.50	3372.40	2.0
November	25470.00	20809.00	3916.66	2.5
December	30804.50	24006.0	5899.78	1.5
January 23	32084.60	25059.0	6088.1	3.0
February	32283.90	23950.0	7391.09	2.5
March	30434.9	25579.0	3966.45	3.0
Total	**317038.70**	260815.00	**46947.56**	42.0

9.16 Feed and Fodder purchased and offered to animals during the year 2022-23

Quarter	Fodder of Fodder	OB (Q)	Produced at CIRB	Purchased	Actually Fed (Q)	Closing Balance
I	Green	Nil	10711	Nil	10711	Nil
	DRY	Nil	2791.5	Nil	895	1896.5
	Silage	Nil	Nil	Nil	Nil	Nil
	Concentrate	Nil	1462.91	Nil	1492.91	Nil
II	Green	Nil	12625	Nil	12625	Nil
	DRY	Nil	1896.5	Nil	361	1535.5
	Silage	Nil	Nil	Nil	Nil	Nil
	Concentrate	Nil	1526.92	Nil	1526.92	Nil
III	Green	Nil	11234	Nil	11234	Nil
	DRY	Nil	1535.5	Nil	714	821.5
	Silage	Nil	Nil	Nil	Nil	Nil
	Concentrate	Nil	1395.86	Nil	1395.86	Nil

IV	Green DRY Silage Concentrate	Nil Nil Nil Nil	13931 821.5 Nil 1384.69	Nil Nil Nil Nil	13931 821.5 Nil 1384.69	Nil Nil Nil Nil
Total	**Green** **DRY** **Silage** **Concentrate**	**Nil** **Nil** **Nil** **Nil**	**48501** **2791.5** **Nil** **5800.38**	**Nil** **Nil** **Nil** **Nil**	**48501** **2791.5** **Nil** **5800.38**	**Nil** **Nil** **Nil** **Nil**

9.17: Milk performance during April 2022 to March 2023

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 22	117	37	154	76	8.65	6.61
May	111	47	158	70	7.91	5.56
June	98	61	159	61	7.57	4.62
July	88	71	159	55	7.65	4.21
Aug	85	71	156	54	6.83	3.71
Sep	105	58	163	65	7.20	4.66
Oct	108	52	160	67	7.66	5.16
Nov	111	39	150	74	7.66	5.68
Dec	113	43	156	72	8.78	6.35
Jan 23	113	47	160	71	9.13	6.47
February	115	47	162	71	9.77	6.90
March	105	40	145	73	9.78	7.14
Overall	**106**	**51**	**157**	**67**	**8.25**	**5.56**

9.17.1 Milking performance since inception

Year	**No. of Animals in Milk**	**No. of dry Animals**	**Total Animals**	**% in Milk**	**Wet Av. (kg)**	**Herd Av. (kg)**
1992-93	98	53	151	64	5.86	3.42
1993-94	81	58	139	58	5.75	3.39
1994-95	92	44	136	67	6.01	4.18
995-96	86	35	121	71	5.61	3.99
1996-97	81	52	133	61	5.71	3.49
1997-98	113	40	153	74	6.03	4.45
1998-99	104	42	146	72	6.13	4.26
1999-00	85	39	124	68	6.01	4.23
2000-01	96	33	129	74	6.31	4.69
2001-02	86	38	124	69	6.85	4.82
2002-03	106	38	144	73	6.56	4.83
2003-04	106	37	143	74	6.35	4.70
2004-05	100	47	147	67	6.86	4.65
2005-06	114	46	160	71	6.85	4.84
2006-07	119	48	167	71	6.20	4.40
2007-08	102	54	156	65	6.73	4.46
2008-09	122	44	166	73	6.91	5.03
2009-10	110	58	168	65	7.00	4.66
2010-11	98	43	141	70	7.11	4.93
2011-12	84	40	124	68	7.74	5.30
2012-13	90	49	139	65	8.26	5.34
2013-14	94	52	146	64	8.25	5.32

2014-15	99	41	140	71	8.48	5.98
2015-16	110	41	151	72	8.51	6.22
2016-17	102	53	155	65	7.96	5.23
2017-18	97	45	142	68	8.52	5.84
2018-19	109	38	147	74	8.82	6.54
2019-20	104	50	154	68	9.18	6.25
2020-21	101	44	145	70	9.03	6.38
2021-22	102	49	151	67	8.78	5.96
2022-23	**106**	**51**	**157**	**67**	**8.25**	**5.56**

9.18: Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation durin 2020-21
27	5th	04	-	-
674	3rd	08	-	-
579	9th	09	-	-
551	9th	07	-	-
556	9th	05	-	-
561	9th	05	-	-
705	9th	11	-	-
710	9th	08	-	-
411 PT	1st	-	-	01
473 PT	1St	-	-	01
535 PT	2nd	-	-	01
254	6th	-	-	02
298	7th	-	-	09
308	7th	-	-	08
336	7th	-	-	14
312	7th	-	-	10
359	7th	-	-	02
Tank	7th	-	-	01
Arjun	7th	-	-	01
Raja	7th	-	-	01
705	9th	-	11	01
674	3rd	-	08	-
27 PT	5th	-	04	-
551	9th	-	07	-
556	9th	-	05	-
561	9th	-	08	-
579	9th	-	09	-
710	9th	-	08	-
Total		**60**	**60**	**52**

9.19 Bull wise daughters completing 1st lactation

Sr. No.	Bull No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
1	336	687	17-10-17	30-04-21	42.47	371	3172	2833
2		681	02-10-17	30-06-21	44.97	345	2820	2711
3		693	23-12-17	16-08-21	43.82	298	2190	2190
4		702	18-04-18	27-12-21	40.59	186	1431	1431

5		682	05-10-17	07-10-21	48.13	274	3061	3061
6		695	01-01-18	29-11-21	46.97	228	2194	2194
7		726	24-05-18	01-09-21	39.34	324	2566	2490
8		674	09-09-17	03-09-21	47.86	385	2472	2256
9		676	11-09-17	17-01-22	52.27	284	1485	1485
10		685	09-10-17	28-10-21	48.68	365	4003	3804
11		725	14-05-18	23-12-21	43.39	351	2142	2003
12		737	10-08-18	07-02-22	42.01	312	2822	2815
13		701	23-01-18	28-03-22	50.16	277	1679	1679
14		712	14-03-18	29-03-22	48.55	311	2378	2378
15	298	710	05-03-18	27-08-21	41.81	252	1789	1789
16		690	09-11-17	13-09-21	46.18	305	2736	2736
17		715	24-03-18	28-12-21	45.23	283	1581	1581
18		691	13-11-17	13-12-21	49.05	319	3045	3012
19		727	28-05-18	17-01-22	43.75	311	2383	2381
20		677	18-09-17	20-12-21	51.12	354	3330	3150
21		699	20-01-18	05-03-22	49.51	321	2559	2532
22		757	13-11-18	18-04-22	41.18	400	2925	2456
23		722	23-04-18	27-04-22	48-19	317	2648	2603
24	254	646	30-01-17	26-01-21	47.93	486	4250	3363
25		620	19-09-16	16-08-21	58.95	410	4273	3668
26	308	720	25-01-18	03-09-21	47.11	273	2353	2353
27		731	16-07-18	04-12-21	46.69	300	1359	1359
28		718	16-04-18	09-12-21	43.85	302	2744	2744
29		671	25-08-17	27-12-21	52.14	291	1710	1710
30		706	19-02-18	07-01-22	46.64	321	2174	2147
31		716	27-03-18	19-01-22	45-86	324	2945	2885
32		698	16-01-18	24-02-22	49.34	295	1546	1546
33		703	02-02-18	13-12-21	46.38	452	4020	3199
34	312	672	29-08-17	27-12-21	52.01	312	2427	2427
35		675	09-09-17	20-12-21	51.41	354	2597	2403
36		719	16-04-18	15-12-21	44.05	359	2781	2547
37		717	09-04-18	06-01-22	45.00	351	2949	2890
38		739	03-09-18	22-01-22	40.76	335	2333	2367
39		735	01-08-18	03-01-22	41.15	389	3054	2652
40		734	31-07-18	06-01-22	41.28	400	2925	2456
41		736	04-08-18	10-03-22	43.22	344	2736	2627
42		724	07-05-18	15-04-22	47.34	336	2801	2668
43		733	28-07-18	07-03-22	43.36	375	2973	2506
44	359	778	13-03-19	25-05-22	38.45	289	2688	2688
45	705	700	22-01-18	18-01-22	47.93	374	3555	3146
46	411	721	21-04-18	24-03-22	47.14	309	2592	2589
47	473	707	19-02-18	13-12-21	45.82	284	2374	2374
48	535	762	17-12-18	28-03-22	38.38	312	1787	1787
49	Arjun	747	25-09-18	15-01-22	39.41	377	2635	2297

9.20. Breeding bulls used fir test mating during 2022-23

Sr. No.	Bull No.	Set No	Date of Birth	Dam No.	Sire No.	Dams best SLMY (kg) / Parity
1	551	9th	22.07.2015	940	63	3317
2	556	9th	10.08.2015	366	R-1	3277
3	561	9th	25.08.2015	367	25	3888
4	565	9th	02.09.2015	134	63	4050
5	579	9th	26.10.2015	827	245	3199
6	593	9th	22.12.2015	81	168	3746
7	674	9th	19.01.2017	68	252PT	3161
8	705	9th	10.07.2017	115	473	3146
9	710	9th	25.07.2017	398	252PT	3396
10	728	10th	16.08.2017	376	298	4018
11	800	10th	01.08.2018	312	308	3134
12	852	10th	14.07.2019	294	702PT	3771
13	856	10th	05.08.2019	450	352	4202

9.20.1 PT Bulls for nominated mating

Bull No.	**Set No.**	**Centre**	**Dams' Best yield**	**Sire Index**	**% Superiority**
411	1 st	CIRB Nabha	2352	2315.49	25.07
473	1st	CIRB Nabha	2324	1961.74	10.01
523	2nd	CIRB Nabha	2390	2058.79	11.24
535	2rd	CIRB Nabha	3208	2061.91	10.85
674	3rd	CIRB Nabha	3350	2388.91	9.39
702	3rd	CIRB Nabha	3421	2376.83	8.88
905	4th	CIRB Nabha	3639	2561.40	15.29
916	4th	CIRB Nabha	2961	2424.74	9.99
27	5th	CIRB Nabha	3979	2488.10	6.79
03	5th	CIRB Nabha	2866	2401.22	4.47
252	6th	CIRB Nabha	3469	2616.82	5.93
254	6th	CIRB Nabha	2811	2579.39	4.42

9.20.2 List of Future breeding bulls for 10th set

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dams best SLMY (kg) / Peak yield	Semen doses available	Expected predicted Difference (EPD)
1	728	16.08.17	376	298	4018/22.0	1122	-
2	753	07.12.17	287	312	4247/21.5	494	-
3	773	10.04.18	448	312	3725/17.0	239	
4	782	04.05.18	451	298	3587/17.7	60	-
5	785	01.06.18	344	411 PT	3790/19.3		-
6	800	01.08.18	312	308	3134/18.5	1919	-
7	812	18.09.18	134	411 PT	4050/17.5		-
8	831	15.12.18	503	359	4771/21.2		-
9	852	14.07.19	294	702 PT	3771/17.4	1171	-
10	854	29.07.19	561	352	3345/19.7		
11	856	05.08.19	450	352	4202/23.8	467	
12	858	08.08.19	445	352	3422/14.8		
13	865	16.08.19	453	352	3374/15.8	65	
14	872	27.08.19	103	905 PT	3436/17.5		
15	883	07.10.19	529	487	3507/15.8		

9.21 Target achieved during the years

Traits	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. AFC (Months)	40.0	40.61 (55)	41.78 (42)	44.66 (39)	43.62 (51)	43.54 (51)
Av. service period (Days)	130	129 (77)	157 (94)	136 (106)	116 (85)	134 (86)
Calf mortality (0-3 months) Revised 2019-20 (17th ARM)	≤ 5 % ≤ 3 %	5.23%	4.55%	8.72 %	5.42	3.50
Wet average (Kg)	≥ 8.50 kg	8.82	9.18	9.03	8.78	8.25
Herd average (Kg)	≥ 5.50 kg	6.54	6.25	6.38	5.96	5.56

10. Salient Research Achievements:

- The overall wet average (8.25 kg), herd average (5.56), 305 days lactation milk yield (2624 kg), total lactation yield (2715 kg), peak yield (14.2 kg), percentage of animals in milk (67%) and lactation length (309 days) were achieved in Nili-Ravi herd.
- The reproductive traits viz., service period (134 days), AFC (43.54 months) calving interval (441 days) and dry period (151 days) were achieved during year 2022-23
- Total revenue of ₹ 2,11,04,351/- through sale of animal related products, agricultural produce and other services was achieved.
- Milk production of 317038.70 kg was recorded during this year, and 260815.0 lts was sold.
- Overall motility of 2.09% and calf motility of 3.5% was recorded during this period.
- The overall conception rate recorded was 41.65%.
- Agriculture produce viz., wheat (2734.5Qtl), barley 950.5), Mustard (22.25Qtl), Oat (370.4Qtl).
- Total green fodder produced during the year was 56594.5Qtls.out of this 48501 was feed to herd and remaining was sold.
- Revenue generation of worth ₹.630660/- through sale of green fodder to AHD Punjab.
- 2852.0Qtl of Wheat straw (Turi) was prepared during the year.

11. Publications: Paper in research journals:

- Tuteja, F.C., Jan M.H., Kaur, S., Saxena, N. and Datta, T.K. (2022). Importance of Record keeping in dairy Industry (Punjabi). ICAR-CIRB Sub-Campus, Nabha
- Tuteja, F.C., Jan M.H., Kaur, S., Khurana, S.K. and Datta, T.K. (2022). Mastitis an important cause of milk reduction in dairy animals (Punjabi). ICAR-CIRB Sub-Campus, Nabha
- Tuteja, F.C., Jan M.H., Kaur, S., Saxena, N. and Sharma, M.L. (2022). Importance of Record keeping in dairy Industry (Hindi). ICAR-CIRB Sub-Campus, Nabha

12. Constraints if any:

- Difficulty in introduction of germplasm from outside herd through purchase of animals.
- Deficiency of suitable infrastructure for collection and processing of semen as per MSP guidelines
- Activity monitoring system and automation of data recording is needed.
- Timely allocation of budget to the Sub-Campus so that activities, works, purchases, etc can be planned meticulously.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR	Expenditure as per AUC		Balance
Total	ICAR Share	Share as per R E	ICAR Share	State Share	ICAR Share
31.00*	28.50+2.50*	31.00*	31.00	0.00	0.00

* Includes Rs. 2.50 lakhs for SCSP

Herd Performance

Herd strength was 471 out of which 240 were breedable buffaloes (>2year). During the period 135 calving took place consisting of 75 males, 60 females. The calf mortality (0-3 months) was reduced to 3.50% as compared to previous year (5.42%). Conception rate was 41.65 percent, considerably low as compared to last year (50.64%). Only 6035 semen doses produced during 2022-23 (16797 in 2021-22) and the centre has used/ disseminated 3866 doses for AI/Exp. purpose. A total 111506 frozen semen doses were in stock as on 31 March 2023.

Average lactation milk yield (kg) and 305 or less day lactation milk yield was 2715 kg (113) and 2624 kg (113) increased from last year (2021-22) of 2609 kg (130) and 2535 kg (130) respectively. Average lactation length reported 309 days (113). Reproductive performance viz. Age at first calving, Service Period, Dry Period and Calving Interval were 43.54 (51) months, 134 (86) days, 151 (86) days and 441 (86) days, respectively. During the reporting period the wet averages decreased from 8.78 kg to 8.25 kg and herd average from 6.38 kg to 5.96 kg, respectively from last year 2021-22. Total 67% animals remained in milk during the year 2022-23.

Accomplishment and Targets Achieved:

Traits	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. AFC (Months)	40.0	40.61 (55)	41.78 (42)	44.66 (39)	43.62 (51)	43.54 (51)
Av. service period (Days)	130	129 (77)	157 (94)	136 (106)	116 (85)	134 (86)
Calf mortality (0-3 months) Revised 2019-20 (17th ARM)	≤ 5 % ≤ 3 %	5.23%	4.55%	8.72 %	5.42	3.50
Wet average (Kg)	≥ 8.50 kg	8.82	9.18	9.03	8.78	8.25
Herd average (Kg)	≥ 5.50 kg	6.54	6.25	6.38	5.96	5.56

Recommendations:

- Milk production in terms of wet and herd average showed decreasing trend from last three years. Needs attention to improve the production performance.
- Emphasis should be given on reproduction to improve AFC of buffaloes which is increasing continuously from last three years. The service period also increased from 116 days (2021-22) to 134 days in 2022-23
- Need to increase the production of frozen semen doses.
- Special attention is required to increase the production and dissemination of frozen semen doses.

KAMDHENU UNIVERSITY, JUNAGADH (GUJARAT)

1. Name of center : Cattle Breeding Farm, Kamdhenu University, Junagadh.
2. Project Code : 18-3 / 97-ASR - II dt. 29 / 03 / 2001
3. **Project Title :** Network Project on Buffalo Improvement (Jaffarabadi)
4. **Date of Start :** 01/ 04 / 2001

5. **Objectives** :

To establish elite herd of 60 - 70 Jaffarabadi for the production of genetically superior young bulls. To evaluate sires through institutional / associated herd/field progeny testing and to produce, test, propagate and conserve high genetic merit male germplasm

6. **Technical Programme:**

- Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 500 and 300 breedable females (Murrah).
- Selection and testing of minimum 15 bulls of Murrah / 4-6 bulls for other breeds in every 18 / 24 months cycle.
- Production of minimum 10,000 (Murrah) and 3000 to 5000 (Other breeds) frozen semen doses from each test bull.
- Maintain a minimum number of 8000 (Murrah) and 2000 (other breeds) frozen semen doses until the particular SET gets evaluated.
- Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
- Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
- Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield, Milk yield per day of herd life (total milk produced from date of birth till completion of 4th or more lactation). New Table
- Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds.
- Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
- Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. Staff associated with the project: Nil

Discipline	Name of Scientist / Staff	Status PI/Co-PI/ Associated
Research Scientist	Dr. M R Gadariya	Project Incharge

8. **Financial Statement** : **2305/03 Year: 2022-23 (ICAR Share Rs. In lakhs)**

Item / Head	**Remmitance ICAR Share**	**Expenditure (75 % ICAR Sahre)**	**State Share (25%)**	**Balance**
Pay & Allowances				
Contingency	28.50	28.50	9.50	0.00
Equipments				
Sub Total	**28.50**	**28.50**	**9.50**	**0.00**
SCSP Sub Total	1.00	1.00	-	0.00
Grand Total	**29.50**	**29.50**	**9.50**	**0.00**

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition			Disposal				CB
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	**CB**
	Female								
1.	Below 3 months	9	61		14	46			10
2.	3-12 months	33		46	1	42			36
3.	1-2 years	29		42	1	29			41
	Above 2 years	98		29	1	32	5		89
4.	Buffaloes in Milk	74		112	5	78	15		88
5.	Buffaloes Dry P /NP	30		78		80	4		24
	Sub Total	**273**	**61**	**307**	**22**	**307**	**24**	**0**	**288**
	Males								
1.	Below 3 months	8	51		16	34			9
2.	3-12 months	23		34	2	28			27
3.	1-2 years	16		28		4	10		30
	Above 2 years	35		4			32		7
4.	Breeding bulls	13			1				12
5.	Bullocks / Teasers / others	1							1
	Sub Total	**96**	**51**	**66**	**19**	**66**	**42**	**0**	**86**
	Grand Total	**369**	**112**	**373**	**41**	**373**	**66**	**0**	**374**

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March

9.2 Calving Statistics including abnormalities

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 2022	2	0	0	0				2
May	1	2	0	0				3
June	1	1	0	0				2
July	2	4	0	0				6
August	7	9	0	0				16
September	3	9	0	1				13
October	9	10	0	1				20
November	9	10	0	0				19
December	7	6	0	1				14
January 23	7	4	1	0				12
February	0	1	0	0				1
March	3	5	0	0				8
Overall	**51**	**61**	**1**	**3**				**116**

Sex ratio Male : Female (45.5 : 54.5) SB% = 0.86 Abortion % = 2.59

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 2023

Female	Primary cause of disposal							
Category	Surplus	Below farm prod. standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves								
0 to 3 months						11		11
3-12 months						04		04
Heifers								
1-2 years						01		01
> 2 years	5					01		06
Buffaloes								
Milch	15					05		20
Dry	04							04
Sub Total	**24**					**22**		**46**
Males	**Primary cause of disposal**							
Calves								
0 to 3 months						15		15
3-12 months						03		03
1 to 2 year	10							10
. >2 year	32							32
Breeding bulls						01		01
Bullock+Teaser+ Others								
Sub Total	**42**					**19**		**61**
Grand Total	**66**					**41**		**107**

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Month		Female						Male					Overall Herd
		0-3 Month	3-12 Month	1-2 Yrs.	Above 2 Yrs.	Milk + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs.	>2 yrs.	Overall Male	
April	No.	9	33	29	98	104	273	8	23	16	49	96	369
	Died						0	2				2	2
	%	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	2.1	0.5
May	No.	3	39	28	99	102	169	7	23	17	51	98	267
	Died						0					0	0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
June	No.	4	39	29	99	102	171	5	25	18	51	99	270
	Died				1		1	1				1	2
	%	0.0	0.0	0.0	1.0	0.0	0.6	20.0	0.0	0.0	0.0	1.0	0.7
July	No.	3	38	31	100	102	172	2	28	18	51	99	271
	Died	1					1					0	1
	%	33.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.4
Aug.	No.	6	36	32	97	104	171	4	26	16	56	102	273
	Died						0					0	0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep.	No.	14	36	32	92	110	174	10	24	19	56	109	283
	Died	2					2	1			1	2	4
	%	14.3	0.0	0.0	0.0	0.0	1.1	10.0	0.0	0.0	1.8	1.8	1.4
Oct.	No.	20	30	37	88	116	175	11	19	15	23	68	243
	Died					1	1	2				2	3
	%	0.0	0.0	0.0	0.0	0.9	0.6	18.2	0.0	0.0	0.0	2.9	1.2
Nov.	No.	26	25	45	84	120	180	17	15	20	23	75	255
	Died	5				1	6	1				1	7
	%	19.2	0.0	0.0	0.0	0.8	3.3	5.9	0.0	0.0	0.0	1.3	2.7

Dec.	No.	24	27	40	88	125	179	19	17	24	23	83	262
	Died	1				2	3	3				3	6
	%	4.2	0.0	0.0	0.0	1.6	1.7	15.8	0.0	0.0	0.0	3.6	2.3
Jan.	No.	24	27	43	88	125	182	21	18	25	23	87	269
	Died	3	1	1			5		1			1	6
	%	12.5	3.7	2.3	0.0	0.0	2.7	0.0	5.6	0.0	0.0	1.1	2.2
Feb.	No.	16	29	42	91	128	178	23	23	25	24	95	273
	Died	2				1	3	5				5	8
	%	12.5	0.0	0.0	0.0	0.8	1.7	21.7	0.0	0.0	0.0	5.3	2.9
March	No.	9	34	40	94	127	177	13	25	27	25	90	267
	Died						0	1	1			2	2
	%	0.0	0.0	0.0	0.0	0.0	0.0	7.7	4.0	0.0	0.0	2.2	0.7
Overall Av.	No.	**61**	**33**	**36**	**93**	**114**	**337**	**51**	**22**	**20**	**38**	**131**	**468**
	Died	**14**	**1**	**1**	**1**	**5**	**22**	**16**	**2**	**0**	**1**	**19**	**41**
	%	**23.0**	**3.0**	**2.8**	**1.1**	**4.4**	**6.5**	**31.4**	**9.1**	**0.0**	**2.6**	**14.5**	**8.8**

% Calf Mortality = 23.26 (30/129)

9.5. Causes of Mortality (quarter wise) during the period April 2022 to March 2023

Particulars	**1st quarter (April-June)**	**2nd quarter (July-Sept)**	**3rd quarter (Oct-Dec.)**	**4th quarter (Jan.-March)**	**Total**
Enteritis		2	2	3	7
Pheumonities	1	1	2	2	6
Septicamia / Toxaemia	1		2	2	5
Peritonitis					
JD/TB					
Milk Fever / metabolic diseases					
TRP / TP					
Parasitism					
Accidental death	1		2	1	4
Peri-parturient disorders		1			1
Miscellaneous	1		2		3
Old Age Senility		1		3	4
Thaileriosis			1		1
Server Bloat / Tympany			3	3	6
Weak & Debility			2	2	4
Total	**4**	**5**	**16**	**16**	**41**

9.6 Prophylactic Measures undertaken

Disease	**Vaccination Date / No. of animals**	**No. of animals** Tested / Positive		**Dates and No. of animals treated for Parasitism**
FMD	390 - Jan. 2022			Deworming in June – 2022 390 Animals Jan. – 2023
HS	348 - June 2022 (Female calves)			
BQ				
Brucellosis	28 – Female Calves June 2022 18 – Female Calves Jan. 2023			
JD		348	0	
TB		348	0	
IBR				
Mastitis			15	

9.7 Female Conception Rate During the Period January to December 2022

AI No.→	1st			2nd			3rd			4th & above			Over all		
Parity↓	AIs	C	CR %	AIs	C	CR %	AIs	C	CR%	AIs	C	CR%	AIs	C	CR %
Heifers	28	12	42.9	20	9	45.0	17	5	29.4	12	3	25.0	77	29	37.7
Adults	47	31	66.0	34	23	67.7	35	16	45.7	29	10	34.5	145	80	55.2
Overall	**75**	**43**	**57.3**	**54**	**32**	**59.3**	**52**	**21**	**40.4**	**41**	**13**	**31.7**	**222**	**109**	**49.1**

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8 Quarter-wise conception rate

Quarter	No. of A I	Preg. animals	CR %
January – March (Previous year)	68	43	63.24
April - June	48	32	66.66
July - September	46	21	45.66
October- December	60	32	53.33
Overall	**222**	**109**	**49.09**

9.9. Bull-wise Conception Rate During the period 2022-23

Sr. No.	Bull No.	SET No.	Total Number of AI	Total Conceived	CR%
1	Badal	IV	20	11	55.0
2	Hamir	IV	22	10	45.5
3	Janak	IV	26	14	53.9
4	Kamlesh	IV	56	26	46.4
5	Mayur	IV	21	11	52.4
6	Nakul	IV	4	3	75.0
7	Nayak	IV	25	10	40.0
8	Samrat	IV	4	1	25.0
9	Sango	IV	44	23	52.3
Over all			**222**	**109**	**49.1**

No. of services per conception: 2.04

9.10 Bull Wise Semen Stock 2022-23

Sr. No	Set No	Bull No	O.B.	Doses produced / received	Doses used /disseminated				Balance
					Supply		Sold	Exp.	
					field	farm			
1	I	Nagraj	3259	0	0	0	0		3259
2	I	Bhagro	6845	0	0	0	0		6845
3	I	Laxman	3417	0	0	0	0		3417
4	II	Haresh	1790	0	0	0	0		1790
5	II	Moti	7728	0	0	0	0		7728
6	II	Raja	5785	0	0	0	0		5785
7	II	Sunder	3014	0	0	0	0		3014
8	II	Dhinglo	7191	0	0	0	0		7191
9	II	Bholenath	1839	0	0	0	0		1839
10	III	Nayan	6517	0	0	0	0		6517
11	III	Madhav	6689	0	0	0	0		6689
12	III	Abhijeet	5916	0	0	0	0		5916
13	III	Alok	9650	0	0	0	50		9600
14	III	Ronak	5140	0	0	0	0		5140
15	III	Girish	4556	0	0	0	0		4556
16	III	Raghu	4747	0	0	0	150		4597
17	III	Babar	9275	0	0	0	0	9275	0
18	III	Chaman	13075	2030	0	0	390		14715
19	IV	Badal	6950	0	0	65	40		6845
20	IV	Kamlesh	1745	0	0	90	0		1655

21	IV	Mayur	1270	230	0	80	0		1420
22	IV	Balo	9990	0	0	30	0		9960
23	IV	Janak	6402	2090	1590	112	125		6665
24	IV	Hamir	7780	2020	0	75	60		9665
25	IV	Sango	2245	0	0	80	0		2165
26	IV	Nayak	2144	2815	0	59	225		4675
27	IV	Samrat	4320	4110	1200	45	0		7185
Grand Total			**149279**	**13295**	**2790**	**636**	**1040**	**9275**	**148833**

9.11 Average Body weight (kg) since inception…. (Indicate number of animals in parenthesis)

Year	Birth	3 Month	6 Month	12 Month	18 Month	24 Month	Heifer	Adult
Female								
2004-05	29.69	70.53	112.38	161.55	215.69	258.64		457.23
2005-06	32.01	69.40	106.28	155.30	216.57	260.35		458.40
2006-07	33.60	70.72	105.70	154.10	217.24	259.69		449.89
2007-08	32.23	71.70	110.80	169.85	229.80	288.40		566.78
2008-09	30.74	69.25	107.35	166.20	228.69	290.84		559.17
2009-10	29.61	68.20	105.40	164.80	230.70	294.51		555.17
2010-11	29.65	68.90	106.25	232.17	-	443.89		592.45
2011-12	33.60	82.00	142.00	237.40	308.70	444.50		586.00
2012-13	31.80	67.60	100.20	158.10	268.60	362.20		565.40
2013-14	32.40	73.40	122.4	172.1	266.90	314.33		---
2014-15	33.60	87.75	118.20	200.00	269.78	315.14		650.00
2015-16	33.12	87.75	117.45	197.66	269.80	316.17	396.50	649.70
2016-17	29.03	78.00	118.04	180.85	270.59	316.80	380.01	651.28
2017-18	34.85	95.18	115.08	180.08	272.05	388.10	419.50	640.30
2018-19	31.90	74.05	117.81	173.00	265.00	353.00	383.00	480.00
2019-20	32.54	75.92	123.39	177.63	271.12	367.40	384.72	504.10
2020-21	33.71	78.90	130.40	181.60	275.16	370.23	401.70	507.60
2021-22	34.60	81.30	132.40	183.70	278.20	378.70	409.90	511.50
2022-23	**32.94**	**89.44**	**127.90**	**159.71**	**256.23**	**314.87**	**397.80**	**509.11**
Male						**Adults**		
2004-05	31.90	71.24	109.54	164.12	225.14	272.80		--
2005-06	34.71	72.61	106.61	152.57	223.47	269.62		--
2006-07	33.98	71.72	107.05	156.70	222.29	265.23		--
2007-08	36.62	73.14	114.00	171.60	234.50	289.35		--
2008-09	32.51	70.10	110.58	169.30	236.72	295.32		--
2009-10	32.59	70.75	109.52	170.10	238.89	297.32		--
2010-11	29.97	69.93	139.00	285.40	360.00	412.33		--
2011-12	30.90	85.00	178.00	255.30	357.00	409.00		--
2012-13	33.00	79.80	120.90	158.60	289.40	375.80		--
2013-14	33.60	78.00	118.40	160.00	234.60	329.75		--
2014-15	33.47	86.00	108.90	171.50	232.83	331.90		--
2015-16	32.30	85.17	111.90	172.40	231.00	332.00		769.79
2016-17	30.09	78.20	114.00	180.06	223.72	273.72		684.25
2017-18	32.91	91.75	114.26	182.41	235.50	281.45		655.30
2018-19	32.20	76.05	119.05	183.71	272.00	372.00		605.00
2019-20	34.64	78.06	121.22	188.57	283.17	393.63		630.00
2020-21	34.86	79.10	132.90	191.70	286.41	389.64		626.81
2021-22	35.70	80.90	133.80	193.30	291.30	387.80		621.70
2022-23	**34.00**	**88.10**	**123.25**	**154.60**	**281.12**	**368.70**		**618.19**

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	15	2319.7±157.3	296.1±14.7	2249.1±126.5	14.2±0.6
2nd	14	3052.5±223.2	325.5±19.8	2845.6±167.8	16.0±0.7
3rd	14	2715.0±172.0	304.7±11.7	2648.4±164.0	15.9±0.8
4th	9	2633.1±243.3	302.1±23.4	2505.6±178.0	16.3±2.0
5th & above	14	2447.6±179.3	302.4±11.3	2387.3±165.6	14.6±0.7
Overall	**66**	**2628.8±89.4**	**306.3±7.0**	**2524.6±74.4**	**15.3±0.4**

9.12.1 Average production performance of Buffaloes Since Inception of Network

Year	Lact. Length (days)	TLMY (kg)	SLMY (kg)	Peak yield (kg)
2001-02	303.29 (38)	1945.58 (38)	1813.72 (38)	12.77 (38)
2002-03	358.46 (39)	2028.18 (39)	1793.85 (39)	09.32 (39)
2003-04	406.00 (41)	2534.80 (41)	2069.10 (41)	11.30 (41)
2004-05	316.00 (36)	2122.40 (36)	2020.80 (36)	11.80 (36)
2005-06	311.00 (41)	1957.57 (41)	1771.96 (41)	10.34 (41)
2006-07	343.00 (38)	1953.42 (38)	1695.00 (38)	10.20 (38)
2007-08	338.00 (39)	2026.88 (39)	1807.05 (39)	10.53 (39)
2008-09	318.28 (29)	2009.28 (29)	1769.90 (29)	11.26 (29)
2009-10	382.72 (46)	1837.65 (46)	1779.61 (46)	11.43 (46)
2010-11	317.70 (44)	2134.70 (44)	2098.30 (44)	11.36 (44)
2011-12	332.20 (30)	2383.08 (30)	2083.92 (30)	12.23 (30)
2012-13	352.00 (39)	2007.00 (39)	1737.0 (39)	9.70 (39)
2013-14	305.2 (33)	1709.3 (33)	1629.2 (33)	10.30 (33)
2014-15	379.1 (37)	2396.7 (37)	2095.7 (37)	11.80 (37)
2015-16	322.1±12.3 (48)	2187.0±86.9 (48)	2008.7±72.0 (48)	13.1±0.4 (48)
2016-17	323.2±9.8 (45)	2119.6±102.7 (45)	1985.4±80.6 (45)	12.8±0.4 (45)
2017-18	383.2±12.1 (47)	2242.8±108.8 (47)	1907.3±89.3 (47)	11.4±0.4 (47)
2018-19	317.3±7.6 (57)	2500.6±99.2 (57)	2359.8±85.1 (57)	14.7±0.5 (57)
2019-20	315.6±14.4 (56)	2408.5±105.7 (56)	2245.1±76.3 (56)	14.3±0.3 (56)
2020-21	359.6±10.5 (56)	2794.2±113.7 (56)	2499.9±78.7 (56)	14.4±0.3 (56)
2021-22	298.5±9.1 (60)	2452.0±110.2 (60)	2375.1±101.2 (60)	14.8±0.5 (60)
2022-23	**306.3±7.0 (66)**	**2628.8±89.4 (66)**	**2524.6±74.4 (66)**	**15.3±0.4 (66)**

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

Animal No.	DOB	Date of completion of 4th or more lact. or disposal	HLF (days) up to 4th or more lactation or disposal (d)	LTMY (kg)	Productive Days	Unproductive Days	MY/day HLF
03/13	14/01/2013	27/12/2022	3634	8273.9	1022	1245	3.6
15/07	06/07/2007	19/12/2021	5280	12290.4	2188	1583	3.3
31/07	14/11/2007	14/12/2022	5509	12230.2	2021	2126	2.9
08/08	17/07/2008	04/05/2023	5404	9438.1	1488	2358	2.5
14/09	18/07/2009	26/12/2022	4909	13038.7	2075	1234	3.9
22/09	09/08/2009	01/05/2021	4283	4958.5	794	979	2.8
23/09	15/08/2009	31/12/2021	4521	19719.6	2018	711	7.2
27/09	26/08/2009	11/01/2023	4886	22773.5	2348	1072	6.7
22/10	20/08/2010	22/11/2021	4112	3518.8	754	2253	1.2
28/10	09/09/2010	06/09/2022	4380	10464.5	1751	1533	3.2

05/11	09/06/2011	27/01/2022	3885	9858.4	1287	840	4.6
19/11	07/08/2011	26/08/2022	4037	10098.3	1448	919	4.3
21/11	10/08/2011	01/10/2022	4070	8130.9	1611	963	3.2
03/12	01/04/2012	31/07/2021	3408	9720.3	1296	321	6.0
06/12	13/05/2012	29/11/2022	3852	11452.1	1514	756	5.0
15/13	22/08/2013	01/04/2023	3509	12015.3	1436	457	6.3
32/12	01/10/2012	01/02/2023	3775	6645.7	1201	1409	2.5
36/09	15/09/2009	13/05/2021	4258	6255.2	1321	1506	2.2
36/11	02/09/2011	01/12/2021	3743	9973.8	1257	696	5.1
38/13	21/09/2013	24/09/2022	3290	4311.8	681	1006	2.6
41/11	28/09/2011	01/01/2022	3748	5447.7	671	1525	2.5
45/08	14/10/2008	06/09/2022	5075	12138.8	1941	1690	3.3
47/11	01/11/2011	05/10/2022	3991	9769.3	1486	1114	3.8
49/09	03/10/2009	15/12/2022	4821	20508.2	2369	1019	6.1
50/10	20/10/2010	29/05/2022	4239	10577.5	1623	1220	3.7
52/11	01/12/2011	26/03/2022	3768	4474.5	703	1510	2.0
53/11	27/12/2011	19/02/2022	3707	4255.3	557	1497	2.1
19/08	08/09/2008	05/02/2022	4898	12299.1	1602	1482	4.0
45/04	27/09/2004	06/02/2022	6341	16502.8	2712	1870	3.6
07/05	31/05/2005	28/02/2023	6482	29857.2	3438	1541	6.0

Note: HLF (Herd Life- Date of birth to date of completion of 4th or more lact. Or date of disposal) **Productive Days** (date of first calving to total days in milk), **Unproductive days** (total days when buffalo not give milk from the date of first calving)

9.13 Average Milk Composition from April 2022 to March 2023

Month	**N**	**Fat**	**SNF**	**Protein**	**Lactose**	**SCC**
April 2022	69	8.0	10.5	4.5	6.2	--
May	65	7.9	10.6	4.2	5.4	--
June	58	8.3	11.2	4.1	5.7	--
July	49	7.7	10.3	4.3	5.5	--
August	54	8.0	11.1	4.4	5.8	--
September	61	8.5	10.9	4.6	5.6	--
October	75	8.2	10.3	4.3	5.8	--
November	74	8.0	10.4	3.9	5.5	--
December	78	8.5	10.9	4.2	5.9	--
January 2023	87	7.9	11.2	4.6	6.1	--
February	87	8.0	10.7	4.3	5.8	--
March	88	7.8	10.6	4.2	5.7	--
Overall	**70.4**	**8.1**	**10.7**	**4.3**	**5.8**	--

9.14: Reproductive Performance

Lactation / Parity	AFC (Months) (N)	N →	SP (Days)	DP (Days)	CI (Days)
1	47.9±1.27 (29)				
2		16	153.67±36.17	230.31±27.56	508.75±35.03
3		24	160.38±20.59	201.21±31.22	470.38±20.59
4		22	132.73±16.85	203.81±20.70	428.64±25.70
5th& above		18	176.72±32.02	192.83±29.76	486.72±32.02
Over all	**47.9±1.27 (29)**	**80**	**165.4±12.78**	**205.90±13.79**	**470.25±13.86**

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2001-02	46.84 (13)	159.41 (33)	166.50 (33)	496.36 (33)
2002-03	47.02 (15)	155.12 (33)	179.66 (33)	465.79 (33)
2003-04	57.71 (3)	205.00 (23)	213.00 (23)	513.00 (23)
2004-05	59.44 (12)	225.00 (34)	195.00 (33)	539.00 (34)
2005-06	59.97 (16)	194.00 (45)	218.00 (45)	459.00 (45)
2006-07	55.57 (11)	188.00 (32)	267.00 (35)	499.00 (32)
2007-08	59.53 (07)	263.08 (24)	238.83 (24)	568.33 (24)
2008-09	59.52 (11)	302.69 (41)	249.62 (41)	543.67 (41)
2009-10	54.28 (20)	149.52 (45)	194.20 (45)	463.35 (45)
2010-11	52.66 (11)	127.40 (35)	168.70 (35)	436.80 (35)
2011-12	49.28 (06)	186.09 (23)	161.83 (23)	484.48 (23)
2012-13	49.31 (10)	174.00 (42)	464.58 (42)	217.16 (42)
2013-14	48.00 (24)	144.67 (33)	206.51 (43)	523.16 (43)
2014-15	46.60 (5)	140.43 (30)	176.53 (30)	450.43 (30)
2015-16	47.82 (11)	158.40 (42)	163.40 (42)	468.40 (42)
2016-17	49.80 (12)	190.00 (33)	184.70 (33)	492.70 (33)
2017-18	54.05 (21)	149.85 (48)	244.77 (48)	530.94 (48)
2018-19	49.90 (22)	180.4 (35)	213.4 (35)	471.2 (35)
2019-20	46.1±1.4(24)	164.6±18.6 (43)	192.0±14.8 (43)	477.3±18.7 (43)
2020-21	47.81±0.86 (10)	143.79±11.70 (38)	181.03±16.06 (38)	453.79±11.70 (38)
2021-22	46.90±1.82 (20)	160.5±12.89 (41)	196.1±17.06 (41)	470.51±12.89 (41)
2022-23	**47.9±1.27 (29)**	**165.4±12.78 (80)**	**205.90±13.79 (80)**	**470.25±13.86 (80)**

9.15 Milk Production and Disposal

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk sold	Calf feeding	Expt.
April-2022	15955.0	15943.0	12.0	
May	14800.0	14746.5	53.5	
June	11502.5	11485.5	17.0	
July	10858.5	10827.5	31.0	
August	9791.5	9693.5	98.0	
September	11253.5	11174.5	79.0	
October	14155.0	14041.0	114.0	
November	13324.0	13208.0	116.0	
December	15210.0	15133.0	77.0	
January-2023	18052.0	17973.0	79.0	
February	16424.0	16257.0	167.0	
March	17794.5	17752.5	42.0	
Total	**169120.5**	**168235.0**	**885.5**	

9.16.1 Feed and fodder (Quintals) availability 2022-23

Quarter	Items	Qty. Produced at Farm (kg)	Qty. Purchased (kg)	Actually fed (Quintals)	Balance (Kg)
I (April – June)	Green	6125	0	6125	-
	Dry	160	260	420	-
	Silage	0	0	0	-
	Concentrate	0	1010	1010	-
II (July – September)	Green	4410	0	4410	-
	Dry	1260	0	1260	-
	Silage	0	0	0	-
	Concentrate	0	1090	1090	-
III (October –December)	Green	5130	0	5130	-
	Dry	490	210	700	
	Silage	0	0	0	-
	Concentrate	0	1080	1080	-
IV (January-March)	Green	6250	0	6250	-
	Dry	0	410	410	-
	Silage	0	0	0	-
	Concentrate	0	950	950	-
Total	Green	**21915**	**0**	**21915**	-
	Dry	**1910**	**880**	**2790**	-
	Silage	**0**	**0**	**0**	
	Concentrate	**0**	**4130**	**4130**	-

9.17: Milk performance during April 22 to March 23

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April -2022	69	42	111	62.2	8.9	4.8
May	65	47	112	58.0	8.7	4.3
June	58	54	112	51.8	8.1	3.4
July	49	63	112	43.8	8.5	3.1
August	54	66	120	45.0	7.9	2.6
September	61	66	127	48.0	8.0	3.0
October	75	58	133	56.4	7.9	3.4
November	74	51	125	59.2	6.3	3.6
December	78	44	122	63.9	6.7	4.0
January-2023	87	36	123	70.7	7.5	4.7
February	87	44	131	66.4	7.8	4.5
March	88	44	132	66.7	7.6	4.3
Overall	**70.4**	**51.3**	**121.7**	**57.7**	**7.8**	**3.8**

9.17.1 Milking performance since inception

Year	No. of Animals in Milk	No. of Animals dry	Total Animals	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2001-02	40.00	31.00	71.00	56.19	5.44	3.01
2002-03	32.00	34.00	66.00	48.89	7.19	3.55
2003-04	26.00	35.00	61.00	41.26	8.03	3.30
2004-05	32.00	34.83	66.89	44.65	7.91	3.96
2005-06	33.00	46.58	79.58	41.80	7.45	3.08
2006-07	34.00	44.92	78.92	42.27	7.31	3.11
2007-08	30.75	40.58	71.42	42.87	7.52	3.21

2008-09	25.25	43.12	69.41	39.05	6.81	2.44
2009-10	37.63	47.93	85.56	43.85	6.46	2.85
2010-11	35.14	33.92	69.06	50.32	7.27	3.62
2011-12	27.67	20.08	47.75	58.03	6.91	4.06
2012-13	34.00	51.33	85.33	39.78	6.73	2.67
2013-14	34.00	47.42	81.42	40.64	6.90	2.83
2014-15	33.00	48.75	81.75	40.22	7.38	3.01
2015-16	37.0	47.30	84.30	43.90	8.10	3.50
2016-17	42.0	55.0	97.0	43.65	7.4	3.2
2017-18	42.0	49.0	91.0	45.1	6.7	3.0
2018-19	65.10	43.50	108.60	60.40	5.80	3.60
2019-20	64.40	62.20	126.60	50.90	6.30	3.20
2020-21	60.10	57.80	117.90	51.10	6.60	3.40
2021-22	58.1	38.0	96.1	60.0	7.6	4.5
2022-23	**70.4**	**51.3**	**121.7**	**57.7**	**7.8**	**3.8**

9.18 Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
Gajanan				
Khemlo				
Bhagaro	I			
Raja	II			
Rana				
Nagraj	I			
Moti	II			
Sundar	II			
Ashok				
Laxman	I			
Bholenath	II			1
Haresh	II			
Dhingalo	II			1
Nayan	III			
Madhav	III		3	3
Ronak	III		2	3
Alok	III		2	3
Abhijit	III		2	
Raghu	III		5	3
Chaman	III		7	
Girish	III		4	
Babar	III		7	1
Badal	IV	4		
Kamlesh	IV	10		
Mayur	IV	6		
Balo	IV	2		
Janak	IV	9		
Hamir	IV	8		
Sango	IV	13		
Nayak	IV	6		
Samrat	IV	1		
Nakul	IV	2		
Total		**46**	**22**	**13**

9.19 Bull wise daughters completing 1st lactation

Bull No.	Daug-hter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)	Peak Yield
Bholenath	44/16	01/08/2016	05-01-2022	65.2	449	3724.4	3061.1	16.0
Raghu	39/17	29/12/2017	23-10-2021	45.9	341	3326.3	3186.6	18.9
Alok	10/18	07/01/2018	05-10-2021	45.0	312	2766.6	2742.0	15.6
Ronak	25/18	21/01/2018	05-12-2021	46.5	342	2623.1	2461.4	17.2
Alok	35/18	03/02/2018	05-10-2021	44.1	271	2522.4	2522.4	14.7
Dhingalo	35/16	23/06/2016	24-08-2021	62.1	282	2428.7	2428.7	13.2
Raghu	53/18	10/04/2018	09-10-2021	42.0	309	2367.5	2348.8	13.0
Ronak	01/18	02/01/2018	29-09-2021	44.9	319	2143.1	2114.0	13.7
Alok	74/16	31/12/2016	11-10-2021	57.4	228	2071.3	2071.3	14.5
Raghu	40/18	07/02/2018	22-09-2021	43.5	308	2060.7	2039.0	10.8
Madhav	15/18	10/01/2018	04-07-2022	53.8	268	1947.9	1947.9	13.8
Madhav	46/17	31/12/2017	06-11-2021	46.3	248	1777.2	1777.2	13.8
Ronak	22/18	17/01/2018	16-10-2021	45.0	232	1756.7	1756.7	12.8
Babar	58/18	27/08/2018	06-10-2021	37.4	233	1755.3	1755.3	14.2
Madhav	18/19	09/04/2019	11-09-2021	29.1	299	1524.7	1524.7	10.3
Average				**47.2**	**296.1**	**2319.7**	**2249.1**	**14.2**
SE				**2.4**	**14.7**	**157.3**	**126.5**	**0.6**

9.20 Breeding bulls Selected for current set

Sr. No.	Set	Bull Name	Bull No	Date of Birth	Dam No.	Sire No.	Dam's best SLMY	Remarks
1	IV	Badal	3665	Purchased	--	--	>3000	
2	IV	Mayur	27/15	17/07/2015	Mina (AM 2/11)	Haresh	3181	
3	IV	Hamir	37/15	05/09/2015	Hedi (AM 4/11)	Bholenath	3616	
4	IV	Balo	43/15	29/09/2015	Babli (53/09)	Nayan	3201	
5	IV	Kamlesh	11081	Purchased	--	--	>3000	
6	IV	Janak	11084	Purchased	--	--	>3000	
7	IV	Sango	19100	Purchased	--	--	>3000	
8	IV	Samrat	11086	Purchased	--	--	>3000	
9	IV	Nayak	11087	Purchased	--	--	>3000	

9.20.1 PT Bulls for nominated mating

Bull No.	Set No.	Centre	Dams' Best yield (kg)	Sire Index	Breeding Value	% Superiority
Laxman	I	Junagadh	3738.0	2732.07	+9.05	
Moti	II	Junagadh	>3000	2730.36	+8.38	
Bhagaro	I	Junagadh	>3000	2672.21	+6.26	

9.20.2 List of breeding / young bulls as on 31-3-2023

Sr. No.	Name	Date of birth	Dam	Sire	Dams best lact.300days or less yield (kg)	Remarks
Set I						
1	Bhagro	Purchased	----	----	20 lit/d	CBF
2	Laxman	16-10-03	Laxmi	Subiraj	3738.0	CBF
3	Nagraj	18-12-02	Nagari	Rupnath	2957	CBF
Set II						

1	Haresh	08-02-04	Hitad	Hemalo	2884.0	2009-10
2	Moti	Purchased	--	--	>3000 litter	2010-11
3	Sunder	13-07-05	Sundari	Lailano	2732.0	2012-13
4	Raja	08-05-04	Ranjita	Subiraj	2948.0	2012-13
5	Dhingalo	Purchased	--	--	>3000 litter	2013-14
6	Bholenath	Purchased	--	--	>3000 litter	2013-14
Set III						
1	Nayan (07/10)	12-06-2010	Mira	Nagraj	4120.9 litter	
2	Abhijit (A1/10)	Purchased	Hedi		3184.2	
3	Madhav (37/10)	19-09-2010	Manisha	Nagraj	3895.8	
4	Alok	Purchased			>3500	
5	Ronak (09/11)	10-07-2011	Rita	Gajanan	3140.0	
6	Girish (11/13)	18-08-2013	Grishma	Dhingalo	3028.0	
7	Chaman	Purchased			>3500	
8	Raghu	Purchased			>3000	
9	Babar	Purchased			>3000	
Set IV						
1	Badal (3665)	Purchased	--	--	>3000	
2	Kamlesh (11081)	Purchased	--	--	>3000	
3	Mayur (27/15)	17/07/2015	Mina (AM 12/11)	Haresh	3181	
4	Balo (43/15)	29/09/2015	Babli (53/09)	Nayan	3201	
5	Janak (11084)	Purchased	--	--	>3000	
6	Hamir (37/15)	05/09/2015	Hedi (AM 04/11)	Bholenath	3616	
7	Samrat (11086)	Purchased	--	--	>3000	
8	Nayak (11087)	Purchased	--	--	>3000	
9	Sango (19100)	Purchased	--	--	>3000	

9.21 Target achieved during the years

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	49.90 (22)	46.1±1.4 (24)	47.81±0.86 (10)	46.90±1.82 (20)	47.90±1.27 (29)
Av. Service period (days)	130	180 (35)	165±18.6 (43)	144±11.70 (38)	161±12.89 (41)	165±12.78 (80)
Calf mortality (0-3 months)	≤ 3 %	7.9	5.45	11.11	10.58	23.26
Wet average (kg)	≥8.5 kg	5.8	6.3	6.6	7.6	7.8
Herd average (kg)	≥5.5 kg	3.6	3.2	3.4	4.5	3.8

10. Salient Research Achievements (example):

11. Publications : --Nil--

12. Socioeconomic impact / Success stories:

13. Constraints if any

- Allocated funds are insufficient for the project implementation satisfactorily.
- Building / Buffalo sheds needs urgent renovations.
- Separate Milking Parlour for Buffaloes is required.
- Semen Freezing Laboratory needs renovation and extension to meet Minimum Standard.

13. Focus of work in the coming year

- Efforts will be concentrated on improving reproductive performance of Jaffrabadi herd.
- Semen Freezing Laboratory will be strengthened.

Performance of Kamdhenu University, Junagadh (Field Units)

F 1. Herd Strength of Registered Females at Different Field Centres during 2022-2023

Sr No.	Centres/ Village	OB	Addition			Deduction		
			New Reg.	Birth	Purchase	Sold	Death	CB
1	Shedhaya	2100	16	15		47	12	2072
2	Pipali	3304	60	54		36	16	3366
3	Loej	12733	160	124		172	19	12826
4	Surva	4056	55	49		111	11	4038
5	Mand likpur	4841	123	31		167	26	4802
6	Hadmdiya	1141	25	31		123	9	1065
7	Khorasa	1240	70	21		109	8	1214
8	Odadar	3591	165	38		98	17	3679
9	Gondal	362	45	4		2	4	405
	Total	**33368**	**719**	**367**	**0**	**865**	**122**	**33467**

F 2. Status of Breedable Females at Different Field Unit Centres during 2022-2023

Centres/ Village	Heifers > 3 years		Buffalo	
	Total	Pregnant	In Milk	Dry
Shedhaya	51		0	0
Pipali	116		9	80
Loej	913		21	335
Surva	135		16	31
Movana	0		0	16
Mand likpur	105		8	67
Hadmdiya	81		7	13
Sherdi	0		0	11
Khorasa	94		3	0
Odadar	358		6	63
Total	**1853**		**70**	**616**

F 3. Monthly AI at Different Field Unit Centres during Period 4/2022 to 3/2023

Month	TOTAL									
	Shedhaya	Pipali	Hadmadiya	Loej	Surva	Mandlikpur	Odadar	Khorasa	Gondal	Total
April, 22	2	14	7	30	15	12	31	9	7	127
May	9	14	7	33	11	7	22	10	4	117
June	4	14	9	41	7	9	23	9	4	120
July	5	14	7	53	7	16	28	10	2	142
August	7	13	7	28	10	12	30	10	3	120
September	3	14	7	46	10	28	22	10	6	146
October	15	29	6	38	22	31	39	9	2	191
November	16	15	7	43	26	27	27	10	6	177
December	8	22	5	70	24	22	32	10	3	196
January, 23	10	15	6	52	31	18	29	8	4	173
February	8	28	10	31	19	14	28	8	5	151
March	7	15	8	36	22	17	27	8	5	145
TOTAL	**94**	**207**	**86**	**501**	**204**	**213**	**338**	**111**	**51**	**1805**

F 4. Bull-wise AI at Different Field Unit Centres during the Period 4/2022 to 3/2023

Months	Nayak	Samrat	Janak	Total
April, 22	41	86	0	127
May	4	113	0	117
June	0	120	0	120
July	0	142	0	142
August	0	120	0	120
September	0	108	38	146
October	0	0	191	191
November	0	0	177	177
December	0	0	196	196
January, 23	0	0	173	173
February	0	28	123	151
March	0	15	130	145
Total	**45**	**732**	**1028**	**1805**

F 5. Month wise Conception at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	Village / Centre									
	Shedhaya		Pipali		Hadmadiya		Loej		Surva	
	P	E	P	E	P	E	P	E	P	E
April, 22	3	1	9	6	4	5	27	39	15	13
May	5	1	7	7	4	3	24	33	17	10
June	5	1	6	7	4	3	21	34	10	7
July	2	0	7	7	5	2	13	17	8	7
August	5	4	5	9	4	3	15	18	7	4
September	3	1	6	8	5	4	15	26	4	3
October	3	2	7	7	4	3	21	32	4	3
November	4	7	6	7	4	3	16	12	4	6
December	2	1	7	7	4	3	20	26	5	5
January, 23	8	7	7	7	4	2	18	20	13	9
February	10	6	7	8	4	3	17	26	15	11
March	5	3	11	11	3	2	35	35	14	10
Total	**55**	**34**	**85**	**91**	**49**	**36**	**242**	**318**	**116**	**88**

Cont..

Month	Village / Centre									
	Mandlikpur		Odadar		Khorasa		Gondal		Total	
	P	E	P	E	P	E	P	E	P	E
April, 22	27	29	9	19	6	7	1	3	101	122
May	12	19	7	17	5	5	0	3	81	98
June	8	12	8	23	3	10	2	3	67	100
July	5	7	12	19	3	6	3	4	58	69
August	4	3	7	15	3	7	1	3	51	66
September	2	7	8	15	3	6	2	2	48	72
October	10	6	9	18	3	7	0	2	61	80
November	6	6	9	21	4	6	1	2	54	70
December	11	17	7	15	3	7	2	4	61	85
January,23	17	14	15	24	3	6	1	1	86	90
February	11	16	10	17	3	7	2	4	79	98
March	7	15	13	19	4	6	1	2	93	103
Total	**120**	**151**	**114**	**222**	**43**	**80**	**16**	**33**	**840**	**1053**

F 6. Month wise Calving at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	Village / Centre											
	Pipali		Hadmadiya		Loej		Surva		Mandlikpur		Odadar	
	M	F	M	F	M	F	M	F	M	F	M	F
April, 22	3	3	2	2	10	11	3	2	0	0	4	2
May	3	4	1	2	7	8	4	3	3	2	3	3
June	6	7	1	3	6	12	2	3	8	5	4	3
July	3	4	2	3	9	11	4	3	9	3	9	4
August	7	6	2	3	13	7	5	4	8	4	9	4
September	3	4	1	3	9	7	3	4	12	5	6	3
October	8	6	1	2	16	15	7	7	5	3	4	3
November	4	6	1	3	10	15	8	5	9	1	3	3
December	3	4	2	2	13	10	8	7	5	5	2	3
January 23	2	4	1	3	8	13	4	5	3	0	4	4
February	4	3	3	2	7	6	3	3	2	2	6	4
March	2	3	1	3	6	9	4	3	2	1	2	2
Total	**48**	**54**	**18**	**31**	**114**	**124**	**55**	**49**	**66**	**31**	**56**	**38**

Conti...

Month	Village / Centre						**Total**	
	Shedhaya		**Khorasa**		**Gondal**			
	M	F	M	F	M	F	**M**	**F**
April, 22	1	0	2	1	1	0	26	21
May	2	1	2	1	0	1	25	25
June	1	1	2	2	1	1	31	37
July	0	0	2	2	0	0	38	30
August	3	2	2	2	2	1	51	33
September	0	0	2	2	2	0	38	28
October	3	2	3	3	1	0	48	41
November	2	1	3	3	1	0	41	37
December	2	3	3	2	0	0	38	36
January,23	3	2	2	1	1	0	28	32
February	1	1	2	1	2	1	30	23
March	3	2	2	1	1	0	23	24
Total	**21**	**15**	**27**	**21**	**12**	**4**	**417**	**367**

M= Male F= Female

F 7. Bull-wise Conception at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	**Bull No**						**Total**	
	Sango		**Balo**		**Nayak**			
	P	**E**	**P**	**E**	**P**	**E**	**P**	**E**
April, 22	0	0	0	0	101	122	101	122
May	0	0	0	0	81	98	81	98
June	0	0	17	20	50	80	67	100
July	0	0	39	45	19	24	58	69
August	0	0	50	63	1	3	51	66
September	0	0	48	72	0	0	48	72
October	0	0	61	80	0	0	61	80
November	0	0	54	70	0	0	54	70
December	4	12	57	73	0	0	61	85
January, 23	86	90	0	0	0	0	86	90
February	79	98	0	0	0	0	79	98
March	93	103	0	0	0	0	93	103
Total	**262**	**303**	**326**	**423**	**252**	**327**	**840**	**1053**

F 8. Bull-wise Calving at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	Bull Name						Total	
	Sango		Nayak		Samrat			
	M	F	M	F	M	F	M	F
April, 22	26	21	0	0	0	0	26	21
May	25	25	0	0	0	0	25	25
June	21	32	10	5	0	0	31	37
July	4	3	34	27	0	0	38	30
August	0	0	51	33	0	0	51	33
September	0	0	38	28	0	0	38	28
October	0	0	48	41	0	0	48	41
November	0	0	41	37	0	0	41	37
December	0	0	38	36	0	0	38	36
January,23	0	0	21	23	7	9	28	32
February	0	0	10	7	20	16	30	23
March	0	0	1	0	22	24	23	24
Total	**76**	**81**	**292**	**237**	**49**	**49**	**417**	**367**

F 9. Bull-wise Live Female Progeny at Different Field Unit Centres (0-6 month) as on 3/2023

Centres	Mayur	Balo	Sango	Total
Shedhaya	6		1	**7**
Pipali	10		12	**22**
Hadmdiya	8		8	**16**
Loej	35		25	**60**
Surva	11	6	11	**28**
Mandlimpur	4		1	**5**
Odadar	13		14	**27**
Khorasa	3		6	**9**
Gonadal	0	2	2	**4**
Total	**90**	**8**	**80**	**178**

F 10. Bull-wise Live Female Progeny at Different Field Unit Centres (6-12 month) as on 3/2023

Centres	Mayur	Balo	Total
Shedhaya	5	2	**7**
Pipali	6	10	**16**
Hadmdiya	3	11	**14**
Loej	11	39	**50**
Surva	0	22	**22**
Mandlimpur	3	9	**12**
Odadar	5	24	**29**
Khorasa	7	6	**13**
Gonadal	0	3	**3**
Total	**40**	**126**	**166**

F 11. Bull-wise Live Female Progeny at Different Field Unit Centres (1-3 years) as on 3/2023

Centres	Hamir	Balo	Kamlesh	Alok	Badal	Babar	Chaman	Raghu	Total
Shedhaya	8	0	0	6	3	0	0	0	**17**
Pipali	25	6	16	10	21	10	12	10	**110**
Hadmdiya	24	3	7	4	16	5	7	8	**74**
Loej	103	12	33	25	38	45	0	63	**319**
Surva	25	12	21	12	19	0	33	0	**122**
Mandlimpur	40	10	28	9	25	18	11	23	**164**
Odadar	21	6	11	0	23	0	15	33	**109**
Khorasa	13	4	10	0	12	12	6	11	**68**
Gonadal	7	0	12	4	2	1	6	7	**39**
Total	**266**	**53**	**138**	**70**	**159**	**91**	**90**	**155**	**1022**

F 12. Bull-wise Live Female Progeny at Different Field Unit Centres (> 3years) as on 3/2023

Centres	Bhagro	Laxman	Nagraj	Total
Set - I				
Harmadiya	0	0	0	**0**
Khorasa	0	0	0	**0**
Loej	69	190	53	**312**
Mandlikpur	0	0	0	**0**
Odadar	0	0	0	**0**
Pipali	0	0	0	**0**
Shedhaya	0	0	0	**0**
Surva	0	0	0	**0**
Total	**69**	**190**	**53**	**312**

Set – II	Haresh	Moti	Sundar	Raja	Dhingalo	Bholenath	Total
Harmadiya	0	0	0	0	0	0	**0**
Khorasa	0	0	0	0	0	0	**0**
Loej	49	19	36	84	34	193	**415**
Mandlikpur	0	0	0	0	0	0	**0**
Odadar	23	0	0	54	29	0	**106**
Pipali	0	0	0	0	0	0	**0**
Shedhaya	0	0	0	0	0	0	**0**
Surva	0	0	0	25	0	0	**25**
Total	**72**	**19**	**36**	**163**	**63**	**193**	**546**

Set - III	Ronak	Alok	Girish	Babar	Chaman	Raghu	Nayan	Madhav	Abhijit	Total
Hadmdiya	16	9	10	4	9	9	13	3	3	**76**
Khorasa	15	7	18	17	8	13	16	7	7	**108**
Loej	42	27	48	63	0	66	29	18	22	**315**
Mandlimpur	14	5	20	7	15	31	9	6	1	**108**
Odadar	63	24	54	27	32	40	50	15	23	**328**
Pipali	19	8	15	11	15	19	14	17	5	**123**
Shedhaya	15	3	4	0	0	0	14	0	8	**44**
Surva	35	11	12	6	31	7	0	10	8	**120**
Total	**219**	**94**	**181**	**135**	**110**	**185**	**145**	**76**	**77**	**1222**

F 13. Bull-wise AI, Conception, Calving and Daughters Retained till Completion of Milk Recording during the Year

S.N.	CENTRE	VILLAGE	OWNER NAME	DAUGHTER TAG NO.	DATE OF BIRTH	SIRE NAME	SET	D.O.C	AFC	AV. M.P.	D.O.D.
1	Loej	Mankhetra	Vanaraj uka	4216	15/06/2009	Bhagaro	I	08/11/2014	64.8	8.2	15/08/2015
2	Loej	Rahij	Natha uka	13066	12/07/2009	Bhagaro	I	27/05/2013	46.5	8.9	08/05/2014
3	Loej	Atroli	Ram kara	7437	10/08/2010	Bhagaro	I	06/08/2015	59.9	6.6	30/06/2016
4	Loej	Nagichana	Bhaya parabat	13002	24/08/2010	Bhagaro	I	28/11/2014	51.2	10.0	30/06/2015
5	Loej	Gorej	Virabhan jina	249	14/09/2010	Bhagaro	I	08/08/2014	46.8	8.0	05/06/2015
6	Mandlikpur	Khadiya	Bhima kala	A087	29/11/2011	Bhagaro	I	17/08/2015	44.6	12.8	19/06/2016
7	Mandlikpur	Pratappur	Kamlesh bhanjibhai	1910	15/12/2011	Bhagaro	I	14/04/2016	52.0	7.7	14/02/2017
8	Mandlikpur	Choravadi	Dhiru devraj sorathiya	2383	05/03/2012	Bhagaro	I	13/05/2016	50.3	8.0	14/03/2017
9	Mandlikpur	Nagalpur	Haka chagan harkani	2394	29/03/2012	Bhagaro	I	12/08/2016	52.5	8.0	10/06/2018
10	Mandlikpur	Toraniya	Naran parbat tilva	9629	17/04/2012	Bhagaro	I	20/08/2016	52.1	6.5	14/07/2017
11	Mandlikpur	Anandpur	Khima vagman	A936	22/05/2012	Bhagaro	I	15/04/2016	46.8	9.5	15/02/2017
12	Mandlikpur	Virpur	Vitthal ranchod vora	1935	27/06/2012	Bhagaro	I	13/09/2016	50.6	11.9	15/07/2018
13	Mandlikpur	Choravadi	Arvind gordhan	1913	18/10/2012	Bhagaro	I	24/11/2016	49.2	11.4	24/09/2017
14	Mandlikpur	Bandhala	Bala nanji	10781	10/03/2010	Bhagaro	I	25/04/2015	61.5	11.6	01/04/2016
15	Mandlikpur	Etala	Bhagvan hardashbhai	A917	08/09/2010	Bhagaro	I	26/07/2015	58.6	6.1	23/06/2016
16	Mandlikpur	Anatha	Bhikha lakhabhai	12850	12/11/2010	Bhagaro	I	10/10/2015	58.9	9.1	11/09/2016
17	Mandlikpur	Chorvadi	Budhdhabhai vallabhabhai	953	30/07/2011	Bhagaro	I	27/10/2015	51.0	9.9	06/09/2016
18	Mandlikpur	Bilkha	Natunatha virani	10757	22/12/2010	Bhagaro	I	10/10/2015	57.6	9.1	18/09/2016
19	Mandlikpur	Torniya	Bhagvanji khimji	1931	27/01/2011	Bhagaro	I	26/06/2015	53.0	9.6	10/06/2016
20	Mandlikpur	Anadpur	Jaman uka dobariya	12861	25/02/2011	Bhagaro	I	15/10/2015	55.7	9.7	15/09/2016
21	Mandlikpur	Mevasa	Rasikbhai gordhanbhai	12829	15/04/2011	Bhagaro	I	05/11/2015	54.7	8.8	08/10/2016
22	Mandlikpur	Chorvadi	Govindbhai haribhai kotadiya	966	20/04/2011	Bhagaro	I	16/11/2016	67.0	8.4	16/10/2017
23	Mandlikpur	Itala	Jetha karsanbhai	12838	22/06/2011	Bhagaro	I	22/11/2015	53.1	10.1	10/10/2016
24	Mandlikpur	Naglpur	Harsukhbhai dayabhai	1970	20/07/2011	Bhagaro	I	15/08/2016	60.9	8.0	14/07/2017
25	Sherdi	Velava	Madhavji parbat viroja	10615	20/11/2011	Bhagaro	I	05/08/2015	44.5	11.0	12/07/2016
26	Sherdi	Manavadar	Gokar uka dedivadiya	10617	27/11/2011	Bhagaro	I	24/09/2015	45.9	9.3	04/09/2016
27	Sherdi	Sheradi	Kara karshan	10618	30/11/2011	Bhagaro	I	28/09/2015	46.0	9.9	03/09/2016
28	Sherdi	Vekri	Ajit velji karavadiya	10620	12/04/2011	Bhagaro	I	06/07/2015	50.8	9.7	12/07/2016
29	Sherdi	Buri	Ravji hira suraja	10623	12/10/2011	Bhagaro	I	13/09/2015	47.1	10.9	03/09/2016
30	Sherdi	Ronki	Kantilal mavaji	10626	16/12/2011	Bhagaro	I	11/08/2015	43.9	9.8	13/07/2016
31	Sherdi	Jilana	Pravin lalji mendapara	1591	26/12/2011	Bhagaro	I	12/10/2015	45.6	9.0	18/10/2016
32	Sherdi	Limbuda	Manshukh natha sureja	10640	15/01/2012	Bhagaro	I	12/12/2015	46.9	9.7	02/11/2016
33	Sherdi	Buri	Kana puna	10651	18/02/2012	Bhagaro	I	03/02/2016	47.5	9.3	03/02/2017
34	Sherdi	Sheradi	Jetha kana mori	10654	27/02/2012	Bhagaro	I	19/02/2016	47.8	10.1	28/01/2017
35	Sherdi	Ranki	Ravjidaya r.	10658	13/03/2012	Bhagaro	I	24/03/2016	48.4	8.7	19/03/2017
36	Harmadiya	Morvad	Govind bhai chandera	9696	26/08/2010	Bhagaro	I	10/09/2015	60.5	7.6	17/07/2016
37	Harmadiya	Alidar	Mayurbhai gohil	9686	10/12/2010	Bhagaro	I	02/07/2015	54.7	6.8	19/06/2016
38	Harmadiya	Alidar	Nirmitbhai bhagatbhai	9603	17/11/2011	Bhagaro	I	27/09/2015	46.4	7.8	12/07/2016
39	Harmadiya	Harmadiya	Bharatbhai khasiya	A582	10/12/2011	Bhagaro	I	03/08/2015	43.8	12.3	20/07/2016
40	Pipali	Echad	Meansibhai danabhai	9458	04/02/2010	Bhagaro	I	21/02/2015	60.6	9.4	15/12/2015
41	Pipali	Dudana	Kumarbhai rathod	9457	27/02/2010	Bhagaro	I	08/03/2015	60.3	8.6	26/12/2015
42	Pipali	Ronaj	Devsibhai ravliya	9456	18/04/2010	Bhagaro	I	28/03/2015	59.3	9.2	15/02/2016
43	Pipali	Arnej	Arjanbhai dhirubhai	9452	11/06/2010	Bhagaro	I	19/04/2015	58.3	9.2	30/01/2016
44	Pipali	Sonpara	Kanabhai dodiya	9451	18/07/2010	Bhagaro	I	03/05/2015	57.5	8.7	20/02/2016
45	Pipali	Rajpara	Mansinhbhai chavada	9453	06/05/2010	Bhagaro	I	10/04/2015	59.2	8.3	21/02/2016
46	Loej	Nagichana	Haradash parabat	366	05/10/2010	Laxman	I	24/08/2016	70.7	10.2	30/06/2017
47	Loej	Divasa	Mohan kumbha	4234	05/10/2010	Laxman	I	23/08/2015	58.6	9.3	29/03/2016
48	Loej	Nagichana	Haradash parabat	7264	27/10/2010	Laxman	I	14/02/2017	75.7	9.4	15/12/2017
49	Loej	Divasa	Mohan mula	7416	10/11/2010	Laxman	I	22/01/2017	74.5	8.9	30/11/2017
50	Loej	Rahij	Somat meraman	A-344	19/11/2010	Laxman	I	20/09/2016	70.1	9.5	28/07/2017
51	Loej	Kankasha	Devanand masari	375	13/11/2010	Laxman	I	07/08/2016	68.8	9.0	02/03/2017
52	Loej	Sangavada	Raju hira	5712	04/12/2010	Laxman	I	14/12/2016	72.4	9.8	18/10/2017
53	Loej	Rahij	Ram veja	351	07/12/2010	Laxman	I	16/11/2016	71.4	7.5	16/11/2016
54	Loej	Nagichana	Arajan vajasi	896	12/12/2010	Laxman	I	10/03/2017	75.0	9.2	09/02/2018
55	Loej	Rahij	Bhaya meraman	592	02/09/2011	Laxman	I	03/09/2017	72.1	9.4	23/07/2018
56	Loej	Loej	Kishor rana	4240	15/02/2011	Laxman	I	11/12/2015	57.9	8.8	16/07/2016
57	Loej	Menej	Khumansih parabatji	13108	03/03/2011	Laxman	I	28/10/2015	55.9	8.8	30/06/2016
58	Loej	Manakhetra	Subhash karashan	7232	30/08/2011	Laxman	I	17/10/2015	49.6	9.1	12/12/2016
59	Loej	Nagichana	Vajasi bhoja	1912	25/08/2011	Laxman	I	23/05/2017	69.0	9.7	09/06/2018
60	Loej	Bamanavada	Arajan natha	372	08/09/2011	Laxman	I	09/02/2017	65.1	9.9	06/02/2018
61	Loej	Manakhetra	Jagadish kachela	1753	13/09/2011	Laxman	I	17/01/2017	64.2	8.4	28/10/2017
62	Loej	Bamanavada	Govind kesur	394	11/10/2011	Laxman	I	29/07/2016	57.6	8.5	01/03/2017
63	Loej	Loej	Laxaman rana	5842	10/10/2011	Laxman	I	08/11/2015	49.0	8.6	15/08/2016
64	Loej	Loej	Naran somat	6697	22/10/2011	Laxman	I	28/05/2016	55.2	8.0	16/05/2017
65	Loej	Kankasha	Bachu oghad	7457	06/10/2011	Laxman	I	20/01/2017	63.6	10.0	29/12/2017
66	Loej	Nagichana	Vanu varajang	354	04/10/2011	Laxman	I	30/08/2016	58.9	8.9	30/04/2017
67	Loej	Nagichana	Ala kana	A-2384	15/10/2011	Laxman	I	02/09/2017	70.7	10.1	30/06/2018
68	Loej	Bamanavada	Mulu devarakhi	309	14/10/2011	Laxman	I	20/12/2015	50.2	9.4	15/06/2016
69	Loej	Kankasha	Bhupat karashan	398	20/11/2011	Laxman	I	31/07/2016	56.4	8.4	13/06/2017
70	Loej	Kankasha	Uka malade	2220	12/11/2011	Laxman	I	30/06/2016	55.6	7.2	15/02/2017
71	Loej	Rahij	Manda menasi	283	10/01/2013	Laxman	I	03/03/2017	49.7	8.8	08/01/2018
72	Loej	Nagichana	Arajan bhimasi	7273	13/01/2012	Laxman	I	16/04/2016	51.1	12.0	13/03/2017
73	Loej	Mangrol	Bhavesh karashan	5763	15/02/2012	Laxman	I	03/12/2017	69.6	9.1	12/12/2018
74	Loej	Zariyavada	Rana deva	1791	25/02/2012	Laxman	I	18/01/2017	58.8	7.9	29/10/2017
75	Loej	Loej	Vejanand devasi	1928	28/03/2012	Laxman	I	05/06/2017	62.3	11.3	23/06/2018
76	Loej	Kankasha	Govind karashan	5707	05/04/2012	Laxman	I	23/02/2017	58.7	8.5	31/12/2017
77	Loej	Nagichana	Haradash parabat	7425	22/04/2012	Laxman	I	03/10/2016	53.4	8.4	25/08/2017
78	Loej	Makatupur	Samat karamata	242	23/04/2012	Laxman	I	25/08/2016	52.1	8.5	25/06/2017
79	Loej	Kankasha	Arajan govind	392	14/05/2012	Laxman	I	20/11/2016	54.3	8.5	26/10/2017

80	Loej	Rahij	Naga vira	7446	11/05/2012	Laxman	I	30/04/2016	47.7	7.1	30/01/2017
81	Loej	Nagichana	Punja vira	326	15/05/2012	Laxman	I	14/10/2016	53.0	8.2	13/08/2017
82	Loej	Sangavada	Bachu deva	5767	22/05/2012	Laxman	I	13/11/2017	65.8	9.9	17/08/2018
83	Loej	Rahij	Devasi arasi	317	28/05/2012	Laxman	I	04/01/2017	55.3	7.3	29/10/2017
84	Loej	Bamanavada	Meraman kesur	389	19/06/2012	Laxman	I	09/07/2016	48.7	8.3	15/02/2017
85	Loej	Mankhetra	Ramasing bhama	5779	08/07/2012	Laxman	I	23/09/2017	62.6	10.2	03/09/2018
86	Loej	Kankasha	Jadav masari	2244	09/08/2012	Laxman	I	29/10/2016	50.7	7.4	29/08/2017
87	Loej	Rahij	Natha uka	897	02/09/2012	Laxman	I	13/02/2018	65.4	9.3	14/12/2018
88	Loej	Nagichana	Haja kaba	2278	16/09/2012	Laxman	I	23/06/2017	57.2	10.1	08/07/2018
89	Loej	Menej	Sanjay kanaji	295	08/10/2012	Laxman	I	28/09/2016	47.7	10.4	09/09/2017
90	Loej	Rahij	Arajan laxaman	2228	12/11/2012	Laxman	I	15/07/2016	44.1	8.6	14/02/2017
91	Loej	Kankasha	Saraman vajasi	3105	28/11/2012	Laxman	I	18/12/2016	48.7	9.8	15/07/2017
92	Loej	Nagichana	Hamir raja	289	16/09/2013	Laxman	I	09/11/2017	49.8	9.6	15/09/2018
93	Loej	Bamanavada	Arasi haja	285	20/09/2013	Laxman	I	10/03/2018	53.7	8.7	16/01/2019
94	Loej	Nagichana	Kara kana	383	28/09/2013	Laxman	I	03/01/2018	51.2	8.8	10/09/2018
95	Loej	Mankhetra	Karashan amara	3108	10/10/2013	Laxman	I	09/11/2017	49.0	9.3	15/09/2018
96	Loej	Mankhetra	Vijay punja	287	09/10/2013	Laxman	I	08/12/2017	50.0	9.2	07/10/2018
97	Mandlikpur	Nani monpari	Pravin deversy	10782	19/07/2012	Laxman	I	23/10/2016	51.2	9.8	25/08/2017
98	Mandlikpur	Bandhala	Dhiru ramani	2395	29/07/2012	Laxman	I	15/11/2016	51.6	9.6	16/09/2017
99	Mandlikpur	Choravadi	Dhiru satasiyta	A873	21/08/2012	Laxman	I	05/09/2016	48.5	9.8	15/07/2017
100	Mandlikpur	Nava pipliya	Jashsukh haribhai	2387	25/09/2012	Laxman	I	13/11/2016	49.6	10.2	15/09/2017
101	Mandlikpur	Bilkha	Dhrmendar aanad tilva	10729	01/10/2012	Laxman	I	26/01/2018	63.9	8.6	26/11/2018
102	Mandlikpur	Khadiya	Malde govind	2345	14/10/2012	Laxman	I	10/12/2016	49.9	8.3	12/10/2017
103	Surva	Mathasutiya	Vasing kana	A-12637	29/07/2012	Laxman	I	05/04/2016	44.3	8.5	05/02/2017
104	Surva	Khandheri	Denesh raja	3410	01/08/2012	Laxman	I	22/09/2017	61.7	8.7	20/07/2018
105	Surva	Khandheri	Dana arshi	4211	20/08/2012	Laxman	I	18/05/2017	56.9	10.6	18/03/2018
106	Surva	Amblas	Pravin padaliya	4282	28/08/2012	Laxman	I	25/06/2017	57.9	17.5	25/04/2018
107	Harmadiya	Aalidar	Kanabhai zala	1222	25/03/2012	Laxman	I	16/10/2015	42.7	7.9	10/07/2016
108	Pipali	Kaj	Karsam dodiya	11805	18/06/2012	Laxman	I	08/04/2016	45.7	7.9	28/01/2017
109	Pipali	Moradiya	Bhana badai	11806	09/06/2012	Laxman	I	10/08/2016	50.1	6.1	03/05/2017
110	Pipali	Morvad	Natubhai vala	11817	24/10/2012	Laxman	I	14/06/2016	43.7	8.2	09/03/2017
111	Movana	Chandigadh	Bhikha ven koli	344	27/11/2011	Laxman	I	10/08/2015	44.4	17.5	15/06/2016
112	Movana	Madharvada	Badhubhai vala	A196	12/01/2012	Laxman	I	13/10/2014	33.0	12.6	15/08/2015
113	Movana	Chandigadh	Bhikha vela	10109	16/04/2012	Laxman	I	26/04/2015	36.3	10.8	29/02/2016
114	Movana	Chandigadh	Pravin sidi	A343	22/04/2012	Laxman	I	12/04/2015	35.7	9.9	15/03/2016
115	Movana	Chandigadh	Ranmal ramde naya mer	A138	14/07/2012	Laxman	I	11/11/2015	39.9	10.5	10/09/2016
116	Movana	Mendrada	Mohan hirji kaneriya	A128	04/08/2012	Laxman	I	20/08/2016	48.6	9.7	10/06/2017
117	Movana	Keshod	Dhirubhai nana	A178	07/08/2012	Laxman	I	26/01/2016	41.7	8.3	30/11/2016
118	Movana	Fagari	Bijal lakhman makvana	A346	18/09/2012	Laxman	I	20/03/2016	42.0	9.6	20/01/2017
119	Movana	Agatray	Parabat mulubhai	A119	01/11/2012	Laxman	I	15/05/2016	42.4	10.7	15/03/2017
120	Movana	Keshod	Naga prabat	A117	24/11/2012	Laxman	I	14/07/2016	43.7	6.1	15/05/2017
121	Loej	Bamanavada	Naran kara	2588	22/09/2011	Laxman	I	18/10/2015	48.9	9.6	20/07/2016
122	Loej	Loej	Ram marakhi	263	31/10/2012	Laxman	I	02/08/2016	45.1	8.5	30/05/2017
123	Loej	Bamanavada	Ram devasi	4214	23/10/2012	Laxman	I	15/05/2017	54.7	9.2	15/03/2018
124	Harmadiya	Morvad	Govindbhai chandish	B2668	30/04/2012	Laxman	I	12/06/2018	73.4	8.3	02/01/2019
125	Loej	Sangavada	Vijaydas mohandas	665	25/09/2012	Laxman	I	09/12/2017	62.5	9.9	12/10/2018
126	Loej	Bamanavada	Lakha devarakhi	2250	19/02/2012	Laxman	I	18/06/2017	64.0	9.2	25/04/2018
127	Loej	Loej	Bhima arasi	1779	30/10/2012	Laxman	I	30/01/2017	51.1	8.8	30/11/2017
128	Loej	Bamanavada	Govind kesur	7295	08/10/2013	Laxman	I	30/09/2019	71.8	9.1	30/06/2020
129	Loej	Loej	Kara govind	1584	21/02/2011	Laxman	I	08/05/2016	62.6	9.3	10/03/2017
130	Loej	Menej	Sanjay kanaji	A-295	09/10/2012	Laxman	I	07/09/2020	95.0	11.8	10/07/2021
131	Loej	Mankhetra	Pithabhai mori	4213	10/08/2013	Nagraj	I	01/05/2017	44.7	9.0	27/02/2018
132	Loej	Nagichana	Ram naga	1784	17/08/2013	Nagraj	I	20/01/2017	41.2	8.6	20/12/2017
133	Loej	Mankhetra	Subhash keshar	5743	27/08/2013	Nagraj	I	03/02/2017	41.3	11.1	08/12/2017
134	Loej	Ateoli	Visa laxaman	7451	08/09/2013	Nagraj	I	25/12/2016	39.6	8.2	29/10/2017
135	Loej	Kankasha	Hamir raja	2298	30/10/2013	Nagraj	I	02/10/2016	35.1	9.2	19/08/2017
136	Loej	Rahij	Viram kesar	1781	20/11/2013	Nagraj	I	12/02/2017	38.8	9.3	15/12/2017
137	Loej	Nagichana	Bhaya parabat	246	24/11/2013	Nagraj	I	06/01/2018	49.4	10.6	17/10/2018
138	Loej	Sangavada	Vijay bapu	5764	22/11/2013	Nagraj	I	08/12/2017	48.6	10.0	13/12/2018
139	Movana	Fagri	Bhana natha	A732	01/10/2013	Nagraj	I	18/08/2016	34.6	10.8	30/05/2017
140	Mandlikpur	Mandalikpur	Jivaraj gokal	B3318	02/01/2014	Nagraj	I	06/05/2018	52.1	7.7	07/03/2019
141	Harmadiya	Alidar	Parmar jagdish	B2938	27/03/2014	Nagraj	I	14/05/2018	49.6	7.0	23/03/2019
142	Surva	Gundarada	Natha uka	11470	28/11/2013	Nagraj	I	22/03/2017	39.8	8.9	22/01/2018
143	Loej	Divasa	Ramesh raja	312	09/01/2014	Nagraj	I	08/02/2018	49.0	8.5	15/12/2018
144	Loej	Kankasha	Bhikhan vala	251	25/01/2014	Nagraj	I	10/04/2018	50.5	8.5	10/04/2018
145	Loej	Loej	Ram karashan	254	05/01/2013	Nagraj	I	03/01/2018	60.0	9.3	30/10/2018
146	Loej	Menej	Khumansih parabatji	258	04/02/2014	Nagraj	I	12/03/2018	49.2	9.2	15/01/2019
147	Loej	Farangata	Naran vajasi	4043	14/09/2013	Nagraj	I	27/05/2018	56.4	9.4	28/03/2019
148	Loej	Kankasha	Bhikhubha jalubha	6698	20/10/2013	Nagraj	I	03/04/2018	53.5	8.6	30/01/2019
149	Pipali	Harmadiya	Navjit dobariya	B0151	21/01/2014	Nagraj	I	16/07/2018	53.8	16.0	27/04/2019
150	Pipali	Mitiyaj	Bharat chohan	A2155	06/02/2014	Nagraj	I	08/04/2018	50.0	7.4	24/02/2019
151	Pipali	Eravad	Devasi kambliya	A2156	07/03/2014	Nagraj	I	05/09/2017	42.0	7.1	26/08/2018
152	Pipali	Lodhava	Gopal bhima	A2158	02/04/2014	Nagraj	I	05/08/2017	40.1	6.7	22/06/2018
153	Pipali	Pipli	Pravinbhai chohan	A2178	24/12/2013	Nagraj	I	07/12/2017	47.5	7.2	18/10/2018
154	Mandlikpur	Bandhala	Bhagvan ravji	10741	15/06/2014	Nagraj	I	12/08/2018	49.9	8.5	11/06/2019
155	Loej	Kankasha	Naga arjan	7212	19/04/2014	Nagraj	I	15/07/2018	50.9	9.3	15/05/2019
156	Harmadiya	Alidar	Gohil bhagavanbhai	B2662	05/12/2013	Nagraj	I	25/06/2018	54.7	5.9	13/05/2019
157	Loej	Nagichana	Ramesh veja	1800	18/12/2013	Nagraj	I	03/09/2018	56.5	10.2	30/06/2019
158	Loej	Chandavana	Deva govind	1930	11/04/2014	Nagraj	I	10/09/2018	53.0	9.6	16/07/2019
159	Loej	Mangrol	Musa mamad	234	23/03/2014	Nagraj	I	05/06/2018	50.5	10.1	07/04/2019
160	Loej	Loej	Araja naran	239	20/03/2014	Nagraj	I	03/09/2018	53.5	9.2	30/06/2019
161	Loej	Mankhetra	Rama dhana	2273	08/11/2013	Nagraj	I	11/10/2018	59.1	10.3	14/08/2019
162	Loej	Kankasha	Naga arajan	7484	26/02/2014	Nagraj	I	03/11/2018	56.3	8.9	30/08/2019
163	Loej	Menej	Ramasi nandaniya	2300	10/03/2014	Nagraj	I	13/11/2018	56.2	10.2	15/09/2019
164	Loej	Rahij	Parabat veja	203	22/10/2013	Nagraj	I	22/10/2017	48.0	8.9	31/08/2018
165	Loej	Madhavpur	Jiva mitha	233	08/02/2014	Nagraj	I	13/03/2018	49.1	10.4	17/01/2019
166	Loej	Loej	Devasi menasi	2321	22/07/2014	Nagraj	I	12/03/2019	55.7	9.8	14/01/2020

167	Loej	Kankasha	Rana sajan	2279	05/09/2013	Nagraj	I	22/03/2017	42.5	10.3	26/01/2018
168	Loej	Kankasha	Govind haradas	209	22/06/2014	Nagraj	I	10/08/2018	49.6	9.7	15/06/2019
169	Surva	Gundarada	Naran bera	13927	07/05/2014	Nagraj	I	15/08/2018	51.3	6.6	15/06/2019
170	Surva	Rampara	Ashokbhai	13933	10/06/2014	Nagraj	I	20/09/2018	51.4	9.6	20/07/2019
171	Loej	Shil	Dipak chana	7433	14/06/2014	Nagraj	I	05/09/2019	62.8	9.1	13/07/2020
172	Loej	Loej	Bhima arasi	284	09/01/2014	Nagraj	I	12/10/2019	69.1	10.7	14/08/2020
173	Loej	Sangavada	Kana uka	288	05/04/2014	Nagraj	I	17/10/2019	66.4	10.0	15/08/2020
174	Pipali	Kaj	Meru pasar	293	30/12/2013	Nagraj	I	04/07/2019	66.1	6.5	03/06/2020
175	Loej	Bamanavada	Arajan bhimasi	1705	15/10/2014	Bholenath	II	10/02/2018	39.9	11.8	15/12/2018
176	Pipali	Velava	Girish vala	151	07/07/2014	Bholenath	II	16/11/2017	40.4	7.2	22/09/2018
177	Pipali	Rakhej	Dipu parbat	164	13/08/2014	Bholenath	II	03/11/2017	38.7	6.3	20/08/2018
178	Pipali	Kanajdi	Kalu parmar	188	23/08/2014	Bholenath	II	13/10/2017	37.7	7.0	28/07/2018
179	Pipali	Kaj	Zala subhash	111	18/12/2014	Bholenath	II	27/01/2018	37.3	7.3	24/11/2018
180	Pipali	Panadar	Ram bhai	117	19/02/2015	Bholenath	II	16/12/2017	33.9	9.1	20/10/2018
181	Surva	Surva	Raju ganda	671	22/12/2014	Bholenath	II	15/06/2018	41.8	7.5	30/03/2019
182	Loej	Mankhetra	Kana khima	13320	09/12/2014	Bholenath	II	02/06/2018	41.8	9.0	15/03/2019
183	Pipali	Pipli	Gohil raghu	115/11992	28/01/2015	Bholenath	II	09/06/2018	40.4	7.8	06/04/2019
184	Pipali	Khera	Balvant kher	144	18/07/2014	Bholenath	II	05/05/2018	45.6	6.2	23/02/2019
185	Pipali	Sompara	Rashing mori	155	12/07/2014	Bholenath	II	04/03/2018	43.8	7.2	22/01/2019
186	Pipali	Velava	Vadhel arjan bhai	136	14/10/2014	Bholenath	II	12/04/2018	42.0	7.2	10/02/2019
187	Pipali	Thoradi	Ikabal bhai	190/A2154	23/11/2014	Bholenath	II	05/06/2018	42.4	7.0	28/03/2019
188	Mandlikpur	Bilakha	Jenti ramji	12603	04/12/2014	Bholenath	II	12/08/2018	44.3	9.1	11/06/2019
189	Pipali	Ronaj	Parshotam bhai	181	13/09/2014	Bholenath	II	03/09/2018	47.7	6.2	10/07/2019
190	Pipali	Dolasa	Bhart bhai	105	29/08/2014	Bholenath	II	06/08/2018	47.3	5.4	21/06/2019
191	Pipali	Advi	Dodiya kana bhai	199	14/12/2014	Bholenath	II	18/07/2018	43.1	7.7	20/06/2019
192	Harmadiya	Moravad	Chndera lkakhan bhai	2668	11/08/2014	Bholenath	II	12/06/2018	46.1	8.1	15/01/2019
193	Loej	Nagichana	Bharat bhimasi	5742	28/08/2014	Bholenath	II	12/09/2018	48.5	8.1	14/07/2019
194	Loej	Menej	Khumansih parabatji	594	30/10/2014	Bholenath	II	02/09/2018	46.1	9.4	30/06/2019
195	Loej	Shil	Govind hama	13175	12/11/2014	Bholenath	II	08/09/2018	45.9	7.8	13/07/2019
196	Mandlikpur	Nagalpur	Popat vagashiya	3874/A5616	29/12/2014	Bholenath	II	02/10/2018	45.1	8.0	03/08/2019
197	Loej	Atroli	Ram kara	231	02/10/2014	Bholenath	II	03/11/2018	49.1	10.4	30/08/2019
198	Loej	Kankasha	Govind marakhi		03/09/2014	Bholenath	II	08/12/2018	51.2	15.0	10/10/2019
199	Loej	Rahij	Arajan laxaman	266	29/10/2014	Bholenath	II	03/10/2018	47.2	9.6	16/08/2019
200	Loej	Loej	Kishor rana	2285	16/10/2014	Bholenath	II	03/11/2018	48.6	8.7	07/09/2019
201	Loej	Rahij	Parabat natha	2288	08/06/2015	Bholenath	II	31/12/2018	42.8	9.4	30/10/2019
202	Loej	Nagichana	Haradash parabat	7466	29/09/2014	Bholenath	II	10/12/2018	50.4	11.1	17/10/2019
203	Pipali	Velva	Natha bhai	192	18/01/2015	Bholenath	II	02/11/2018	45.5	7.5	31/08/2019
204	Loej	Kankasha	Laxaman devasi	7279	09/09/2014	Bholenath	II	25/11/2018	50.6	10.7	30/09/2019
205	Loej	Divasa	Jina ramasi	666	29/10/2014	Bholenath	II	22/02/2019	51.8	9.0	27/12/2019
206	Loej	Rahij	Rama marasi	662	28/10/2014	Bholenath	II	02/01/2019	50.2	9.7	30/10/2019
207	Loej	Mankhetra	Pitha barad	670	24/10/2014	Bholenath	II	23/12/2018	50.0	10.1	26/10/2019
208	Loej	Rahij	Ram devasi	667	22/10/2014	Bholenath	II	02/03/2019	52.3	10.0	30/12/2019
209	Loej	Atroli	Visa laxaman	2292	26/10/2014	Bholenath	II	31/01/2019	51.2	11.1	30/10/2019
210	Loej	Mankhetra	Karashan naran	13392	11/12/2014	Bholenath	II	03/01/2019	48.8	10.0	07/11/2019
211	Loej	Kankasha	Vajasi malade	13124	19/11/2014	Bholenath	II	20/12/2018	49.1	9.6	23/10/2019
212	Loej	Maktupur	Veja marakhi	13196	25/11/2014	Bholenath	II	10/02/2019	50.6	9.4	13/12/2019
213	Loej	Mankhetra	Bharat bhama	13106	30/11/2014	Bholenath	II	03/02/2019	50.2	9.7	07/12/2019
214	Loej	Bamanavada	Bhimasi rana	13384	26/12/2014	Bholenath	II	01/04/2019	51.2	9.1	30/01/2020
215	Loej	Sangavada	Bachu babu	13182	11/11/2014	Bholenath	II	08/11/2018	47.9	9.4	18/09/2019
216	Loej	Atroli	Malade kana	13149	09/11/2014	Bholenath	II	27/12/2018	49.6	9.0	30/10/2019
217	Loej	Bamanavada	Jetha laxaman	13146	20/11/2014	Bholenath	II	08/11/2018	47.6	9.2	08/09/2019
218	Loej	Karej	Malade daya	13336	01/12/2014	Bholenath	II	16/03/2019	51.5	9.5	18/12/2019
219	Loej	Loej	Laxaman devat	13343	11/12/2014	Bholenath	II	03/01/2019	48.8	9.1	30/10/2019
220	Loej	Nagichana	Govind haradash	13368	23/12/2014	Bholenath	II	10/04/2019	51.6	9.8	11/02/2020
221	Loej	Bamanavada	Laxaman dosa	13244	21/10/2014	Bholenath	II	23/11/2018	49.1	9.8	31/08/2019
222	Loej	Kankasha	Arajan tapu	13170	02/12/2014	Bholenath	II	30/12/2018	49.0	7.8	30/10/2019
223	Loej	Rahij	Devasi veja	13305	08/12/2014	Bholenath	II	10/02/2019	50.1	9.2	15/12/2019
224	Loej	Sangavada	Jenti daya	13130	25/11/2014	Bholenath	II	09/02/2019	50.5	9.6	16/12/2019
225	Loej	Mankhetra	Bhikhu merag	13173	19/11/2014	Bholenath	II	27/12/2019	61.3	9.3	30/12/2019
226	Loej	Kankasha	Naran vira	13185	20/11/2014	Bholenath	II	13/01/2019	49.8	9.2	15/11/2019
227	Loej	Zariyavada	Manda daya	13314	26/12/2014	Bholenath	II	16/11/2018	46.7	8.3	16/09/2019
228	Loej	Loej	Jagamal mulu	13326	08/01/2015	Bholenath	II	10/02/2019	49.1	9.0	10/12/2019
229	Loej	Shil	Ramu jina	13400	01/01/2015	Bholenath	II	06/01/2019	48.2	9.6	07/11/2019
230	Loej	Bamanavada	Hamir malade	13346	26/12/2014	Bholenath	II	06/05/2019	52.3	9.2	20/02/2020
231	Loej	Nagichana	Haradash parabat	13330	02/01/2015	Bholenath	II	08/01/2019	48.2	8.5	15/11/2019
232	Loej	Atroli	Deva ala	13307	08/01/2015	Bholenath	II	30/12/2018	47.7	9.2	30/10/2019
233	Loej	Nagichana	Arajan masari	13195/3166	29/10/2014	Bholenath	II	10/05/2019	54.4	10.2	17/03/2020
234	Loej	Kankasha	Arajan karashan	13324	18/12/2014	Bholenath	II	15/06/2019	53.9	8.5	15/04/2020
235	Loej	Virol	Laxaman babu	13344	03/12/2014	Bholenath	II	06/07/2019	55.1	8.4	11/05/2020
236	Loej	Kankasha	Masari kara	202	29/04/2015	Bholenath	II	13/07/2019	50.5	9.4	16/05/2020
237	Loej	Bamanavada	Karashan rajasi	13359	15/12/2014	Bholenath	II	07/08/2019	55.8	9.1	10/06/2020
238	Loej	Bamanavada	Marakhi mulu	694	08/09/2014	Bholenath	II	03/04/2019	54.8	9.2	06/02/2020
239	Loej	Mankhetra	Uka naran	13363	13/12/2014	Bholenath	II	10/07/2019	54.9	7.9	11/05/2020
240	Mandlikpur	Mandalikpur	Mansukh hirji umatiya	12672/9648	13/11/2014	Bholenath	II	19/07/2019	56.2	9.2	16/05/2020
241	Loej	Mankhetra	Jagadish kachela	2225	25/09/2014	Bholenath	II	12/10/2019	60.6	9.3	15/08/2020
242	Loej	Nagichana	Punja vira	204	07/05/2015	Bholenath	II	03/11/2019	54.0	9.5	05/10/2020
243	Loej	Bamanavada	Ram veja	2223	14/06/2015	Bholenath	II	10/08/2019	49.9	10.5	10/06/2020
244	Pipali	Advi	Parmar vaju	138	08/11/2014	Bholenath	II	29/10/2019	59.7	6.2	20/09/2020
245	Pipali	Sompara	Karshan bhai	121	24/12/2014	Bholenath	II	16/08/2019	55.8	6.5	20/07/2020
246	Pipali	Harmadiya	Bharat bhai	145	18/12/2014	Bholenath	II	07/09/2019	56.7	7.3	17/07/2020
247	Loej	Mankhetra	Uka jiva	655	25/03/2015	Bholenath	II	07/02/2020	58.5	10.3	05/12/2020
248	Loej	Rahij	Vakamat laxaman	262	20/12/2014	Bholenath	II	15/01/2020	60.9	10.1	15/11/2020
249	Loej	Nagichana	Bharat bhimasi	13352	16/12/2014	Bholenath	II	08/10/2019	57.8	10.6	10/08/2020
250	Loej	Shil	Yogesh menasi	677110	11/06/2015	Bholenath	II	08/05/2020	58.9	9.9	09/02/2021
251	Loej	Loej	Vimal mulu	2245	09/06/2015	Bholenath	II	03/05/2020	58.8	9.3	03/04/2021
252	Loej	Loej	Kana bhima	13388	22/12/2014	Bholenath	II	12/06/2020	65.7	9.9	15/04/2021
253	Loej	Mankhetra	Bharat bhama	2699	23/01/2015	Bholenath	II	20/12/2020	70.9	10.6	28/10/2021

254	Loej	Loej	Swamimandir	5785	04/03/2015	Bholenath	II	25/11/2020	68.8	10.5	25/09/2021
255	Pipali	Kaj	Parmar arjan	9494	14/08/2015	Dhingalo	II	03/12/2017	27.7	8.3	20/09/2018
256	Pipali	Advi	Dodiya dinesh bhai	2986	08/05/2015	Dhingalo	II	10/07/2018	38.1	7.6	20/05/2019
257	Pipali	Advi	Parmar jeshing	2966/B0178	15/07/2015	Dhingalo	II	02/12/2018	40.6	6.6	28/09/2019
258	Pipali	Velva	Makvana manu bhai	2981	18/05/2015	Dhingalo	II	07/01/2019	43.7	5.5	02/11/2019
259	Mandlikpur	Bilkha	Dhanji bhai	3820	17/07/2015	Dhingalo	II	10/12/2019	52.8	8.0	08/10/2020
260	Loej	Bamanavada	Jagamal hamir	1585	25/07/2015	Dhingalo	II	08/01/2020	53.5	8.9	05/11/2020
261	Loej	Loej	Arajan marakhi	1589	14/07/2015	Dhingalo	II	09/11/2019	51.9	9.3	10/09/2020
262	Pipali	Harmadiya	Poshiya ramji bhai	2969	14/06/2015	Dhingalo	II	17/12/2019	54.1	5.9	13/11/2020
263	Pipali	Kodinar	Parmar bhavesh bhai	2984	31/05/2015	Dhingalo	II	07/11/2019	53.3	6.4	07/09/2020
264	Mandlikpur	Khadiya	Bharat bhikha bhai	1960	09/05/2015	Dhingalo	II	18/01/2020	56.4	7.1	16/11/2020
265	Odadar	Ratanapra	Raju bhai	4951	20/06/2015	Dhingalo	II	03/07/2019	48.5	6.7	14/06/2020
266	Loej	Rahij	Karashan raja	805	20/07/2015	Dhingalo	II	11/07/2020	59.8	9.7	25/04/2021
267	Pipali	Sonpara	Pochiya velji	9496	23/08/2015	Dhingalo	II	20/09/2020	61.0	7.8	26/07/2021
268	Pipali	Jamanvada	Chavda bharat	2962	21/07/2015	Dhingalo	II	03/11/2020	63.5	7.0	26/09/2021
269	Pipali	Dudana	Rathod kanu	2955	10/09/2015	Dhingalo	II	22/10/2020	61.4	7.6	20/08/2021
270	Loej	Kankasha	Arajan karashan	1787	25/07/2015	Dhingalo	II	05/11/2020	63.5	9.7	05/09/2021
271	Odadar	Balej	Devashi ghela gangani	A4909	15/05/2015	Dhingalo	II	12/08/2020	63.0	11.2	20/07/2021
272	Pipali	Pedhavada	Solni dinesh	9498	31/08/2015	Dhingalo	II	11/06/2020	57.4	8.1	28/04/2021
273	Pipali	Mitiyaj	Gohil prakash	9492	07/08/2015	Dhingalo	II	19/04/2020	56.4	8.4	23/02/2021
274	Odadar	Rajpra	Samla bhai	OLD TAG 3687 NEW TAG G1879	16/07/2015	Dhingalo	II	28/06/2020	59.5	10.1	20/04/2021
275	Odadar	Ratanapra	Arjan aebha bhai	3672	30/07/2015	Dhingalo	II	25/06/2020	58.9	7.6	30/05/2021
276	Odadar	Ratanapra	Haja arbham bhai	3983	16/06/2015	Dhingalo	II	10/06/2020	59.9	10.1	10/04/2021
277	Odadar	Ratiya	Jetmal bhai	3967	27/06/2015	Dhingalo	II	20/07/2020	60.8	9.9	21/05/2021
278	Odadar	Oladar	Rajshi bhai	3675	08/06/2015	Dhingalo	II	15/04/2020	58.3	10.7	15/02/2021
279	Odadar	Oladar	Naga bhima	3635	20/06/2015	Dhingalo	II	26/05/2020	59.2	10.4	26/03/2021
280	Loej	Manakhetra	Jagadish kachela	7445	20/12/2010	Haresh	II	08/05/2015	52.6	7.7	15/12/2015
281	Loej	Kankasha	Menasi kana	1751	21/12/2010	Haresh	II	27/01/2017	73.3	8.4	29/08/2017
282	Loej	Loej	Ram karashan	1755	16/12/2010	Haresh	II	28/01/2017	73.5	8.3	15/12/2017
283	Loej	Bamanavada	Arasi haja	1783	27/12/2010	Haresh	II	19/01/2017	72.8	8.3	29/11/2017
284	Loej	Rahij	Natha uka	13005	01/12/2011	Haresh	II	03/05/2016	53.1	8.8	30/11/2016
285	Loej	Manakhetra	Pithabhai mori	3103	22/03/2011	Haresh	II	24/12/2016	69.2	8.0	22/10/2017
286	Loej	Nagichana	Arajan masari	890	12/05/2011	Haresh	II	15/07/2017	74.2	9.2	15/05/2018
287	Loej	Chandavana	Masari dabhi	1916	21/05/2011	Haresh	II	03/07/2017	73.5	8.9	16/05/2018
288	Loej	Manakhetra	Bharat hamir	391	28/07/2011	Haresh	II	30/07/2016	60.1	9.0	02/03/2017
289	Loej	Rahij	Devasi oghad	13000	19/08/2011	Haresh	II	29/11/2014	39.4	11.1	16/05/2015
290	Loej	Kankasha	Vira laxaman	316	15/11/2011	Haresh	II	12/11/2016	60.0	9.7	14/06/2017
291	Loej	Rahij	Bhikhubha rupsing	2295	09/12/2012	Haresh	II	12/01/2016	37.1	9.3	15/08/2016
292	Pipali	Sonpara	Surabhai bapu	11820	06/02/2011	Haresh	II	11/07/2016	65.2	6.8	03/05/2017
293	Pipali	Pipali	Bhikhabhai kubhabhai gohil	9416	26/11/2011	Haresh	II	07/11/2015	47.4	7.9	07/09/2016
294	Pipali	Devalpur	Manubhai mepabhai	9418	29/11/2011	Haresh	II	01/11/2015	47.1	8.5	05/09/2016
295	Pipali	Fafni	Bodhabhai pamak	9419	23/11/2011	Haresh	II	07/10/2015	46.5	8.2	20/08/2016
296	Pipali	Vitalpur	Valjibhai parsotambhai	9415	14/11/2011	Haresh	II	13/09/2015	46.0	7.8	23/08/2016
297	Pipali	Advi	Ramsinh meramanbhai mori	9420	08/11/2011	Haresh	II	07/09/2015	46.0	9.5	28/08/2016
298	Pipali	Velan	Solanki lakhaman	11839	30/12/2011	Haresh	II	04/03/2016	50.2	6.1	07/01/2017
299	Pipali	Fafni	Naja ramu	11801	16/01/2012	Haresh	II	19/03/2016	50.1	6.4	11/02/2017
300	Pipali	Aalidar	Ranbir bhagvan	11810	24/03/2012	Haresh	II	21/07/2016	51.9	7.5	03/05/2017
301	Movana	Badodar	Manu kana bheda	A171	25/11/2011	Haresh	II	21/08/2015	44.9	7.3	15/06/2016
302	Loej	Makatupur	Arajan deva	1976	28/03/2011	Haresh	II	19/06/2018	86.8	8.7	29/04/2019
303	Loej	Loej	Somat kara	327	25/11/2011	Haresh	II	08/10/2015	46.5	10.1	15/08/2016
304	Loej	Rahij	Karashan raja	1971	28/08/2011	Haresh	II	09/07/2018	82.4	9.8	15/05/2019
305	Loej	Bamanavada	Kara devanand	393	20/08/2011	Haresh	II	26/10/2018	86.3	10.1	11/09/2019
306	Loej	Loej	Vimal naran	1938	12/05/2011	Haresh	II	03/08/2018	86.8	8.8	10/06/2019
307	Loej	Kankasha	Naran jagamal	621	19/08/2015	Haresh	II	14/08/2019	47.9	9.1	16/06/2020
308	Odadar	Rajpra	Savdas bhikha	3987	20/08/2015	Haresh	II	15/07/2020	58.9	8.2	15/05/2021
309	Odadar	Ratanapra	Popat ram	3697	10/09/2015	Haresh	II	06/08/2020	58.9	8.2	30/07/2021
310	Odadar	Ratiya	Bhikhu naran	3985	29/08/2015	Haresh	II	22/07/2020	58.8	8.0	30/05/2021
311	Odadar	Oladar	Lila ramde	B4584	28/08/2015	Haresh	II	20/07/2020	58.8	7.4	27/05/2021
312	Odadar	Ratiya	Deva meru	3700	02/09/2015	Haresh	II	11/10/2020	61.3	7.9	16/08/2021
313	Odadar	Oladar	Kara lila	3677	03/09/2015	Haresh	II	17/09/2020	60.5	7.6	01/08/2021
314	Odadar	Chikash	Ram bhai	3699	11/09/2015	Haresh	II	06/08/2020	58.9	8.4	10/06/2021
315	Odadar	Balej	Mulu raja bhai	3683	12/09/2015	Haresh	II	18/03/2020	54.2	8.2	25/01/2021
316	Odadar	Chikash	Malde karshan	3694	30/08/2015	Haresh	II	23/07/2020	58.8	8.7	27/05/2021
317	Loej	Rahij	Veja bhima	374	25/08/2012	Moti	II	02/08/2016	47.3	8.9	03/06/2017
318	Loej	Shapur	Bavan rana	883	16/08/2012	Moti	II	20/07/2017	59.1	10.7	31/05/2018
319	Loej	Loej	Bhima nathu	347	08/12/2012	Moti	II	11/09/2016	45.1	9.1	03/07/2017
320	Loej	Kankasha	Haradash govind	335	12/12/2012	Moti	II	08/12/2016	47.9	9.2	18/07/2017
321	Loej	Rahij	Ram kara	892	11/12/2012	Moti	II	22/07/2017	55.4	10.0	20/06/2018
322	Loej	Loej	Malade lumbha	7406	12/12/2012	Moti	II	12/12/2015	36.0	10.4	10/01/2017
323	Loej	Shil	Varajang karashan	2283	10/12/2012	Moti	II	08/04/2016	39.9	9.2	08/05/2017
324	Loej	Nagichana	Saraman arajan	2695	10/02/2013	Moti	II	05/08/2016	41.8	7.6	05/06/2017
325	Loej	Kankasha	Vira arasi	1929/3106	17/05/2013	Moti	II	10/12/2016	42.8	8.7	08/10/2017
326	Mandlikpur	Bilkha	Fula vira kumbhani	2392	12/01/2012	Moti	II	16/03/2016	50.1	10.5	15/02/2017
327	Mandlikpur	Bilkha	Natu natha virali	10724	25/01/2012	Moti	II	20/03/2016	49.8	8.9	19/01/2017
328	Mandlikpur	Anandpur	Kamlesh jaman	3341	25/11/2012	Moti	II	16/03/2017	51.7	9.9	16/01/2018
329	Mandlikpur	Hadmatiya	Parbat bhanu	10753	04/12/2012	Moti	II	22/03/2017	51.6	10.2	21/01/2018
330	Mandlikpur	Chorvadi	Aravind gordhan	2384	14/01/2013	Moti	II	11/03/2017	49.9	8.4	10/01/2018
331	Mandlikpur	Rameshvar	Bachu manji	1932	14/02/2013	Moti	II	25/03/2017	49.3	8.3	24/12/2017
332	Mandlikpur	Toraniya	Jaynti vala	B094	29/04/2013	Moti	II	21/10/2017	53.8	8.1	21/08/2018
333	Mandlikpur	Bilkha	Vithalbhai natha	7075	26/06/2013	Moti	II	10/07/2017	48.5	8.7	11/05/2018
334	Mandlikpur	Kariya	Dosa devsi	A099	28/06/2013	Moti	II	12/08/2017	49.5	9.6	12/06/2018
335	Mandlikpur	Prabhatpur	Kishor kachara suvagiya	10738	23/08/2013	Moti	II	21/11/2017	51.0	8.7	22/09/2018
336	Mandlikpur	Anandpur	Kamlesh jaman dobariya	A023	12/11/2013	Moti	II	13/01/2018	50.1	8.3	15/11/2018

337	Mandlikpur	Bhalgam	Lalit mansukh hirapara	10746	20/11/2013	Moti	II	10/11/2017	47.7	8.0	11/09/2018
338	Mandlikpur	Toraniya	Daya bhagvanji kumbhani	10743	28/11/2013	Moti	II	12/12/2017	48.5	9.1	12/10/2018
339	Mandlikpur	Khadiya	Karshan narayan kadoriya	10796	15/12/2013	Moti	II	03/04/2017	39.6	9.9	03/02/2018
340	Mandlikpur	Toraniya	Narayan gangdas	A095	20/12/2013	Moti	II	05/11/2017	46.6	9.1	06/09/2018
341	Surva	Gundarada	Bhikhabhai varu	12637	24/01/2012	Moti	II	10/04/2016	50.6	9.0	05/02/2017
342	Surva	Khandheri	Pitha kana	699	26/01/2012	Moti	II	09/01/2016	47.5	11.5	10/11/2016
343	Surva	Gundarada	Hera rana	3490	02/02/2012	Moti	II	17/06/2017	64.5	9.6	17/04/2018
344	Surva	Gundarada	Govind bhadrka	9831	20/02/2012	Moti	II	24/04/2016	50.1	8.2	15/03/2017
345	Surva	Khandheri	Pitha kana	9916	28/02/2012	Moti	II	15/02/2017	59.6	11.4	15/12/2017
346	Surva	Madhupur	Praful jesiya	12595	21/04/2012	Moti	II	21/04/2016	48.0	6.8	22/02/2017
347	Harmadiya	Aalidar	Ambhu bhai	2957	30/04/2013	Moti	II	30/04/2017	48.0	7.0	15/01/2019
348	Movana	Chandigadh	Bhikha lakha modha	A180	01/03/2012	Moti	II	11/04/2015	37.3	8.4	15/02/2016
349	Movana	Chitri	Jiva karshan sihar	A483	04/03/2012	Moti	II	15/09/2015	42.4	8.8	15/07/2016
350	Movana	Ghansari	Gopal ravji	10053	04/05/2013	Moti	II	04/08/2016	39.1	9.4	30/05/2017
351	Movana	Movana	Mansukh devaji	10854	01/07/2012	Moti	II	01/06/2016	47.0	8.1	28/03/2017
352	Pipali	Ronaj	Bhikha savliya	A2157	28/03/2013	Moti	II	03/01/2018	57.3	7.2	05/11/2018
353	Pipali	Dhamlej	Bhupat barad	A2174	08/03/2013	Moti	II	08/10/2017	55.1	7.2	22/08/2018
354	Pipali	Dhamlej	Ranjit chuhan	A2153	17/03/2013	Moti	II	09/11/2017	55.8	7.3	28/09/2018
355	Pipali	Fafni	Haribhai godhani	A2179	14/11/2013	Moti	II	10/10/2017	46.9	7.7	22/08/2018
356	Pipali	Dudana	Bhagvan rathod	9412	26/12/2012	Moti	II	03/05/2018	64.2	7.7	07/03/2019
357	Mandlikpur	Itala	Bhagvan hardas	B0921	23/06/2013	Moti	II	20/09/2018	63.0	5.5	21/07/2019
358	Harmadiya	Aalidar	Karshan veish	B2653	29/03/2013	Moti	II	29/08/2018	65.1	5.8	10/07/2019
359	Harmadiya	Aalidar	Bhikhu chauhan	B2957	02/07/2013	Moti	II	19/07/2018	60.6	6.6	23/02/2019
360	Harmadiya	Aalidar	Hameer rabari	2938	29/05/2013	Moti	II	14/05/2018	59.5	7.0	28/03/2019
361	Mandlikpur	Bilkha	Babu sanbhu vekariya	B5897	05/10/2013	Moti	II	04/11/2018	61.0	8.7	06/09/2019
362	Mandlikpur	Bilkha	Ramesh bhikha	B5505	13/08/2013	Moti	II	16/02/2019	66.2	7.6	17/12/2019
363	Loej	Kankasha	Vira arasi	1929	17/05/2013	Moti	II	02/11/2018	65.6	11.2	30/08/2019
364	Loej	Menej	Naran haradash	2294	28/01/2013	Moti	II	22/08/2018	66.8	8.9	30/06/2019
365	Loej	Atroli	Vajasi lila	652	11/12/2012	Moti	II	10/03/2020	87.0	9.8	10/01/2021
366	Loej	Rahij	Kara arajan	5750	23/12/2012	Moti	II	10/07/2020	90.6	10.6	08/05/2021
367	Pipali	Mitiyaj	Barad kishan	2924	07/10/2015	Raja	II	14/01/2018	27.3	6.7	20/11/2018
368	Loej	Loej	Ram meraman	6613	18/10/2015	Raja	II	02/06/2018	31.5	9.4	30/03/2019
369	Loej	Kankasha	Jadav masari	1759	12/10/2015	Raja	II	15/11/2018	37.2	9.3	15/09/2019
370	Loej	Rahij	Karashan raja	878	23/11/2015	Raja	II	19/12/2018	36.9	8.2	20/10/2019
371	Loej	Bamanavada	Bhimasi rana	695	13/09/2015	Raja	II	23/08/2019	47.3	8.6	23/06/2020
372	Mandlikpur	Bilkha	Narendra devji	2318	05/09/2015	Raja	II	19/08/2019	47.5	8.3	16/06/2020
373	Loej	Nagichana	Bharat bhimasi	293	23/11/2015	Raja	II	30/12/2019	49.2	10.9	30/10/2020
374	Loej	Shil	Mohan laxaman	268	05/09/2015	Raja	II	13/12/2019	51.3	10.8	30/09/2020
375	Odadar	Ratanpar	Hamir parbat	G1874	16/11/2015	Raja	II	18/09/2019	46.1	6.9	29/06/2020
376	Odadar	Ratanapra	Rama lila	3942	07/10/2015	Raja	II	08/01/2020	51.1	7.0	13/12/2020
377	Odadar	Chhaya	Babu hardas	3686	20/11/2015	Raja	II	24/12/2019	49.2	7.0	25/10/2020
378	Odadar	Balej	Hardas jadav	3658	23/10/2015	Raja	II	05/09/2019	46.5	6.9	20/07/2020
379	Loej	Rahij	Viram keshur	302	30/11/2015	Raja	II	27/02/2020	51.0	10.1	30/12/2020
380	Loej	Nagichana	Haja kara	599	24/09/2015	Raja	II	03/01/2020	51.4	9.6	05/11/2020
381	Loej	Kankasha	Menasi kana	5706	27/09/2015	Raja	II	07/12/2019	50.4	9.9	07/10/2020
382	Loej	Kankasha	Haradash govind	1551	11/10/2015	Raja	II	08/10/2019	47.9	9.8	10/08/2020
383	Loej	Bamanavada	Mulu devarakhi	1583	28/10/2015	Raja	II	09/08/2020	57.4	10.1	11/01/2021
384	Loej	Kankasha	Jadav masari	862	30/10/2015	Raja	II	28/12/2019	50.0	10.2	30/10/2020
385	Loej	Nagichana	Menasi lakha	368	18/10/2015	Raja	II	01/01/2020	50.5	9.2	01/11/2020
386	Loej	Kankasha	Saraman vajasi	1560	18/11/2015	Raja	II	07/03/2020	51.6	10.0	07/01/2021
387	Loej	Loej	Govind marakhi	341	21/11/2015	Raja	II	05/03/2020	51.5	9.9	06/01/2021
388	Loej	Nagichana	Arajan vajasi	311	11/11/2015	Raja	II	03/08/2020	56.8	9.7	03/06/2021
389	Loej	Kankasha	Lala jagamal	654	23/11/2015	Raja	II	01/06/2020	54.3	9.6	30/03/2021
390	Loej	Kankasha	Uka malade	668	26/09/2015	Raja	II	15/09/2020	59.7	9.9	10/07/2021
391	Loej	Rahij	Khima suda	1521	26/10/2015	Raja	II	04/04/2020	53.3	10.4	05/02/2021
392	Loej	Kankasha	Naran meraman	208	06/09/2015	Raja	II	15/11/2020	62.4	10.0	15/08/2021
393	Odadar	Rajpra	Vana suka	3943	13/09/2015	Raja	II	25/04/2020	55.4	10.7	20/02/2021
394	Odadar	Rajpar	Natha ram aagath	NEW TAG G0991	15/11/2015	Raja	II	25/09/2020	58.4	11.7	10/08/2021
395	Loej	Rahij	Kara oghad	367	19/10/2015	Raja	II	15/03/2021	64.9	10.6	15/01/2022
396	Surva	Madhupur	Ramesh ravdiya	3211	16/11/2015	Raja	II	20/01/2020	50.2	9.2	15/11/2020
397	Surva	Surva	Haresh pansuriya	3234	06/12/2015	Raja	II	25/02/2021	62.7	11.1	15/12/2021
398	Surva	Gundaran	Dhiru vala	3236	12/12/2015	Raja	II	30/09/2019	45.6	11.1	15/07/2020
399	Surva	Khanderi	Pitha kana	3264	09/01/2016	Raja	II	10/05/2021	64.0	14.5	10/03/2022
400	Surva	Akolvadi	Vallabh bhuva	3267	17/01/2016	Raja	II	20/01/2021	60.2	9.2	15/11/2021
401	Odadar	Oladar	Vasta karshan	3692	19/09/2015	Raja	II	22/08/2020	59.1	9.9	30/06/2021
402	Odadar	Balej	Muru raja	3968	26/10/2015	Raja	II	15/09/2019	46.7	10.5	15/07/2020
403	Odadar	Oladar	Natha vikram	3639	13/10/2015	Raja	II	05/10/2019	47.8	12.4	05/08/2020
404	Odadar	Chikash	Hitesh sogan	3986	16/10/2015	Raja	II	28/09/2019	47.4	11.9	28/07/2020
405	Odadar	Chikash	Malde karshan	3996	20/09/2015	Raja	II	10/11/2019	49.7	12.1	10/09/2020
406	Odadar	Oladar	Chhagan babar	3941	02/10/2015	Raja	II	20/12/2019	50.6	12.2	20/10/2020
407	Odadar	Oladar	Rajsi bogha	3959	30/09/2015	Raja	II	08/01/2020	51.3	12.0	08/11/2020
408	Odadar	Balej	Naga lila	3935	06/11/2015	Raja	II	20/09/2019	46.5	11.7	20/07/2020
409	Odadar	Oladar	Rajsi malde	G1389	05/11/2015	Raja	II	13/03/2021	64.3	11.5	21/01/2022
410	Odadar	Balej	Lakhu ghela	3940	14/11/2015	Raja	II	30/06/2020	55.6	9.6	14/05/2022
411	Odadar	Chikash	Deva raja	3634	05/11/2015	Raja	II	25/07/2020	56.7	11.4	07/06/2021
412	Odadar	Oladar	Vasta karshan	3693	06/11/2015	Raja	II	13/07/2020	56.3	10.3	23/05/2021
413	Odadar	Oladar	Lila kara	3638	29/10/2015	Raja	II	06/07/2020	56.3	11.6	13/05/2021
414	Odadar	Chikash	Veja devshi	3936	06/11/2014	Raja	II	03/12/2020	98.3	11.1	06/11/2021
415	Loej	Mankhetra	Kachara narasing	241	21/02/2013	Sundar	II	08/03/2017	48.5	7.6	08/01/2018
416	Loej	Mankhetra	Jagadish bachu	248	30/03/2013	Sundar	II	07/09/2017	53.3	10.0	06/07/2018
417	Loej	Loej	Arajan malade	247	06/04/2013	Sundar	II	08/10/2017	54.1	9.1	15/08/2018
418	Loej	Rahij	Bhoja govind	319	09/04/2013	Sundar	II	03/01/2018	56.9	8.0	30/10/2018
419	Loej	Nagichana	Haradash parabat	4454	07/05/2013	Sundar	II	09/09/2016	40.1	9.6	08/08/2017
420	Loej	Mankhetra	Mansing arajan	286	11/05/2013	Sundar	II	03/12/2017	54.8	8.7	30/10/2018

421	Loej	Kankasha	Bhikha bhaya	2281	24/05/2013	Sundar	II	24/11/2017	54.1	9.5	30/11/2018
422	Loej	Kankasha	Arajan devasi	7453	03/06/2013	Sundar	II	12/10/2017	52.3	9.5	17/08/2018
423	Loej	Nagichana	Ram haja	5747	20/06/2013	Sundar	II	10/11/2016	40.7	8.5	08/10/2017
424	Pipali	Kaj	Ram bhai	187	05/06/2014	Sundar	II	07/09/2017	39.1	7.3	29/06/2018
425	Pipali	Dhamlej	Dina bapu	112	21/06/2014	Sundar	II	03/01/2018	42.5	8.1	20/10/2018
426	Loej	Loej	Naran somat	267	11/02/2013	Sundar	II	10/05/2018	62.9	9.3	15/03/2019
427	Loej	Kankasha	Suda rama	1438	15/04/2013	Sundar	II	10/06/2018	61.9	8.4	10/04/2019
428	Loej	Rudalpur	Jayesh parabat	253	22/06/2013	Sundar	II	28/12/2017	54.2	8.6	30/10/2018
429	Loej	Bamanavada	Ram jiva	259	07/06/2013	Sundar	II	07/06/2017	48.0	9.0	31/12/2018
430	Loej	Kankasha	Bhaya devasi	591	25/06/2013	Sundar	II	03/07/2018	60.3	8.6	29/04/2019
431	Loej	Loej	Jetha vira	2219	02/07/2014	Sundar	II	20/07/2017	36.6	7.7	26/05/2018
432	Loej	Sangavada	Lala vira	13243	12/07/2014	Sundar	II	08/06/2018	46.9	9.0	10/03/2019
433	Loej	Divasa	Natha bhadaraka	5744	23/07/2013	Sundar	II	10/07/2018	59.6	8.9	16/05/2019
434	Loej	Loej	Raju malade	237	30/04/2014	Sundar	II	08/08/2018	51.3	9.5	06/06/2019
435	Loej	Madhavpur	Mohan savadas	235	10/05/2014	Sundar	II	17/07/2018	50.3	8.8	20/05/2019
436	Loej	Zariyavada	Hamidkha abibkha	232	22/05/2014	Sundar	II	06/08/2018	50.5	8.5	16/06/2019
437	Loej	Kankasha	Govind karashan	1924	20/02/2013	Sundar	II	03/11/2018	68.4	11.7	05/09/2019
438	Loej	Sangavada	Bachu laxaman	252	14/07/2014	Sundar	II	08/11/2018	51.9	8.8	16/09/2019
439	Loej	Bamanavada	Laxaman ala	205	10/07/2014	Sundar	II	20/11/2018	52.4	9.8	25/09/2019
440	Loej	Nagichana	Raja naga	602	02/06/2013	Sundar	II	29/09/2019	75.9	8.8	30/07/2020
441	Loej	Rahij	Kara oghad	658	22/07/2013	Sundar	II	11/01/2020	77.7	9.6	14/11/2020
442	Loej	Nagichana	Ram marakhi	4498	18/05/2016	Abhijit	III	10/09/2020	51.8	10.3	11/07/2021
443	Loej	Rahij	Devasi oghad	663	11/07/2016	Abhijit	III	11/09/2020	50.1	10.1	05/07/2021
444	Loej	Kankasha	Mohan pitha	1708	09/05/2016	Abhijit	III	13/08/2020	51.2	10.6	13/06/2021
445	Loej	Mankhetra	Bharat bhama	1702	13/05/2016	Abhijit	III	06/07/2020	49.8	8.8	05/05/2021
446	Loej	Kankasha	Mulu meraman	4253	14/05/2016	Abhijit	III	10/07/2020	49.9	10.3	10/05/2021
447	Mandlikpur	Khadiya	Mahesh laljibhai	12877	22/06/2016	Abhijit	III	01/09/2020	50.4	8.3	01/07/2021
448	Loej	Nagichana	Haradash parabat	4401/4402	27/06/2016	Abhijit	III	05/12/2020	53.3	9.7	05/10/2021
449	Loej	Bamanavada	Vikram meraman	4492	08/05/2016	Abhijit	III	05/11/2020	54.0	10.8	05/09/2021
450	Odadar	Ratanpar	Deva arbham odedra	3659	09/05/2016	Abhijit	III	15/06/2020	49.2	10.4	21/05/2021
451	Loej	Bamanavada	Saraman ala	4468	30/06/2016	Abhijit	III	24/03/2021	56.8	10.2	30/01/2022
452	Pipali	Gokhan	Gohil jaymalbhai	1395	23/05/2016	Abhijit	III	18/03/2022	69.9	7.4	07/01/2023
453	Surva	Gundaran	Punja bhai bera	4844	31/01/2017	Alok	III	01/02/2020	36.0	14.6	30/11/2020
454	Surva	Gundaran	Dhirubhai vala	4869	15/04/2017	Alok	III	12/03/2021	46.9	9.0	15/01/2022
455	Loej	Kankasha	Arajan vira	5800	03/03/2017	Alok	III	13/05/2021	50.4	10.6	16/03/2022
456	Loej	Shil	Arajan karashan	1995	21/04/2017	Alok	III	28/05/2021	49.2	11.5	01/04/2022
457	Loej	Kankasha	Hira tapu	1994	30/04/2017	Alok	III	13/05/2021	48.5	11.9	16/03/2022
458	Loej	Bamanavada	Saranan varajang	5798	09/03/2017	Alok	III	10/05/2021	50.1	10.7	10/03/2022
459	Loej	Kankasha	Devat patat	5729	25/02/2017	Alok	III	06/06/2021	51.4	10.3	05/04/2022
460	Loej	Bamanavada	Arajan natha	1961	10/05/2017	Alok	III	02/05/2021	47.8	11.4	02/04/2022
461	Loej	Kankasha	Hira tapu	1993	20/04/2017	Alok	III	19/06/2021	50.0	10.9	20/04/2022
462	Loej	Loej	Malade lumbha	1996	09/04/2017	Alok	III	21/05/2021	49.4	10.2	21/04/2022
463	Loej	Rahij	Ram jetha	1998	30/03/2017	Alok	III	06/05/2021	49.2	9.9	05/03/2022
464	Loej	Shil	Parashotam rana	1999	29/03/2017	Alok	III	09/05/2021	49.4	10.9	10/03/2022
465	Loej	Bamanavada	Naran veja	1991	12/02/2017	Alok	III	03/06/2021	51.7	10.6	18/04/2022
466	Loej	Nagichana	Sanjay khima	5799	11/03/2017	Alok	III	10/04/2021	49.0	10.7	10/02/2022
467	Loej	Shapur	Dhiru babu	1953	28/06/2017	Alok	III	01/07/2021	48.1	11.1	30/04/2022
468	Loej	Rahij	China jetha	1966	01/06/2017	Alok	III	13/05/2021	47.4	10.6	13/05/2022
469	Loej	Loej	Ram govind	1964	23/05/2017	Alok	III	06/06/2021	48.5	10.4	06/04/2022
470	Loej	Bamanavada	Malade devanand	1965	24/05/2017	Alok	III	13/07/2021	49.7	11.4	15/05/2022
471	Loej	Loej	Khima arasi	1963	11/05/2017	Alok	III	07/04/2021	46.9	11.5	07/02/2022
472	Loej	Maktupur	Dinesh aja	1997	12/04/2017	Alok	III	03/08/2021	51.7	10.1	03/06/2022
473	Loej	Bamanavada	Varajang arajan	1951	12/06/2017	Alok	III	02/05/2021	46.7	10.5	02/03/2022
474	Loej	Menej	Naran haradash	1967	03/06/2017	Alok	III	08/08/2021	50.2	10.8	08/06/2022
475	Loej	Rahij	Hira merakhi	1952	25/06/2017	Alok	III	03/07/2021	48.3	9.8	03/05/2022
476	Loej	Mankhetra	Vipul hari	1502	23/07/2017	Alok	III	01/10/2021	50.3	9.2	30/07/2022
477	Loej	Kankasha	Menasi kana	1501	29/05/2017	Alok	III	03/08/2021	50.2	11.9	03/06/2022
478	Surva	Akolvadi	Vallbh bhuva	4848	11/03/2017	Alok	III	03/01/2022	57.8	7.0	05/11/2022
479	Surva	Khanderi	Sandip dana	4872	18/05/2017	Alok	III	17/08/2021	51.0	9.7	17/06/2022
480	Odadar	Rajpar	Jiva haja	A4940	07/04/2017	Alok	III	05/06/2021	50.0	9.8	20/03/2022
481	Odadar	Ratanpar	Hamir parbat	G1875	24/02/2017	Alok	III	28/05/2021	51.1	9.4	01/03/2022
482	Odadar	Balej	Kirit modha	A4933	30/04/2017	Alok	III	15/06/2021	49.5	10.0	20/04/2022
483	Loej	Kankasha	Bhikha bhaya	236	24/11/2017	Babar	III	31/12/2020	37.2	10.5	30/10/2021
484	Loej	Atroli	Visa laxaman	226	11/12/2017	Babar	III	09/08/2021	44.0	9.7	14/06/2022
485	Loej	Loej	Ram meraman	664	22/01/2018	Babar	III	02/02/2022	48.4	10.1	12/11/2022
486	Loej	Nagichana	Veja haradash	478	30/12/2017	Babar	III	09/04/2022	51.3	10.2	07/02/2023
487	Loej	Menej	Ramasi nandaniya	479	08/12/2017	Babar	III	02/02/2022	49.9	9.8	02/12/2022
488	Loej	Kankasha	Lala ranamal	490	11/12/2017	Babar	III	01/12/2021	47.7	9.0	30/09/2022
489	Loej	Kankasha	Malade masari	482	09/12/2017	Babar	III	03/01/2022	48.9	10.2	03/11/2022
490	Loej	Nagichana	Marakhi malade	483	29/12/2017	Babar	III	03/02/2022	49.2	9.2	03/12/2022
491	Loej	Kankasha	Vira laxaman	488	28/12/2017	Babar	III	28/11/2021	47.0	10.3	30/09/2022
492	Loej	Nagichana	Jagamal laxaman	487	09/01/2018	Babar	III	10/04/2022	51.0	9.5	07/02/2023
493	Loej	Maktupur	Khima suda	475	15/11/2017	Babar	III	03/02/2022	50.7	10.6	03/12/2022
494	Loej	Kankasha	Arajan tapu	477	15/11/2017	Babar	III	28/12/2021	49.4	9.8	30/10/2022
495	Loej	Nagichana	Laxaman kaba	481	17/12/2017	Babar	III	05/08/2021	43.6	11.0	05/06/2022
496	Loej	Bamanavada	Malade arasi	486	10/01/2018	Babar	III	07/06/2022	52.9	10.7	05/04/2023
497	Loej	Loej	Ram meraman	474	09/11/2017	Babar	III	01/07/2022	55.7	10.1	30/04/2023
498	Odadar	Odarar	Saraman naga	A4914	11/03/2017	Babar	III	06/05/2022	51.5	10.8	06/03/2023
499	Odadar	Balej	Natha vikam	A4908	25/04/2017	Chaman	III	30/06/2022	51.8	10.6	12/05/2023
500	Odadar	Gosabara	Naga malde odadaar gam ma	G1345	10/07/2017	Chaman	III	10/08/2022	50.7	10.5	10/06/2023
501	Odadar	Odadar	Rama tapu bhajivara	G1346	27/06/2017	Chaman	III	18/07/2022	50.4	9.8	20/05/2023
502	Odadar	Odadar	Naba ram	G1362	07/06/2017	Chaman	III	25/05/2022	49.3	11.2	24/03/2023
503	Odadar	Balej	Raja jesa	A4938	28/04/2017	Chaman	III	17/06/2022	51.2	10.0	16/04/2023
504	Loej	Nagichana	Haja kara	5727	26/12/2016	Girish	III	23/11/2020	46.9	8.5	25/09/2021
505	Loej	Loej	Ram meraman	5792	31/12/2016	Girish	III	06/01/2021	48.2	10.6	10/11/2021
506	Loej	Rahij	Ram veja	5793	17/01/2017	Girish	III	25/03/2021	50.2	11.0	25/01/2022

507	Loej	Kankasha	Vira arasi	5794	23/01/2017	Girish	III	11/02/2021	48.7	10.3	10/12/2021
508	Loej	Mankhetra	Kana khima	5791	02/01/2017	Girish	III	03/02/2021	49.1	11.2	03/12/2021
509	Loej	Bamanavada	Rajasi bhikha	5775	27/12/2016	Girish	III	03/01/2021	48.3	11.0	03/11/2021
510	Loej	Nagichana	Viram haja	5726	22/12/2016	Girish	III	20/12/2020	48.0	11.3	25/10/2021
511	Loej	Divasa	Ashok lila	1956	27/07/2017	Girish	III	11/06/2021	46.5	9.9	10/04/2022
512	Loej	Loej	Arajan naran	1954	11/07/2017	Girish	III	05/08/2021	48.9	9.1	05/06/2022
513	Loej	Kankasha	Bachu oghad	1583	03/11/2017	Girish	III	30/07/2021	44.9	9.2	30/05/2022
514	Mandlikpur	Khadiya / chorvadi	Ram ramde bhadarka / Yogesh ramji savaliya	A5631 / 340142290271	16/02/2017	Girish	III	23/07/2021	53.2	6.7	21/06/2022
515	Odadar	Ratanpar	Devabhai arbham	G1362	11/09/2017	Girish	III	07/08/2021	46.9	10.3	10/06/2021
516	Loej	Sangavada	Bachu deva	472	13/11/2017	Girish	III	14/10/2021	47.0	12.5	15/08/2022
517	Loej	Kankasha	Vira laxaman	471	21/10/2017	Girish	III	31/01/2021	39.4	11.4	03/09/2022
518	Loej	Kankasha	Arajan devasi	100142374993	12/10/2017	Girish	III	02/11/2021	48.7	10.2	02/09/2022
519	Loej	Shil	Jagadish jina	480	05/10/2017	Girish	III	28/10/2021	48.8	11.3	30/08/2022
520	Loej	Menej	Rana pitha	1504	23/09/2017	Girish	III	03/10/2021	48.4	9.1	07/08/2022
521	Loej	Loej	Govind vejanad	15010	27/09/2017	Girish	III	01/10/2021	48.2	12.0	30/07/2022
522	Loej	Kankasha	Hira tapu	1503	30/07/2017	Girish	III	20/08/2021	48.7	11.0	20/06/2022
523	Loej	Kankasha	Saraman vajasi	1506	30/09/2017	Girish	III	02/10/2021	48.1	12.3	30/07/2022
524	Loej	Rahij	Vira meraman	1508	06/10/2017	Girish	III	05/10/2021	48.0	12.1	05/08/2022
525	Loej	Bamanavada	Dinesh naran	1505	16/09/2017	Girish	III	04/10/2021	48.6	10.0	05/08/2022
526	Surva	Gundaran	Natha uka	4834	08/01/2017	Girish	III	20/11/2021	58.4	8.6	20/09/2022
527	Pipali	Jithala	Devat jotava	A2293	27/02/2017	Girish	III	24/06/2022	63.9	6.7	10/03/2023
528	Loej	Rahij	Vira meraman	461	16/10/2017	Girish	III	02/06/2022	55.6	11.0	30/03/2023
529	Mandlikpur	Bilkha / avatdiya	Gopal velaji reayani / mansukh dhiru bura	A5641 /100143806575	05/01/2017	Girish	III	02/06/2022	64.9	7.0	02/04/2023
530	Pipali	Adavi	Dhana bhai hari bhai	A2291	04/03/2016	Girish	III	19/08/2022	67.2	7.3	15/06/2023
531	Odadar	Ratanpar	Deva odhad	A4965	19/10/2016	Girish	III	19/04/2022	55.7	10.8	10/02/2023
532	Odadar	Ratiya	Odhad puna	4912	17/10/2016	Girish	III	04/04/2022	55.2	12.6	04/09/2022
533	Odadar	Ratanpar	Odhad puna	3908	05/10/2016	Girish	III	02/04/2022	55.6	10.8	02/02/2023
534	Loej	Bamanavada	Arajan karashan	1709	18/02/2016	Madhav	III	20/07/2020	53.1	12.1	20/01/2021
535	Loej	Mankhetra	Bhikha naran	4280	27/02/2016	Madhav	III	10/03/2020	48.4	9.6	10/01/2021
536	Loej	Nagichana	Veja haradash	4202	05/03/2016	Madhav	III	08/03/2020	48.1	9.7	08/01/2021
537	Loej	Loej	Jetha vira	4277	20/03/2016	Madhav	III	05/05/2020	49.5	10.2	05/03/2021
538	Loej	Rahij	Jagamal mulu	4225	07/04/2016	Madhav	III	20/05/2020	49.4	9.5	17/03/2021
539	Loej	Kankasha	Mulu meraman	4279	24/03/2016	Madhav	III	03/04/2020	48.4	9.6	03/02/2021
540	Loej	Loej	Kana menasi	4272	25/03/2016	Madhav	III	01/05/2020	49.2	10.4	28/02/2021
541	Loej	Kankasha	Naran lakha	4208	01/03/2016	Madhav	III	05/04/2020	49.2	10.5	05/02/2021
542	Loej	Loej	Bhaya meraman	1595	15/02/2016	Madhav	III	29/10/2020	56.5	10.2	30/08/2021
543	Loej	Nagichana	Haradash keshar	1704	26/04/2016	Madhav	III	16/08/2020	51.7	10.6	15/06/2021
544	Loej	Shil	Bhima saraman	4274	16/03/2016	Madhav	III	10/06/2020	50.9	10.0	10/04/2021
545	Loej	Rahij	Natha uka	4229	15/04/2016	Madhav	III	08/06/2020	49.8	9.6	08/04/2021
546	Mandlikpur	Nagalpur	Samju ranchhod vekariya	12817	13/07/2016	Madhav	III	17/06/2020	47.2	7.0	17/04/2021
547	Mandlikpur	Bilkha	Keshu bhikha bhanderi	12844	08/05/2016	Madhav	III	26/07/2020	50.6	7.1	27/05/2021
548	Mandlikpur	Bilkha	Jaga bhima bharvad	12824	23/05/2016	Madhav	III	15/08/2020	50.8	7.9	17/06/2021
549	Surva	Gundaran	Bhikha varubhai	916	05/04/2016	Madhav	III	07/03/2020	47.1	7.4	05/01/2021
550	Pipali	Pipali	Chohan malabhai	2903	19/03/2016	Madhav	III	18/07/2021	64.0	6.0	15/05/2022
551	Pipali	Mitiyaj	Jadav haribhai	1397	10/04/2016	Madhav	III	03/01/2022	68.8	7.1	05/10/2022
552	Pipali	Mitiyaj	Barad haresh	2905	25/02/2016	Madhav	III	03/02/2022	71.3	6.2	11/01/2022
553	Odadar	Odadar	Rama arbham	3934	29/02/2016	Madhav	III	13/10/2020	55.5	9.9	30/06/2021
554	Pipali	Gokhan	Chohan vijay	2901	04/02/2016	Madhav	III	23/02/2022	72.7	7.0	25/12/2022
555	Pipali	Pandar	Kamliya babu	2944	21/11/2015	Nayan	III	19/09/2017	22.0	7.6	03/07/2018
556	Mandlikpur	Khadiya	Pravin ram / dinesh vala	3318	09/11/2015	Nayan	III	14/09/2019	46.2	6.0	13/07/2020
557	Mandlikpur	Chorvadi	Jadav jina	3319	11/11/2015	Nayan	III	30/12/2019	49.6	7.8	29/10/2020
558	Loej	Rahij	Laxaman meraman	206	03/12/2015	Nayan	III	20/10/2019	46.6	8.8	25/08/2020
559	Loej	Mankhetra	Pitha mori	1581	19/12/2015	Nayan	III	03/08/2019	43.5	10.3	05/07/2020
560	Loej	Bamanavada	Natha ala	1590	26/12/2015	Nayan	III	08/09/2019	44.4	9.8	08/07/2020
561	Odadar	Odadar	Meraman ramde pra. Shala	3637 NEW TAG G0929	10/12/2015	Nayan	III	04/08/2019	43.8	7.2	30/06/2020
562	Loej	Nagichana	Laxaman ram	1555	28/12/2015	Nayan	III	08/02/2020	49.4	10.7	08/12/2020
563	Loej	Loej	Kishor rana	4235	11/12/2015	Nayan	III	02/02/2020	49.8	10.7	02/12/2020
564	Loej	Mankhetra	Pitha mori	310	22/12/2015	Nayan	III	05/01/2020	48.5	10.1	05/11/2020
565	Loej	Nagichana	Marakhi haradash	4266	29/12/2015	Nayan	III	06/02/2020	49.3	10.3	07/12/2020
566	Loej	Mankhetra	Sanjay raja	4269	15/01/2016	Nayan	III	20/11/2019	46.2	10.8	21/09/2020
567	Loej	Bamanavada	Ramade rajasi	301	20/12/2015	Nayan	III	30/01/2020	49.4	10.0	27/11/2020
568	Loej	Loej	Laxaman devat	653	25/12/2015	Nayan	III	10/04/2020	51.6	9.8	10/02/2021
569	Loej	Bamanavada	Govind pithiya	4242	22/02/2016	Nayan	III	10/04/2020	49.6	10.3	10/02/2021
570	Loej	Bamanavada	Govind rana	1552	03/01/2016	Nayan	III	19/03/2020	50.5	10.0	20/01/2021
571	Loej	Loej	Jeta naran	4265	31/12/2015	Nayan	III	08/11/2019	46.3	8.9	08/09/2020
572	Loej	Kankasha	Jadav masari	4261	19/01/2016	Nayan	III	03/04/2020	50.5	9.9	03/02/2021
573	Loej	Kankasha	Haradash govind	4246	22/01/2016	Nayan	III	01/03/2020	49.3	9.5	30/12/2020
574	Mandlikpur	Chorvadi	Hiraji mohan	3330	10/12/2015	Nayan	III	15/03/2020	51.2	8.3	16/03/2021
575	Loej	Shil	Yogesh menasi	4244	03/02/2016	Nayan	III	01/08/2020	54.0	10.7	30/05/2021
576	Loej	Nagichana	Arajan bhimasi	5705	29/01/2016	Nayan	III	05/08/2020	54.2	10.3	05/06/2021
577	Pipali	Pandar	Barad haresh	2912	18/01/2016	Nayan	III	18/06/2021	65.0	6.1	16/05/2022
578	Pipali	Gokhan	Gohil bharat	2913	10/01/2016	Nayan	III	09/05/2021	64.0	6.9	15/02/2022
579	Odadar	Ratiya	Balugar praggar	3631	26/01/2016	Nayan	III	28/09/2020	56.1	9.6	12/08/2021
580	Odadar	Balej	Nebha gangani	3640	27/12/2015	Nayan	III	20/08/2020	55.8	10.3	28/06/2021
581	Odadar	Ratanpar	Raju suka	3982	26/11/2015	Nayan	III	02/08/2020	56.3	9.6	30/05/2021
582	Odadar	Odadar	Pola ramde	3632	24/01/2016	Nayan	III	14/07/2020	53.7	9.9	30/05/2021
583	Odadar	Ratanpar	Lila kana	3989	14/01/2015	Nayan	III	06/03/2021	63.6	10.8	06/02/2022
584	Loej	Atroli	Lila naga	1596	08/10/2018	Raghu	III	02/04/2022	41.8	8.3	01/02/2023
585	Odadar	Gosa	Rajashi meru gangani	G1892	30/03/2017	Raghu	III	15/06/2022	52.0	9.9	15/04/2023
586	Odadar	Odadar	Rama pola	4969	18/09/2016	Ronak	III	11/11/2020	49.8	7.6	10/08/2020
587	Mandlikpur	Khadiya	Bhima kala bandhiiya	12839	14/10/2016	Ronak	III	22/08/2020	46.3	9.2	24/06/2021
588	Mandlikpur	Khadiya	Dipak bhana koli	12842	05/10/2016	Ronak	III	01/07/2020	44.9	7.7	30/04/2021
589	Mandlikpur	Nagalpur	Samji govind vekariya	12831	09/09/2016	Ronak	III	10/08/2020	47.0	8.8	10/06/2021

590	Mandlikpur	Bilkha	Pravin bhimaji panchani	12805	28/08/2016	Ronak	III	10/08/2020	47.4	8.4	11/06/2021
591	Mandlikpur	Khadiya	Pravin rambhai	12888	29/07/2016	Ronak	III	13/08/2020	48.5	8.0	13/06/2021
592	Mandlikpur	Khadiya	Ram haja	12822	15/09/2016	Ronak	III	13/08/2020	46.9	8.0	15/06/2021
593	Mandlikpur	Bilkha	Harji jamnadas	12881	25/09/2016	Ronak	III	20/08/2020	46.8	9.0	22/06/2021
594	Loej	Bamanavada	Marakhi mulu	853	09/09/2016	Ronak	III	10/02/2021	53.1	10.7	10/12/2021
595	Odadar	Ratanpar	Arjan aebha	G0922	29/10/2016	Ronak	III	15/11/2020	48.6	9.7	25/09/2021
596	Loej	Bamanavada	Ram raja	843	24/09/2016	Ronak	III	02/03/2021	53.3	9.8	02/01/2022
597	Surva	Khanderi	Sandip dana	4818	30/11/2016	Ronak	III	15/04/2020	40.5	11.6	15/02/2021
598	Surva	Madhupur	Babubhai rabdiya	4819	30/11/2016	Ronak	III	01/01/2021	49.1	9.5	30/10/2021
599	Surva	Gundaran	Natha vadhiya	4815	18/11/2016	Ronak	III	25/03/2021	52.2	9.2	25/01/2022
600	Loej	Nagichana	Bhimasi khima	845	15/09/2016	Ronak	III	10/12/2020	50.9	10.0	10/10/2021
601	Loej	Mankhetra	Jagadish kachela	852	23/08/2016	Ronak	III	10/03/2021	54.6	9.8	10/01/2022
602	Pipali	Gokhan	Parmar aebhasinh	1316	20/07/2016	Ronak	III	05/09/2021	61.6	6.2	18/07/2022
603	Pipali	Velva	Parmar naranbhai	1303	28/08/2016	Ronak	III	05/11/2021	62.3	6.1	28/08/2022
604	Pipali	Pipali	Giga lakhmanbhai	1315	10/07/2016	Ronak	III	18/10/2021	63.3	6.9	28/09/2022
605	Surva	Gundaran	Natha vadhiya	4804	20/10/2016	Ronak	III	03/01/2021	50.5	9.2	30/10/2021
606	Surva	Amablas	Daya padaliya	4813	12/11/2016	Ronak	III	06/02/2021	50.9	7.7	05/12/2021
607	Surva	Gundaran	Govind bhadarka	4817	24/11/2016	Ronak	III	01/01/2022	61.3	10.0	30/10/2022
608	Odadar	Odadar	Madhu rana vankar	4962	17/11/2016	Ronak	III	23/06/2021	55.2	10.2	05/05/2022
609	Pipali	Kher	Vala bharatbhai	1326	30/10/2016	Ronak	III	28/02/2022	64.0	7.0	27/12/2022
610	Pipali	Harmadiya	Nigal pithabhai	1306	20/09/2016	Ronak	III	07/07/2022	69.6	8.1	28/04/2023
611	Pipali	Pipali	Chohan sandubhai	1308	14/08/2016	Ronak	III	10/06/2022	69.9	7.8	16/04/2023
612	Pipali	Rajpara	Vadher bhavsinh	1314	29/07/2016	Ronak	III	20/05/2022	69.7	7.1	27/03/2023
613	Pipali	Devli	Barad lakhman bhai	A2281	14/02/2016	Ronak	III	10/09/2022	68.9	7.7	27/06/2023
614	Pipali	Pipali	Dalu gohil	A2285	26/01/2016	Ronak	III	03/08/2022	68.2	7.7	17/04/2023
615	Pipali	Pandar	Nebha jiva	1304	21/11/2015	Ronak	III	21/07/2022	69.9	8.0	26/05/2023
616	Odadar	Tukada	Arjanbhai kadccha	3923	20/01/2016	Ronak	III	14/05/2021	53.5	10.7	17/03/2023
								Av.	52.9	9.2	

F 14. Bull-wise AI, Conception, Calving and Daughters Retained Till Completion of Milk Recording during the Year

Bull Name	Set No.	Total AI		Conception		Calving				Daughters Retained Up to				
						Total		Female		1 year	2 year	3 year	Calving	Complete Recording
		Pro.	Cur.year (22-23)	Pro.	Cur.year (22-23)	Pro.	Cur.year (22-23)	Pro.	Cur.year (22-23)					
Ranjeet	I	243		108(179)		72		34						
Rupesh	I	777		429(661)		251		116						
Ashok	I	2120		732(1217)		715		346						
Manek	I	741		376(558)		376		182						
Bhagro	I	4747		1902(3830)		1840		877					45	45
Gajanan 4/02	I	929		502(781)		486		245						
Nagraj	I	4016		1822(2452)		799		768					44	44
Laxman	I	5343		2735(4556)		2735		1349					85	85
A		**18916**		**8606(14234)**		**7274**		**3917**					**174**	**174**
Haresh	II	1245		660(1082)		437		211					37	37
Moti	II	2459		1041(2129)		1007		472					50	50
Sunder	II	719		377(702)		329		151					27	27
Raja	II	1443		724(1378)		594		277					48	48
Dhinglo	II	1089		552(1064)		552		259					25	25
Bholenath	II	2557		1235(1988)		843		404					80	80
B		**9512**		**4589(8343)**		**3762**		**1774**					**267**	**267**
Nayan (07/10)	III	1061		503(1000)		391		164					35	29
Abhijit (A1/10)	III	619		279(619)		254		98					13	11
Madhav(37/10)	III	692		295(639)		239		105					28	21
Alok	III	1169		475(1162)		433		202				70	35	30
Ronak(09/11)	III	1737		752(1736)		670		386					34	31
Girish	III	1601		612(1565)		464		210					36	30
Babar	III	1520		609(1380)		431		187				9	21	16
Raghu	III	1312		491(1163)		427		191					6	2
Chaman	III	870		352(836)		263		110					7	5
C		**10581**		**4368(10100)**		**3572**		**1653**					**215**	**175**
Badal	IV	963		408(1028)		376		159				146		
Kamalesh	IV	836		331(836)		304		138			55	83		
Hamir	IV	1418		593(1366)		571		266			266			
Balo	IV	1143		475(1156)		418		187		134	53			

Mayur	IV	783		344(787)		300		130		130				
Sango	IV	757		340(795)		163	157	80	81	80				
Nayak	IV	1354	45	345(779)	252(579)	0	529	0	292					
Samrat	IV		732		326(749)		98		49					
Janak	IV		1028		262(565)									
D		**7254**	**1805**	**2836(6747)**	**840(1893)**	**2132**	**784**	**960**	**422**	**344**	**374**	**229**		
Gr.Total (A+B+C+D)		**46263**	**1805**	**20399(39424)**	**840(1893)**	**16740**	**784**	**8304**	**422**	**344**	**374**	**308**	**656**	**616**

F 15 Performance of FPT Programme since Inception

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (mth)	Av. Milk Yield (kg/day)	Daughters Available for Recording
2005-06	15					-	-	-	-
2006-07	966					-	-	-	-
2007-08	2169	1196(1907)	62.72	468	223	-	-	-	-
2008-09	2961	1141(2065)	55.25	944	455	-	-	-	-
2009-10	3070	1563(2676)	58.41	1429	694				
2010-11	3457	1613(2651)	60.84	1333	666				
2011-12	3738	1603(2918)	54.93	1538	729				
2012-13	4067	1776(3627)	48.97	1684	810				
2013-14	4121	1957(4021)	48.70	1688	801				
2014-15	4781	2150(4271)	50.34	1564	731	1	46.5	8.9	
2015-16	3375	1719(3691)	46.57	1892	867	15	50.2	9.3	
2016-17	2971	1228(3041)	40.38	1256	537	74	49.3	9.1	
2017-18	2462	1032(2436)	42.36	815	365	72	53.6	8.9	
2018-19	2013	840(1971)	42.62	803	347	89	51.6	8.7	
2019-20	1962	776(1894)	40.97	712	308	86	52.8	9.1	
2020-21	2139	928(1273)	42.1	800	374	76	52.1	9.0	
2021-22	1931	842(1910)	44.1	766	344	99	52.6	9.1	
2022-23	1805	840(1893)	44.4	784	422	104	52.9	9.2	
Overall	**48003**	**21204(42245)**	**49.0**	**18476**	**8673**	**616**	**51.3**	**9.0**	

AI, Conception, Calving and Daughters Retained (Set wise)

Set - I	Bull No.								
	Ranjit	Rupesh	Ashok	Manek	Bhagro	Gajanan	Nagraj	Laxman	Total
AI	243	777	2120	741	4747	929	4016	5343	18916
Pregnancies	108	429	732	376	1902	502	1822	2735	8606
Daughters Born	34	116	346	182	877	245	768	1349	3917
Daughters Calved					45	0	44	85	174

Set - II	Haresh	Moti	Sundar	Raja	Dhingalo	Bholenath	Total
AI	1245	2459	719	1443	1089	2557	9512
Pregnancies	660	1041	377	724	552	1235	4589
Daughters Born	211	472	151	277	259	404	1774
Daughters Calved	37	50	27	48	25	80	267

Set - III	Bull No.									
	Nayan	Abhijit	Madhav	Alok	Ronak	Girish	Babar	Raghu	Chaman	Total
AI	1061	619	692	1169	1737	1601	1520	1312	870	10581
Pregnancies	503	279	295	475	752	612	609	491	352	4368
Daughters Born	164	98	105	202	386	210	187	191	110	1653
Daughters Calved	29	11	21	30	31	30	16	2	5	175

Set - IV	Bull no.									
	Badal	Kamlesh	Hamir	Balo	Mayur	Sango	Nayak	Samrat	Janak	Total
AI	963	836	1418	1143	783	757	1399	732	1028	9059
Pregnancies	408	331	593	475	344	340	597	326	262	3676
Daughters Born	159	138	266	187	130	161	292	49	0	1382
Daughters Calved										

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Allocation as per R E 2022–23		Released	Expenditure as per AUC		Closing Balance
Total	ICAR Share	ICAR Share	ICAR Share	State Share	
39.00	28.50+1.00*	28.50+1.00*	28.50+1.00*	9.50	0.00

* SCSP Funds

Herd Performance

Herd strength was 374 out of which 201 were breedable buffaloes (>2year). During the period 112 calving took place consisting of 51 males, 61 females, 01 still birth and 03 abortions. The calf mortality (0-3 months) was recorded at 23.26 %, much higher than the fixed target of NPBI ≤ 3 %. Conception rate was considerably improved to 49.10 % from last two years (41.50 % in 2021-22 and 39.67% in 2020-21). During the year a total of 13295 semen doses produced and 4466 frozen semen doses used/ disseminated by the centre. As on 31st March 2023, 148833 frozen semen doses are available at the centre.

Production performances indicated an increase in average lactation milk yield and 305 day or less day milk yield. It was 2629 (66) and 2525 kg (66) as compared to last year production (2021-22) of 2452 kg (60) and 2375 kg (60) respectively. The reproductive traits viz. AFC, SP, DP and calving interval were 47.90 months (29), 165 days (80), 206 days (80) and 470 days (80), respectively. During the report period the wet average increased from 7.60 kg/d to 7.80 kg/d but herd average decreased from 4.5 kg/d to 3.8 kg/d as compared to last year.

Accomplishment and Targets Achieved:

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	49.90 (22)	46.1 ±1.4 (24)	47.81±0.86 (10)	46.90±1.82 (20)	47.90±1.27 (29)
Av. Service period (days)	130	180 (35)	165±18.6 (43)	144±11.70 (38)	161±12.89 (41)	165±12.78 (80)
Calf mortality (0-3 months)	≤ 3 %	7.9	5.45	11.11	10.58	23.26
Wet average (kg)	≥8.5 kg	5.8	6.3	6.6	7.6	7.8
Herd average (kg)	≥5.5 kg	3.6	3.2	3.4	4.5	3.8

Field Unit:

During the period less, number of AI (1805) were performed in the field as compared to 1931 AI in 2021-22. Three test bull of set IV were used during the report period. A total 840 conceptions reported with conception rate of 44.4%, 422 female progenies born and 104 daughters completed lactation in 2022-23.

Recommendations:

- Substantial efforts required to reduce calf mortality.
- Involvement of the team and concerted efforts needed to improve reproductive traits.
- Production performance especially percentage of animals in milk and herd average needs to be improved.
- Increase the no. of AI in the field with uniform use of test bulls. Field recording should be strengthened.

LIVESTOCK RESEARCH STATION, VALLABHNAGAR

Report Period: 2022-23

1. **Name of center** : Livestock Research Station, Vallabhnagar RAJVASU, Bikaner
2. **Project Code** :
3. **Project Title** : Network Project on Buffalo Improvement
   Subproject : Performance recording and improvement of Surti buffalo Progeny testing of Surti bulls under field conditions
4. **Date of start** : 01-04-2001
5. **Objectives** : To establish elite herd of 50 Surti for the production of genetically superior young bulls. Evaluate sires through institutional/field progeny testing and to produce, test, propagate and conserve high genetic merit male germplasm

6. **Technical Programme:**
   - Establishment and maintenance of an elite herd of Surti with herd strength of 120.
   - Selection and testing of minimum 4-6 bulls in every 24 months cycle.
   - Production of minimum 3000 frozen semen doses from each test bull.
   - Maintain a minimum number of 2000 of frozen semen doses until the particular SET gets evaluated.
   - Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
   - Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
   - Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days) and peak yield, milk yield per day of herd life (total milk produced from date of birth till completion of 4^{th} or more lactation).
   - Monthly testing of milk constituents (Fat%, SNF% and Protein %) and Somatic Cell Count, wherever feasible, at institutional herds.
   - Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
   - Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. Staff associated with the project

Discipline	**Name of Scientist / Staff**	**Status (PI/Co-PI/ Associated)**
AGB	-	-
ARGO	**Dr Mitesh Gaur**	Project Incharge
ANFT	-	-
LPM	-	-
Health / Others	-	-
No. of staff		
Technical staff	-	
Contractual staff (RA / SRF / YP-I, YP-II)	One contractual clerk, Two contractual LSAs, one SRF	

8. Financial Statement : Rs (in Lacs)

Head	Allocation for the year (ICAR + State)	ICAR share 75% of expenditure	State Share 25% of expenditure	Total Expenditure
A. **Recurring**				
1. Pay & Allow.	--	--	--	--
2. T.A.	--	--	--	--
3. Recurring cont.	38,00,000.00	28,50,000.00	9,50,000.00	38,00,000.00
4. Recurring cont **(SCSP)**	1,00,000.00	1,00,000.00	-	1,00,000.00
Total	**39,00,000.00**	**29,50,000.00**	**9,50,000.00**	**39,00,000.00**
B. **Non-recurring Conti**.		-	-	
1. Equipment **(SCSP)**	--	--	--	--
2. Equipments	--	--	--	--
Total	--	--	--	--
G. Total	**39,00,000.00**	**29,50,000.00**	**9,50,000.00**	**39,00,000.00**

Revenue generated: Total receipt generated during the year: Rs. 15,25,253/-

Conservation Unit (Institutional herd)): Enclosed Table 9.1 to 9.21.

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition			Disposal				CB
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	
	Female								
1.	Below 3 months	**1**	9	0	1	8	0	0	**1**
2.	3-12 months	**5**	0	8	1	5	0	0	**7**
3.	1-2 years	**15**	0	5	0	15	0	0	**5**
	Above 2 years	**26**	0	15	2	4	0	0	**35**
4.	Buffaloes in Milk	**28**	0	4	3	2	0	0	**27**
5.	Buffaloes Dry P /NP	**16**	0	2	1	0	0	0	**17**
	Sub Total	**91**	**9**	**34**	**8**	**34**	**0**	**0**	**92**
	Males								
1.	Below 3 months	**7**	23	0	**5**	21	0	0	**4**
2.	3-12 months	**6**	0	21	4	8	0	0	**15**
3.	1-2 years	**13**	0	8	1	12	0	0	**8**
	Above 2 years	**11**	0	12	0	0	0	0	**23**
4.	Breeding bulls	**7**	0	0	0	0	0	0	**7**
5.	Bullocks / Teasers / others	**2**	0	0	0	0	0	0	**2**
	Sub Total	**46**	**23**	**41**	**10**	**41**	**0**	**0**	**59**
	Grand Total	**137**	**32**	**75**	**18**	**75**	**0**	**0**	**151**

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March

9.2 Calving Statistics including abnormalities

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 22	1							1
May	2		1					3
June	1							1
July	1							1
August	5	1	1	1				8
September	3	1						4
October	3	2						5
November	1	3						4
December	2	0						2
January 23	2	1						3
February	1	1						2
March	1	0						1
Overall	**23**	**9**	**2**	**1**	**0**	**0**	**0**	**35**

Sex ratio **Male : Female (2.56:1)** Abortion % = 2.86 %

9.3. Disposal of Animals during the Period 1st April 2022 to 31st March, 2023

Female								
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	**Total**
Calves								
0 to 3 months	0	0	0	0	0	1	0	**1**
3-12 months	0	0	0	0	0	1	0	**1**
Heifers								
1-2 years	0	0	0	0	0	0	0	**0**
> 2 years	0	0	0	0	0	2	0	**2**
Buffaloes								
Milch	0	0	0	0	0	3	0	**3**
Dry	0	0	0	0	0	1	0	**1**
Sub Total	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**8**
Males								
Calves								
0 to 3 months	0	0	0	0	0	5	0	**5**
3-12 months	0	0	0	0	0	4	0	**4**
1 to 2 year	0	0	0	0	0	1	0	**1**
>2 year	0	0	0	0	0	0	0	**0**
Breeding bulls	0	0	0	0	0	0	0	**0**
Bullock+Teaser+Others	0	0	0	0	0	0	0	**0**
Sub Total	0	0	0	0	0	10	0	**10**
Grand Total	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**18**

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Female							**Male**					**Overall Herd**
	0-3 m	3-12 m	1-2 Yrs.	Above 2 Yrs.	Milk + Dry	Overall Female	0-3 m	3-12 m	1 -2 Yrs.	>2 yrs.	Overall Male	
No.	10	13	15	26	44	108	30	27	21	23	101	209
Died	1	1	0	2	4	8	5	4	1	0	10	18
%	**10.0**	**7.7**	**0.0**	**7.7**	**9.1**	**7.41**	**16.7**	**14.8**	**4.8**	**0.0**	**9.90**	**8.61**

Overall Calf Mortality = 15.0 % (6/40) Overall Mortality = 8.61 % (18/209)

9.5. Causes of Mortality (quarter wise) during the period April 22 to March 23

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	**Total**
Enteritis	-	-	4	3	**7**
Pneumonitis	-	1	1	1	**3**
Septicemia / Toxemia	-	2	-	1	**3**
Peritonitis	-	-	-	-	**0**
JD/TB	-	-	-	-	**0**
Milk Fever/metabolic diseases	-	-	-	-	**0**
TRP / TP	-	-	-	-	**0**
Parasitism	-	-	-	-	**0**
Accidental death	-	-	-	-	**0**
Peri-parturient disorders	-	-	-	-	**0**
Miscellaneous	2	-	-	3	**5**
Total	**2**	**3**	**5**	**8**	**18**

9.6 Prophylactic Measures undertaken

Disease	Vaccination Date	No. of animals	No. of animals Tested / Positive		Month and no. of animals treated for Parasitism	
FMD	05-12-2022	135			April	11
					May	8
HS	05-12-2022	135			June	135
					July	12
BQ	05-12-2022	135			August	11
					September	144
Brucellosis					October	12
					November	8
JD			26	0	December	21
TB			26	0	January	25
IBR					February	132
Mastitis					March	17
Lumpy Skin Disease	02-08-2022	127				

9.7. Female Conception Rate During the Period January to December 2022

AI No.→	1st			2nd			3rd			4th & above			Over all		
Parity↓	AIs	C	CR %	AIs	C	CR %	AIs	C	CR%	AIs	C	CR %	AIs	C	CR %
Heifers	11	5	45.45	2	0	0.00	0	0	0.00	0	0	0.00	13	5	38.46
Adults	31	12	38.71	21	7	33.33	13	7	53.85	9	4	44.44	74	30	40.54
Overall	**42**	**17**	**40.48**	**23**	**7**	**30.43**	**13**	**7**	**53.85**	**9**	**4**	**44.44**	**87**	**35**	**40.23**

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8 Quarter-wise conception rate

Quarter	No. of A I	Preg. animals	CR %
January – March	23	10	**43.48**
April - June	18	4	**22.22**
July - September	21	4	**19.05**
October- December	25	17	**68.00**
Overall	**87**	**35**	**40.23**

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. No.	Bull No.	SET No.	Total Number of AI	Total Conceived	CR%
1.	1948 PT	1	12	6	50.00
2.	1950 PT	2	4	3	75.00
3.	1952 PT	2	6	3	50.00
4.	1955	3	12	5	41.67
5.	1961 PT	3	15	4	26.67
6.	1963 PT	4	12	3	25.00
7.	1968 PT	4	16	5	31.25
8.	4542	8	5	4	80.00
9.	4548	8	3	0	0.00
10.	4567	8	2	2	100.00
Over all			**87**	**35**	**40.23**
No. of services per conception					**2.49**

9.10Bull Wise Semen Stock

Set No	Bull No	OB	Doses produced / received	Consumption for AI/supplied					Balance
				Inst herd	Field unit	NPBI centres	Sold	Total supply	
I	1948	183		22		0	0	22	**161**
I	1949	2		0		0	0	0	**2**
II	1950	233		12		0	0	12	**221**
II	1951	15		0		0	0	0	**15**
II	1952	163		12		0	0	12	**151**
II	1953	95		0		0	0	0	**95**
III	1955	475		28		0	0	28	**447**
III	1956	536				0	0	0	**536**
III	1957	876				0	0	0	**876**
III	1958	163				0	0	0	**163**
III	1961	425		36		0	0	36	**389**
IV	1962	85		0		0	0	0	**85**
IV	1963	894		28		0	0	28	**866**

IV	1964	498				0	0	0	**498**
IV	1965	350				0	0	0	**350**
IV	1966	1088				0	0	0	**1088**
IV	1967	2373				0	0	0	**2373**
IV	1968	1580		34		0	0	34	**1546**
IV	1969	1630				0	0	0	**1630**
V	1971	1111				0	0	0	**1111**
V	1972	573				0	0	0	**573**
V	1973	1451				0	0	0	**1451**
V	1974	1137				0	0	0	**1137**
V	1975	741				0	0	0	**741**
V	1976	1346				0	0	0	**1346**
V	1977	1877				0	0	0	**1877**
V	1978	70				0	0	0	**70**
VI	4203	268				0	0	0	**268**
VI	4229	3627				0	0	0	**3627**
VI	4264	2281				0	0	0	**2281**
VI	4299	5693				0	0	0	**5693**
VI	4302	174				0	0	0	**174**
VI	4321	124				0	0	0	**124**
VI	4323	99				0	0	0	**99**
VI	25	248				0	0	0	**248**
VI	8	565				0	0	0	**565**
VII	4373	1746				0	0	0	**1746**
VII	4403	3063				0	0	0	**3063**
VII	4392	1996				0	0	0	**1996**
VII	4429	2391				0	0	0	**2391**
VII	4413	1164				0	0	0	**1164**
VII	4458	123				0	0	0	**123**
VIII	4464	1527		2		0	0	2	**1525**
VIII	4529	1948		2		0	0	2	**1946**
VIII	4542	2840		8		0	0	8	**2832**
VIII	4548	1522		10		0	0	10	**1512**
VIII	4567	1762		4		0	0	4	**1758**
VIII	4578	2277		2		0	0	2	**2275**
IX	4611	5838			495	0	0	495	**5343**
IX	4612	1646			602	0	0	602	**1044**
IX	4633	7584			40	0	0	40	**7544**
IX	4647	2630			25	0	0	25	**2605**
IX	4648	6765	3039		545	0	0	545	**9259**
X	4712	372	2271			0	0	0	**2643**
X	4728	387	2500			0	0	0	**2887**
X	4764	0	662			0	0	0	**662**
X	4772	0	384			0	0	0	**384**
Total		**80635**	**8856**	**200**	**1707**	**0**	**0**	**1907**	**87584**

9.11 Average Body weight (kg) since inception

Year	N	Birth	N	3 Months	N	6 Months	N	12 Months	N	18 Months	N	24 Months	N	At AFC
Female														
2001-02	14	26.86±1.04	9	62.44±3.88		-		-		-		-		-
2002-03	16	27.78±0.77	13	60.23±2.84	13	99.54±2.99	6	183.33±7.69	1	244.00±NE		-		-
2003-04	11	27.73±1.39	12	58.62±2.03	13	89.88±3.22	12	160.08±5.26	9	232.50±8.88	8	277.29±8.34		-
2004-05	20	27.82±0.75	18	60.85±1.90	26	89.07±3.60	24	165.37±3.06	16	237.75±5.93	8	299.12±9.43	9	405.33±8.08
2005-06	25	27.88±0.64	19	54.80±1.33	17	85.43±2.15	16	129.40±4.08	14	191.45±3.33	16	224.25±4.62	16	415.71±14.98
2006-07	25	28.52±0.54	24	55.00±0.77	24	76.10±1.50	16	119.55±1.61	13	166.14±1.93	14	217.13±3.21		426.57±7.68
2007-08	19	28.89±0.72	14	58.71±2.41	19	83.68±2.74	14	116.43±4.77	13	159.77±2.57	15	208.40±4.35	15	430.47±10.81
2008-09	18	28.56±0.37	15	59.80±1.85	13	84.77±3.62	14	120.64±6.25	12	162.58±4.15	14	210.21±4.17	12	435.83±6.41
2009-10	14	27.71±0.58	16	60.09±3.11	19	85.25±4.54	12	131.50±5.32	13	181.91±4.82	15	209.43±3.83	5	434.23±8.12
2010-11	12	27.54±0.76	12	59.84±3.45	9	72.91±3.96	10	109.09±4.58	11	163.19±5.09	13	205.43±4.16	4	427.67±9.15
2011-12	11	26.84±0.86	11	58.46±2.45	15	74.45±4.23	8	108.37±5.37	9	162.82±7.34	10	208.64±4.64	5	426.54±14.21
2012-13	12	26.80±0.82	16	59.45±2.47	22	75.95±4.25	10	110.40±5.32	8	165.50±7.30	10	212.65±4.75	4	429.50±14.40
2013-14	12	24.13±0.30	5	60.34±2.46	8	77.13±6.26	8	100.67±1.70	6	161.72±12.81	5	209.63±16.76	4	462.50±23.58
2014-15	16	21.66±0.64	11	49.41±2.33	8	64.13±3.44	4	106.5±13.92	2	214.00±4.71	5	239.25±7.27	12	440.75±15.24
2015-16	9	22.80±0.35	5	54.50±1.43	4	70.50±2.68	10	101.50±2.11	6	161.25±11.22	4	217.00±6.05	11	413.90±11.74
2016-17	15	25.20±0.31	6	59.67±1.66	3	73.00±1.89	6	104.67±2.04	8	177.50±8.23	8	214.00±3.58	32	426.47±7.90
2017-18	20	25.21±0.74	8	52.38±3.08	13	73.46±1.71	11	106.55±5.12	6	164.33±2.65	7	193.14±25.42	2	410.50±2.50
2018-19	18	24.43±0.50	11	55.45±1.55	10	70.10±3.37	9	109.56±2.72	15	153.67±3.87	8	197.25±7.64	-	
2019-20	11	24.55±0.37	7	52.04±1.91	10	67.79±1.70	10	115.37±4.88	10	169.14±4.32	12	214.73±4.06	5	443.20±17.36
2020-21	15	23.45±0.33	12	55.29±1.46	7	71.71±2.84	5	119.50±4.82	7	170.36±4.83	11	202.32±3.20	-	-
2021-22	19	25.43±0.15	20	52.94±1.11	11	71.72±1.38	12	119.12±2.85	7	171.82±4.36	12	206.27±3.83	8	325.75±7.67
2022-23	**5**	**25.04±0.55**	**12**	**42.94±1.02**	**4**	**60.85±7.97**	**5**	**114.27±3.77**	**5**	**166.20±3.58**	**16**	**201.63±24.26**	**1**	**330.00**
Male														
2001-02	14	28.71±1.15	12	65.17±3.14	5	99.80±1.74		-		-		-		-
2002-03	11	30.18±3.57	7	63.43±5.66	8	100.38±2.34	8	164.60±3.04	4	239.75±14.92		-		-
2003-04	12	28.21±0.91	13	59.46±3.61	5	88.80±5.16	2	168.00±7.80	3	241.00±7.65	11	338.91±16.86	8	417.62±8.23
2004-05	23	27.76±0.76	17	58.39±1.70	22	90.96±1.87	14	165.33±9.56	6	239.50±7.50	9	335.31±14.21	7	479.25±75.65
2005-06	20	29.45±0.85	15	60.21±2.27	20	86.62±3.49	7	121.71±10.04	4	179.67±21.26	2	260.5±16.5	8	440.0±29.67
2006-07	13	29.85±0.80	14	55.54±1.20	14	83.73±2.10	11	116.40±0.82	9	169.13±10.09	5	214.40±15.86		440.0 29.67
2007-08	19	29.58±0.62	14	60.23±2.30	11	86.00±5.79	12	112.75±6.25	10	171.20±8.86	5	221.20±18.04	8	444.75±6.58
2008-09	18	29.33±0.45	17	61.47±1.80	12	89.42±2.64	12	118.50±5.27	12	176.36±3.90	7	225.71± 6.57	8	441.38±11.54
2009-10	9	27.85±0.57	9	65.86±3.39	17	91.50±4.07	10	132.50±16.6	12	183.88±8.01	5	226.74±9.34	10	439.41±16.48
2010-11	19	28.03±0.54	19	76.71±3.17	17	69.92±3.36	25	109.70±14.86	23	166.28± 6.54	21	214.49±10.91	12	436.37±17.69
2011-12	24	28.37±1.02	23	61.87±4.72	19	79.43±3.66	14	124.97±5.72	14	164.64±445	12	224.54±14.75	9	438.64±31.42
2012-13	26	28.55±1.05	28	62.80±4.75	31	80.35±3.65	22	125.45±5.25	10	170.5±4.50	8	225.75±14.80	8	445.74±31.38
2013-14	13	24.31±0.49	11	60.74±3.36	10	76.00±12.96	7	107.33±10.35	10	166.54±10.35	9	215.59±14.21	10	455.80±65.67
2014-15	19	22.38±0.65	10	52.3±2.28	8	67.81±4.70	5	153.5±14.24	2	184.00±2.83	5	224.5±10.76	10	452.60±28.64
2015-16	12	22.96±0.39	2	51.00±2.12	4	75.25±3.71	6	118.42±2.25	4	181.25±5.69	4	226.25±7.28	9	411.44±22.37
2016-17	12	25.08±0.47	4	62.50±1.03	3	91.33±5.46	5	126.40±1.51	8	202.13±5.31	5	227.60±5.14	6	446.33±20.43
2017-18	10	26.21±1.32	6	53.83±5.62	1	66.00±0.00	2	106.00±3.00	5	150.40±10.99	5	214.00±4.29	-	-
2018-19	14	24.81±0.74	10	56.60±1.65	15	70.33±1.62	4	105.00±4.95	4	158.50±4.41	2	207.50±1.50	-	-
2019-20	24	25.30±0.29	12	51.02±1.50	10	67.79±1.70	12	115.83±2.89	9	164.81±3.72	6	207.45±3.02	-	-
2020-21	16	24.31±0.24	18	53.83±1.29	4	71.75±2.69	14	119.04±2.78	7	169.07±6.86	11	205.00±4.40	-	-
2021-22	17	24.35±0.37	15	55.44±1.17	7	71.34±2.84	7	120.20±3.27	9	171.82±4.36	13	203.60±2.58		
2022-23	**17**	**24.80±0.25**	**22**	**41.04±1.64**	**17**	**59.65±3.43**	**4**	**116.18±10.85**	**4**	**134.25±5.12**	**11**	**170.09±4.75**		

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	N	TLMY (kg)	Lact Length (days)	SLMY (kg)	Peak Yield (kg)
1st	8	1509.56±86.04	380.6±32.31	1303.04±25.22	6.84±0.60
2nd	3	1432.55±173.15	300.00±9.00	1431.55±174.15	7.73±0.65
3rd	4	1482.10±208.7	313.00±11.00	1464.05±190.65	8.57±0.82
4th	1	1134.90	273.00	1134.90	6.70
5th & above	8	1780.86±111.4	370.4±37.44	1635.12±99.89	9.20±0.66
Overall	**24**	**1591.53±67.56**	**355.79±18.66**	**1463.00±58.54**	**8.23±0.37**

9.12.1 Average production performance of Buffaloes since Inception of Network

Year	**N**	**Av. Lact. Yield (kg)**	**Av. Lact. Length (days)**	**305 day Milk Yield (kg)**	**Av. Peak yield**
2001-02	16	1687.42±110.73	315.00±20.88	1606.00±95.38	9.08±0.40
2002-03	28	1859.21±70.84	304.68±11.87	1792.70±62.60	10.23±0.17
2003-04	34	1653.11±42.43	278.10±5.80	1645.78±41.11	10.59±0.18
2004-05	36	1661.63±49.10	299.10±7.87	1633.26±39.73	11.13±0.23
2005-06	34	1721.07±72.95	292.32±9.97	1667.20±62.32	11.32±0.27
2006-07	41	1684.73±52.55	293.03±5.24	1661.06 ±50.04	10.89±0.31
2007-08	32	1726.25±72.56	303.53±8.26	1649.06 ±45.70	11.17±0.21
2008-09	35	1598.69±51.34	337.62±7.81	1491.37 ±44.77	9.75±0.24
2009-10	30	1600.89±64.93	328.28±16.09	1551.11±49.56	9.69±0.38
2010-11	16	1433.91±72.22	319.00±17.74	1348.87±72.00	9.0±0.28
2011-12	21	1428.65±45.49	318.76±9.91	1386.12±47.16	8.82±0.22
2012-13	27	1432.7±50.59	296.48±9.01	1390.57±41.29	9.70±0.21
2013-14	24	1526.74±49.26	294.30±9.79	1480.64±38.21	9.58±0.18
2014-15	41	1493.40±53.85	294.00±7.69	1443.99±60.65	9.71±0.25
2015-16	20	1623.90±77.97	344.85±15.06	1477.38±58.40	8.78±0.33
2016-17	23	1670.73±80.06	309.96±11.28	1582.82±68.74	9.68±0.29
2017-18	23	1617.70±72.01	282.81±11.02	1586.06±72.01	9.75±0.24
2018-19	22	1649.38±85.81	313.32±15.74	1565.95±64.94	9.60±0.29
2019-20	25	1604.18±117.29	291.65±17.89	1558.62±103.17	9.49±0.49
2020-21	24	1633.00±55.51	327.46±14.12	1557.53±41.34	9.56±0.31
2021-22	32	1662.62±54.61	335.28±12.35	1557.38±40.83	9.86±0.26
2022-23	**24**	**1591.53±67.56**	**355.79±18.66**	**1463.00±58.54**	**8.23±0.37**

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

Ani. No.	DOB	Date of completion of 4th or more lact. or disposal	HLF (days) up to 4th or more lactation or disposal (d)	LTMY (kg)	Productive Days	Unproductive Days	MY/ day HLF
4482	01-12-2008	10-02-2022	4819	13758.10	2232	832	2.85
4501	02-08-2009	14-08-2022	4760	11490.20	2144	1044	2.41
4434	29-08-2007	13-09-2022	5494	11862.70	2284	1370	2.16
4549	26-09-2010	28-11-2021	4081	9107.00	1877	1006	2.23
4613	05-10-2012	29-04-2022	3493	7084.35	1108	929	2.03
4625	24-12-2012	09-06-2022	3454	6147.80	1183	944	1.78

4582	29-09-2011	31-05-2022	3897	7363.20	1213	1252	1.89
4494	10-04-2009	01-09-2022	4892	8230.00	1638	1508	1.68
4528	05-08-2010	20-08-2021	4033	7721.70	1544	1233	1.91
4616	25-10-2012	21-11-2021	3314	5531.10	1073	501	1.67
4513	25-09-2009	14-02-2022	4525	7094.40	1540	1206	1.57
4632	30-03-2013	09-04-2022	3297	5455.8	1040	297	1.65
4600	28-08-2012	29-11-2022	3745	5059.9	1158	427	1.35
4649	21-11-2013	04-12-2022	3300	5088.5	1335.7	595.3	1.54

Note: HLF (Herd Life- Date of birth to date of completion of 4th or more lact. or date of disposal) Productive Days (date of first calving to total days in milk), Unproductive days (total days when buffalo not give milk from the date of first calving)

9.13 Average Milk Composition from April 2022 to March 2023

Month	N	Fat	SNF	Protein	Lactose	SCC
April 22	-	-	-	-	-	-
May	-	-	-	-	-	-
June	-	-	-	-	-	-
July	21	6.9	-	-	-	-
August	20	6.4	-	-	-	-
September	22	6.2	-	-	-	-
October	25	8.6	-	-	-	-
November	29	6.2	-	-	-	-
December	28	7.8	-	-	-	-
January 23	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
Overall	**145**	**7.05**	**-**	-	-	-

9.14: Reproductive Performance

Parity	AFC (Months) (N)	SP (Days)	DP (Days)	CI (Days)
1	53.89±7.65 (4)	132.14±30.07 (10)	-	-
2		205.00±18.00 (5)	135.29±21.21 (9)	390.57±10.90 (9)
3		134.40±21.11 (6)	186.20±19.09 (7)	501.33±52.83 (7)
4		235.00 (1)	145.50±39.50 (2)	414.00±16.00 (2)
5th& above		127.33±19.97 (8)	150.91±10.58 (11)	447.11±30.43(11)
Over all	**53.89±7.65 (4)**	**143.14±13.66 (30)**	**153.16±9.08 (29)**	**441.42±18.91 (29)**

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (Days/ Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2001-02	-	243.92±42.12	250.08±23.75	556.17±24.96
2002-03	-	195.00±22.93	204.45±25.71	489.95±24.01
2003-04	1517.34±50.82	146.13±14.32	177.35±12.01	454.71±14.45
2004-05	1370.64±86.23	153.55±11.10	179.37±9.84	462.79±11.33
2005-06	1366.23±31.93	145.87±18.50	171.83±16.20	451.63±18.03
2006-07	1367.69±29.27	148.68±13.13	163.32±11.69	450.27±14.29
2007-08	1431.62±22.36	150.57±13.02	162.03±23.45	456.11±11.48

2008-09	1565.62±41.18	118.27±16.96	172.88±15.90	480.25±16.10
2009-10	1489.18±29.65	203.10±22.39	169.57±11.58	453.30±16.06
2010-11	1391.67±88.97 (8)	108.68±19.01 (34)	193.57±9.64 (30)	503.24±22.75 (30)
2011-12	1461.00±98.49 (5)	97.11±5.15 (18)	141.19±1.18 (23)	425.90±33.77 (23)
2012-13	1448.00±69.58 (8)	108.6±14.82 (17)	164.08±1.72 (26)	441.73±22.99 (26)
2013-14	45.47±2.62 (8)	119.63±1.84 (25)	135.60±7.83 (16)	401.06±11.50 (16)
2014-15	47.01±2.49 (10)	162.28±8.74 (18)	177.2±35.07 (10)	445.9±33.71 (10)
2015-16	46.29 (1)	169.29±7.39 (19)	192.47±9.78 (19)	483.74±21.03 (19)
2016-17	46.21±1.11 (4)	141.07±5.25 (33)	222.75±3.27 (23)	482.63±32.26 (23)
2017-18	50.97±6.08 (2)	82.94±5.80 (30)	193.3±13.47 (31)	456.44±21.45 (31)
2018-19	42.41±2.71 (7)	91.60±4.64 (30)	181.62±18.46 (26)	423.69±16.31 (26)
2019-20	45.29±4.66 (8)	109.77±8.86 (27)	159.38±15.81 (29)	417.43±13.06 (31)
2020-21	46.07±4.10 (4)	145.26±11.13 (29)	154.83±8.93 (28)	431.92±9.90 (28)
2021-22	50.86±2.11 (10)	124.41±11.20 (27)	151.71±11.10 (26)	431.71±18.30 (26)
2022-23	**53.89±7.65 (4)**	**143.14±13.66 (30)**	**153.16±9.08 (29)**	**441.42±18.91 (29)**

9.15 Milk Production and Disposal

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk sold	Calf feeding	Expt.
April 22	3200.9	2664.3	528	0.0
May	2719.5	2268.3	441	0.0
June	2390.7	2061.2	321	0.0
July	2658.9	2306.8	270	1.5
August	2691.3	2338.7	294	3.0
September	2892.1	2228.8	627	1.5
October	3740.5	2624.8	1068	2.1
November	3870.2	2733.3	1110	1.2
December	3589.5	2511.3	1065	1.0
January 23	3450.7	2771.6	669	0.0
February	3202.6	2583.2	603	0.0
March	3287.4	2826.3	447	0.0
Total	**37694.3**	**29918.6**	**7443.0**	**10.3**

9.16 Feed and fodder (Quintals) availability

Quarter	Type of fodder /feed	Qty produced at farm	Qty. Purchased	Actually fed	Balance (Qt)
I (April - June)	Green	0	78.18	78.18	0
	Dry	0	950.05	472.3	477.75
	Silage	0	0	0	0
	Concentrate	0	269.807	217.9	51.907
II (July - September)	Green	0	69.45	69.45	0
	Dry	0	242	650	-408
	Silage	0	0	0	0
	Concentrate	0	266	229.1	36.9
III (October – Dec.)	Green	0	0	0	0
	Dry	0	934.3	609.9	324.4
	Silage	0	0	0	0
	Concentrate	0	12.000	238.2	-226.2
IV (January - March)	Green	0	435.4	435.4	0
	Dry	0	72.8	531.85	-459.05
	Silage	0	0	0	0
	Concentrate	0	404.833	269	135.833
TOTAL	Green	0	**583.03**	**583.03**	**0**
	Dry	0	**2199.15**	**2264.05**	**-64.9**
	Silage	0	**0**	**0**	**0**
	Concentrate	0	**952.640**	**954.200**	**-1.56**

9.17: Milk performance during April 2022 to March 2023

Month	Buffaloes in milk	Buffaloes dry	Total	% in milk	Wt. Avg.(kg)	Herd Avg.(kg)
April 22	798	522	1320	60.45	4.01	2.42
May	780	544	1324	58.91	3.49	2.05
June	662	663	1325	49.96	3.61	1.80
July	651	713	1364	47.73	4.08	1.95
August	685	679	1364	50.22	3.93	1.97
September	720	571	1291	55.77	4.02	2.24
October	855	478	1333	64.14	4.37	2.81
November	874	423	1297	67.39	4.43	2.98
December	844	476	1320	63.94	4.25	2.72
January 23	831	486	1317	63.10	4.15	2.62
February	803	391	1194	67.25	3.99	2.68
March	794	526	1320	60.15	4.14	2.49
Overall	**9297**	**6472**	**15769**	**58.96**	**4.05**	**2.39**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2001-02	4298	6652	10950	39.25	6.92	2.72
2002-03	7946	4190	12136	65.47	5.9	3.86
2003-04	10560	4946	15506	68.1	5.99	4.08
2004-05	8731	4717	13448	64.92	6.19	4.02
2005-06	12536	7623	20159	61.69	5.66	3.49
2006-07	12299	8306	20605	59.69	5.64	3.37
2007-08	10057	7717	17774	56.58	5.7	3.23
2008-09	8975	7124	16099	55.75	5.48	3.06
2009-10	10119	7668	17787	56.55	4.27	2.42.
2010-11	9072	6836	15908	58.39	4.48	2.73
2011-12	8501	5212	13713	63.29	4.66	3.02
2012-13	8281	4412	12693	65.24	5.15	3.36
2013-14	8181	4701	12882	63.51	5.11	3.25
2014-15	10214	4639	14853	68.77	4.69	3.22
2015-16	6422 (21)	6986 (16)	13408 (39)	47.9	5.13	2.43
2016-17	7057 (25)	5936 (13)	12993 (38)	54.31	5.22	2.83
2017-18	8138 (48)	4784 (42)	12922 (39)	62.98	5.55	3.43
2018-19	8771 (55)	5046 (33)	13817 (41)	63.48	5.38	3.42
2019-20	8750 (63)	5183	13933	62.80	5.11	3.21
2020-21	8347 (68)	6187 (29)	14534 (45)	57.43	5.14	2.95
2021-22	9147 (73)	6503 (32)	15650 (61)	58.45	5.20	3.04
2022-23	**9297 (60)**	**6472 (24)**	**15769 (48)**	**58.96**	**4.05**	**2.39**

9.18: Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
1948	1	1	1	1
1950	2	2	1	4
1952	2		1	1
1955	3	3		
1956	3			
1961	3	2		1
1963	4	1		
1968	4			

4203	6			
4321	6			
4413	7			
4464	8			
4497	7			1
4529	8		1	
4548	8			
4567	8			
4578	8			1
Total		**9**	**4**	**9**

9.19 Bull wise daughters completing 1st lactation Farm (2022-23)

S. No.	Bull No.	Daughters number	Date of birth	Date of calving	AFC (months)	Lactation length day	TLMY (kg)	SLMY (kg)
1	1952	4735	23-10-2016	14-10-2021	59.57	311	694.7	691.2
2	1952	4741	06-03-2017	17-10-2021	55.28	304	1384.2	1384.2
3	1952	4749	31-07-2017	09-10-2021	50.20	223	941.5	941.5
4	1961	4702	03-09-2015	03-08-2021	70.85	470	1793.6	1331.2
5	4464	4745	25-04-2017	12-01-2022	56.49	396	1484.6	1268.6
6	4542	4719	25-07-2016	24-11-2021	63.87	310	1297.6	1291.6
7	4542	4746	31-05-2017	17-11-2021	53.48	178	574.3	574.3
8	4542	4747	12-07-2017	10-12-2021	52.85	350	1240.1	1178.5
9	4578	4782	11-08-2018	21-12-2021	40.26	423	1587.8	1239.6

9.20 Breeding bulls Selected for current set (X Set)

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best SLMY
1	4712	31-10-2015	4446	1950	2091.6
2	4728	09-09-2016	4430	1948	1742.6
3	4764	06-10-2017	4613	1955	1628.0
4	4765	11-10-2017	4520	1963	2061.4
5	4768	25-10-2017	4405	1955	1856.5
6	4772	23-11-2017	4482	1950	2070.8

9.20.1 PT Bulls for nominated mating

Bull No.	Set No.	Centre	Dams' Best yield	Sire Index	Breeding Value	% Superiority
1956	3	Livestock Research Station, Vallabhnagar	1805.6	2	1256.17	3.85
1961	3		1848.0	1	1271.67	4.04
1963	4		2534.0	1	1486.29	16.20
1968	4		2395.0	2	1301.86	3.78
1976	5		2252.0	2	1468.63	8.88
1977	5		1950.0	1	1538.38	10.05
4299	6		1869.7	2	1578.87	2.51
4302	6		1866.6	1	1627.65	9.22

9.20.2 List of Future breeding bulls (proposed for XI Set and XII Set)

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Exp. predicted Difference (EPD)
1	4872	28-12-2020	4482	1950	87.77
2	4839	22-12-2019	4520	1963	31.18
3	4807	13-06-2019	4405	1955	31.05
4	4778	28-07-2018	4600	4548	18.80
5	4863	26-11-2020	4600	1950	18.80

6	4791	05-09-2018	4672	4567	13.64
7	4895	17-07-2021	4672	1961	13.64
8	4829	14-10-2019	4537	1955	13.50
9	4868	21-12-2020	4537	1955	13.50
10	4862	26-11-2020	4698	1950	7.80
11	4894	28-06-2021	4884	UK	1.32

9.21 Target achieved during the year

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	42.41±2.71 (7)	45.29±4.66 (8)	46.07±4.10 (4)	50.86±2.11 (10)	53.89±7.65 (4)
Av. Service period (days)	130	92±4.64 (30)	110±8.86 (27)	145 ±11.13 (29)	124 ±11.20 (27)	143 ±13.66 (30)
Calf mortality (0-3 months)	≤ 3 %	26.47 %	31.58	2.5 %	24.5 %	15.00 %
Wet average (kg)	≥8.5 kg	5.38	5.11	5.14	5.20	4.05
Herd average (kg)	≥5.5 kg	3.42	3.21	2.95	3.04	2.39

10. Salient Research Achievements:

Six Set of bulls **complete**ly evaluated with 13688 doses of Proven Surti Bulls. Test mating from IX set completed. Test mating of X set underway. Training of bulls for XI set started.

11. Publications:

12. Socioeconomic impact / Success stories:

The supply of high pedigreed test bulls as well as semen of test bulls and progeny tested bulls has helped in improving the scenario of Dairy Farming in the region. Farmers of the region are showing interest towards buffalo rearing for milk production as evident from positive growth rate of buffaloes in comparison to cattle in addition; Buffalo contributed more than 90% of total income from livestock, indicating importance of buffalo in socio economy of farmers in region.

13. Constraints if any: For strengthening of field testing programme:

- Recurring contingency is short to meet out the increased cost of feed and fodder, labour, medicine and liquid nitrogen.
- Training programmes may be organized for the buffalo keepers with the provision of sufficient fund for the same.
- Provision for 6 posts of inseminators on fixed wages of Rs. 8000 pm. (Rs.5.76 Lacs/year)
- Atleast Rs 6.0 lacs for incentives to the registered farmers in terms of vaccination, deworming, mineral mixture supply and organizing treatment camps and events.
- Provision of 2 motorcycles for efficient supervision of field unit centers costing Rs. 2.0 lacs

14. Focus of work in the coming year

Field unit

- Strengthen progeny testing programme in the field.
- Identify elite buffaloes in farmers herd for nominated mating.
- Treatment camps and animal competition will be organised at all the field centres to get better cooperation of farmers.
- Procure male calves born from nominated mating at farmers herd.
- Survey of socio-economic parameters of registered farmers will be under taken seasonally.
- Increasing the foot-print of the project by opening new centers.

Institutional herd

- Preserve required number of doses of **X set** of bulls.
- To preserve doses of XI set of bulls
- Efforts will be made to further increase reproductive and productive efficiency of herd.

Field Unit, Surti (RAJUVAS)

F 1. Herd Strength of Registered Females at Field Unit Centers during 4/2022 to 3/2023

Center	Opening balance	Addition			Deduction			Closing balance
		Birth	Purchased	New Reg.	Sold	Death	Reg. Cancelled	
Menar	563	52	2	0	43	12	0	**562**
Rundera	484	25	7	0	40	15	0	**461**
Navania	676	45	10	0	50	20	0	**661**
Tarawat	380	28	0	0	15	10	0	**383**
Dhamania	687	55	2	0	44	10	0	**690**
Total	**2790**	**205**	**21**	**0**	**192**	**67**	**0**	**2757**

F 2. Status of Breedable Females at Different Field Unit Centers during 4/2022 to 3/23

Center	Heifers >3 years		Buffalo Non-Pregnant		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Menar	104	20	125	22	8	58
Rundera	90	28	102	15	37	75
Navania	72	33	112	12	55	27
Tarawat	50	22	97	15	28	52
Dhamania	118	52	110	18	74	**95**
Total	**434**	**155**	**546**	**82**	**202**	**307**

F 3. Monthly AI (Center-wise) at Different Field Unit Centers during 4/2022 to 3/2023

Month	**Centre**					**Total**
	Menar	**Rundera**	**Navania**	**Tarawat**	**Dhamania**	
Apr-22	16	23	11	3	6	**59**
May-22	6	21	0	2	7	**36**
Jun-22	18	19	0	2	6	**45**
Jul-22	16	42	0	7	18	**83**
Aug-22	13	42	4	10	31	**100**
Sep-22	29	52	32	12	35	**160**
Oct-22	29	51	36	21	36	**173**
Nov-22	29	60	40	11	41	**181**
Dec-22	34	40	22	8	19	**123**
Jan-23	24	40	17	8	15	**104**
Feb-23	16	35	22	6	11	**90**
Mar-23	22	31	13	5	12	**83**
Total	**252**	**456**	**197**	**95**	**237**	**1237**

F 4. Bull-wise AI at Different Field Unit Centers during the Period 4/2022 to 3/2023

Month	**Bull No.**				
	4611	**4612**	**4647**	**4648**	**Total**
Apr-22	23	25	0	11	**59**
May-22	21	15	0	0	**36**
Jun-22	0	27	0	18	**45**
Jul-22	0	60	7	16	**83**
Aug-22	0	77	10	13	**100**

Sep-22	43	86	2	29	**160**
Oct-22	75	47	0	51	**173**
Nov-22	68	53	0	60	**181**
Dec-22	77	11	0	35	**123**
Jan-23	40	0	0	64	**104**
Feb-23	35	0	0	55	**90**
Mar-23	31	13	0	39	**83**
Total	**413**	**414**	**19**	**391**	**1237**

F 5. Month-wise Conception at Field Unit Centres during 2022

Month	**Centre**					**Total**
	Menar	**Rundera**	**Navania**	**Tarawat**	**Dhamania**	
January-22	10	15	5	3	7	40
February	5	15	4	2	1	27
March	4	14	4	1	0	23
April	5	9	2	1	3	20
May	3	8	0	1	2	14
June	5	7	0	1	3	16
July	4	15	0	2	5	26
August	4	12	2	3	12	33
September	6	16	12	4	15	53
October	7	20	13	7	14	61
November	7	20	11	4	23	65
December	8	13	15	3	8	47
Total	**68**	**164**	**68**	**32**	**93**	**425**

F 6. Month-wise Calving at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	Centre										Total	
	Menar		Rundera		Navania		Tarawat		Dhamania			
	M	F	M	F	M	F	M	F	M	F	M	F
April-22	2	1	1	2	1	0	0	0	0	0	**4**	**3**
May	3	3	8	6	1	1	1	1	7	4	**20**	**15**
June	4	3	5	7	1	1	2	2	9	5	**21**	**18**
July	3	3	10	9	3	6	4	2	7	6	**27**	**26**
August	2	3	9	10	3	1	2	2	5	1	**21**	**17**
September	3	4	9	11	8	8	3	3	4	2	**27**	**28**
October	4	3	8	10	5	6	2	1	3	7	**22**	**27**
November	4	3	7	8	3	0	2	1	6	0	**22**	**12**
December	2	2	6	9	1	2	0	1	5	3	**14**	**17**
January-22	2	2	3	7	4	0	1	0	1	2	**11**	**11**
February	3	2	5	3	1	1	0	1	1	2	**10**	**9**
March	1	1	4	3	0	0	1	0	2	0	**8**	**4**
Total	**33**	**30**	**75**	**85**	**31**	**26**	**18**	**14**	**50**	**32**	**207**	**187**

F 7. Bull-wise Conception at Different Field Unit Centres during 2022

Month	Bull No.					Total
	4611	4633	4647	4648	4612	
January-22	10	15	5	3	7	**40**
February	5	15	4	2	1	**27**
March	4	14	4	1	0	**23**
April	5	9	2	1	3	**20**
May	3	8	0	1	2	**14**
June	5	7	0	1	3	**16**
July	4	15	0	2	5	**26**
August	4	12	2	3	12	**33**
September	6	16	12	4	15	**53**
October	7	20	13	7	14	**61**
November	7	20	11	4	23	**65**
December	8	13	15	3	8	**47**
Total	**68**	**164**	**68**	**32**	**93**	**425**

F 8. Bull-wise Calving at Different Field Unit Centres during the period 4/2022 to 3/2023

Bull no	4612		4648		4542		4529		4548		4578		4633		4611		4567		4464		4647		Total	
Month	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Apr-22	0	0	1	0	0	0	0	0	0	0	1	2	0	0	2	1	0	0	0	0	0	0	**4**	**3**
May-22	0	0	6	4	8	6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	5	4	**20**	**15**
Jun-22	0	0	0	0	0	0	5	7	0	0	0	0	0	0	9	3	2	2	0	0	5	6	**21**	**18**
Jul-22	0	0	1	1	0	0	4	2	10	9	0	0	0	0	3	4	0	0	0	0	9	10	**27**	**26**
Aug-22	0	0	5	1	0	0	1	1	0	0	9	10	0	0	5	4	0	0	0	0	1	1	**21**	**17**
Sep-22	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9	9	9	11	0	0	7	8	**27**	**28**
Oct-22	0	0	0	0	0	0	0	0	0	0	0	0	5	9	4	4	0	0	8	10	5	4	**22**	**27**
Nov-22	4	2	2	0	7	8	0	0	0	0	0	0	7	1	0	0	0	0	0	0	2	1	**22**	**12**
Dec-22	7	6	1	1	0	0	0	0	0	0	0	0	0	0	6	9	0	0	0	0	0	1	**14**	**17**
Jan-23	7	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**11**	**11**
Feb-23	4	5	1	1	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	**10**	**9**
Mar-23	4	1	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0	**8**	**4**
Total	**26**	**25**	**22**	**8**	**15**	**14**	**10**	**10**	**10**	**9**	**10**	**12**	**12**	**10**	**47**	**40**	**12**	**14**	**8**	**10**	**35**	**35**	**207**	**187**

F 9. Bull-wise Live Female Progeny at Different Field Unit Centres (0-6M) as on 3/2023

Centre	Bull No.												Total
	4464	4512	4529	4542	4548	4567	4578	4611	4612	4633	4647	4648	
Menar	-	-	-	-	-	-	-	-	6	3	2		**11**
Rundera	11	-	-	6	-	-	-	10	4	-	-	-	**31**
Navania	-	-	-	-	-	-	-	3	2	2	-	-	**7**
Tarawat	-	-	-	-	-	-	-	-	-	-	1	-	**1**
Dhamania	-	-	-	-	-	-	-	-	5	5	2	1	**13**
Total	11	0	0	6	0	0	0	13	17	10	5	1	**63**

F 10. Bull-wise Live Female Progeny at Different Field Unit Centres (6-12M) as on 3/2023

Center	Bull No.												Total
	4464	4512	4529	4542	4548	4567	4578	4611	4612	4633	4647	4648	
Menar	-	-	-	-	-	-	-	3	-	-	10	-	**13**
Rundera	-	-	11	5	7	-	11	-	-	-	8	-	**42**
Navania	-	-	-	-	-	-	-	10	-	-	1	1	**12**
Tarawat	-	-	2	-	-	2	-	-	-	-	2	-	**6**
Dhamania	-	-	-	-	-	-	-	6	-	-	4	4	**14**
Total	**0**	**0**	**13**	**5**	**7**	**2**	**11**	**19**	**0**	**0**	**25**	**5**	**87**

F 11. Bull-wise Live Female Progeny at Different Field Unit Centres (1-3 yrs) as on 3/2023

Center	Bull No.												Total
	4464	4512	4529	4542	4548	4567	4578	4611	4612	4633	4647	4648	
Menar	5	1	7	12	-	7	12	-	-	2	-	3	**49**
Rundera	7	-	41	-	-	-	47	-	-	14	-	-	**109**
Navania	9	-	12	-	1	2	13	-	-	6	-	6	**49**
Tarawat	-	-	6	-	-	5	11	-	-	-	-	-	**22**
Dhamania	7	-	20	3	-	5	-	-	-	7	-	4	**46**
Total	**28**	**1**	**86**	**15**	**1**	**19**	**83**	**0**	**0**	**29**	**0**	**13**	**275**

F 12. Bull-wise Live Female Progeny at Different Field Unit Centres (>3 yrs) as on 3/2023

Centre	**Bull No.**								**Total**
	4464	**4529**	**4542**	**4548**	**4567**	**4578**	**4373**	**4429**	
Menar	3	1	7	6	13	3	-	-	**33**
Rundera	10	9	15	10	13	9	2	1	**69**
Navania	-	2	7	15	15	1	-	-	**40**
Tarawat	1	-	-	1	-	-	-	-	**2**
Dhamania	-	7	7	9	12	3	-	-	**38**
Total	**14**	**19**	**36**	**41**	**53**	**16**	**2**	**1**	**182**

F 12.1. Center and Age-wise Live female Progeny as on 3/2023

Center	**Age**				**Total**
	0-6M	**6-12M**	**1-3yr**	**>3yr**	
Menar	11	13	49	33	**106**
Rundera	31	42	109	69	**251**
Navania	7	12	49	40	**108**
Tarawat	1	6	22	2	**31**
Dhamania	13	14	46	38	**111**
Total	**63**	**87**	**275**	**182**	**607**

F 13. Bull-wise Daughters Calved at Different Field Unit Centers during 2022-23

	Center					
Bull No.	**Menar**	**Rundera**	**Navania**	**Tarawat**	**Dhamania**	**Total**
4373	1	0	0	0	0	**1**
4392	0	2	0	0	0	**2**
4413	0	1	0	0	0	**1**
4429	1	0	0	0	0	**1**
4458	0	1	0	0	0	**1**
4464	0	1	0	0	0	**1**
4529	1	1	1	0	3	**6**
4542	0	1	2	1	2	**6**
4548	2	1	1	8	2	**14**
4567	1	2	2	8	5	**18**
4578	2	0	0	1	1	**4**
Total	**8**	**10**	**6**	**18**	**13**	**55**

F 14. Bull-wise Daughters Recorded at Different Field Unit Centres during 2022-23

Bull No	Daughters recorded					Total
	Menar	Rundera	Navania	Tarawat	Dhamania	
4392	1	2		1		4
4429	3	1			3	7
4458	1		4	3	4	12
4529	1		2			3
4542	2					2
4299	-					0
4373	-	1			1	2
4413	-	3	1			4
4464	-	1		1		2
4578	-	1		2	2	5
4567	-		3	1		4
4497	-				2	2
4403					2	2
Total	**8**	**9**	**10**	**8**	**14**	**49**

F 15. Bull wise AI, Conception, Calving and Daughters Retained till completion of milk recording during the year

Bull No. / Set No.	Total AI	Conception	Calving		Daughters retained up to				
			Total	Female	1 year	2 year	3 years	Calving	recording
1948/I	43	11	8	2	0	0	0	1	1
1949/I	0	0	0	0	0	0	0	2	2
1950/II	2	0	0	0	0	0	0	2	2
1951/II	87	26	17	10	0	0	0	1	1
1952/II	58	12	12	8	0	0	0	0	0
1953/II	50	12	8	1	0	0	0	1	1
1954/II	65	13	10	4	0	0	0	1	1
1955/III	499	105	84	38	0	0	0	18	17
1956/III	523	128	86	35	0	0	0	18	16
1957/III	952	183	157	60	0	0	0	20	17
1958/III	572	135	108	46	0	0	0	16	15
1959/III	573	141	112	58	0	0	0	19	17
1960/III	15	4	1	0	0	0	0	0	0
1961/III	705	187	142	59	0	0	0	22	20
1962/III	88	13	9	5	0	0	0	2	2
1963/IV	842	222	168	70	0	0	0	14	13
1964/IV	489	144	118	54	0	0	0	15	14
1965/IV	578	152	120	49	0	0	0	10	9
1966/IV	373	80	72	36	0	0	0	14	12
1967/IV	423	112	77	33	0	0	0	10	9
1968/IV	752	222	178	79	0	0	0	15	14
1969/IV	950	270	221	86	0	0	0	15	14
1970/IV	130	34	24	12	0	0	0	3	3
1971/V	336	93	76	31	25	20	15	10	7
1972/V	363	117	90	37	35	28	18	12	9
1973/V	388	122	108	43	37	33	28	10	9
1974/V	877	296	230	94	68	60	53	25	22
1975/V	954	298	235	105	86	76	75	18	13
1976/V	1322	401	328	134	114	92	75	16	9
1977/V	1490	469	379	157	121	103	88	24	17
1978/V	1821	634	507	222	187	160	127	35	20
4203/VI	935	322	247	101	85	78	46	18	17

4229/VI	1776	571	423	185	164	139	120	27	27
4264/VI	1579	514	396	174	149	125	116	29	26
4299/VI	1477	466	343	153	127	105	84	26	20
4302/VI	543	176	129	57	49	46	35	6	6
4321/VI	226	67	49	22	18	16	12	2	2
4323/VI	359	95	89	38	32	28	19	3	3
4373/VII	587	195	145	59	42	22	16	14	12
4392/VII	623	189	148	58	39	31	25	12	12
4403/VII	1130	362	267	92	65	44	37	24	23
4413/VII	889	289	227	91	75	45	34	21	18
4429/VII	640	197	148	66	54	44	35	27	25
4458/VII	574	170	134	51	43	30	21	17	15
4497/VII	451	126	88	33	28	20	14	7	7
4464/VIII	871	256	201	89	67	37	24	4	2
4529/VIII	2028	654	471	199	161	82	39	11	4
4542/VIII	927	272	266	120	90	48	22	8	2
4548/VIII	1021	330	294	130	103	52	26	14	0
4567/VIII	1554	480	423	192	151	86	40	23	6
4578/VIII	1668	544	433	196	156	89	38	10	6
4611/IX	780	210	89	40	0	0	0	0	0
4612/IX	513	93	51	25	0	0	0	0	0
4633/IX	462	248	104	45	30	14	6	0	0
4647/IX	425	155	70	35	0	0	0	0	0
4648/IX	711	127	50	17	8	4	0	0	0
TOTAL	**39069**	**11744**	**8970**	**3836**	**2409**	**1755**	**1286**	**672**	**539**

Performance of FPT Programme since Inception

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (months)	Av. Milk Yield (kg/day)	Daughters Due for Recording
2001-02	2256	477	21.14	393	165	53	67.62	4.15	0
2002-03	1850	472	25.51	362	159	49	58.73	3.86	0
2003-04	1980	471	23.79	352	167	51	66.73	4.29	0
2004-05	1861	551	29.61	445	186	29	62.95	3.95	0
2005-06	1717	536	31.22	446	170	33	56.31	4.16	0
2006-07	1637	506	30.91	411	162	38	58.76	4.42	0
2007-08	1811	542	29.93	420	184	22	53.18	5.09	0
2008-09	1804	604	33.48	502	218	15	61.87	4.76	0
2009-10	1975	671	33.97	529	224	18	53.01	4.49	0
2010-11	2038	681	33.42	458	203	18	57.12	5.24	0
2011-12	2023	520	25.7	475	226	20	61.19	5.41	0
2012-13	1897	583	30.73	497	198	23	54.07	5.41	0
2013-14	1591	555	34.88	410	158	45	59.65	5.00	0
2014-15	1534	455	29.66	409	156	58	55.79	4.89	1
2015-16	1986	556	27.99	345	145	72	46.33	4.82	2
2016-17	1979	622	31.35	467	179	40	39.99	4.83	21
2017-18	1478	506	34.23	453	188	1	27.08	4.57	56
2018-19	1719	485	28.21	397	173	0	-	-	97
2019-20	1538	539	35.05	409	183	0	-	-	134
2020-21	1678	456	27.17	409	177	0	-	-	138
2021-22	1480	540	36.49	402	185	0	0	0	151
2022-23	1237	425	34.36	394	187				7
Overall	**39,069**	**11,753**	**30.08**	**9,385**	**3,993**	**585**	**63.26**	**4.57**	**607**

AI, Conception, Calvings and Daughters Retained (Set wise) 1st set

Particular	Bull No		
	1948	**1949**	**Total**
AI	43	0	**43**
Pregnancies	11	0	**11**
Daughters Born	2	0	**2**
Daughters Calved	1	2	**3**
Complete Recording	1	2	**3**
Daughters Available	-	-	**-**

AI, Conception, Calvings and Daughters Retained (Set wise) 2nd set

Particular	**Bull No**					
	1950	**1951**	**1952**	**1953**	**1954**	**Total**
AI	2	87	58	50	65	**262**
Pregnancies	0	26	12	12	13	**63**
Daughters Born	0	10	8	1	4	**23**
Daughters Calved	2	1	0	1	1	**5**
Complete Recording	2	1	0	1	1	**5**
Daughters Available	-	-	-	-	-	**-**

AI, Conception, Calvings and Daughters Retained – 3nd Set

Particular	**Bull No**								
	1955	**1956**	**1957**	**1958**	**1959**	**1960**	**1961**	**1962**	**Total**
AI	499	523	952	572	573	15	705	88	**3927**
Pregnancies	105	128	183	135	141	4	187	13	**896**
Daughters Born	38	35	60	46	58	0	59	5	**301**
Daughters Calved	18	18	20	16	19	0	22	2	**115**
Complete Recording	17	16	17	15	17	0	20	2	**104**
Daughters Available	-	-	-	-	-	-	-	-	**-**

AI, Conception, Calvings and Daughters Retained 4th Set

Particular	Bull No								
	1963	1964	1965	1966	1967	1968	1969	1970	Total
AI	842	489	578	373	423	752	950	130	**4537**
Pregnancies	222	144	152	80	112	222	270	34	**1236**
Daughters Born	70	54	49	36	33	79	86	12	**419**
Daughters Calved	14	15	10	14	10	15	15	3	**96**
Complete Recording	13	14	9	12	9	14	14	3	**88**
Daughters Available	0	0	0	0	0	0	0	0	**0**

AI, Conception, Calvings and Daughters Retained –5th Set

Particular	**Bull No**								
	1971	**1972**	**1973**	**1974**	**1975**	**1976**	**1977**	**1978**	**Total**
AI	336	363	388	877	954	1322	1490	1821	**7551**
Pregnancies	93	117	122	296	298	401	469	634	**2430**
Daughters Born	31	37	43	94	105	134	157	222	**823**
Daughters Calved	10	12	10	25	18	16	24	35	**150**
Complete Recording	7	9	9	22	13	9	17	20	**106**
Daughters Available	-	-	-	-	-	-	-	-	-

AI, Conception, Calvings and Daughters Retained –6th Set

Particular	Bull No							Total
	4203	**4229**	**4264**	**4299**	**4302**	**4321**	**4323**	
AI	935	1776	1579	1477	543	226	359	**6895**
Pregnancies	322	571	514	466	176	67	95	**2211**
Daughters Born	101	185	174	153	57	22	38	**730**
Daughters Calved	18	27	29	26	6	2	3	**111**
Complete Recording	17	27	26	20	6	2	3	**101**
Daughters Available	-	-	-	-	-	-	-	-

AI, Conception, Calvings and Daughters Retained –7th Set

Particular	Bull No							Total
	4373	**4392**	**4403**	**4413**	**4429**	**4458**	**4497**	
AI	587	623	1130	869	640	574	451	**4874**
Pregnancies	195	189	362	289	197	170	126	**1528**
Daughters Born	60	58	92	91	66	51	33	**451**
Daughters Calved	14	12	24	21	27	17	7	**122**
Complete Recording	12	11	23	18	25	15	7	**111**
Daughters Available	2	0	0	0	1	0	0	**3**

AI, Conception, Calvings and Daughters Retained –8th Set

Particulars	Bull No.						Total
	4464	**4529**	**4542**	**4548**	**4567**	**4578**	
AI	871	2028	927	1085	1554	1604	**8069**
Pregnancies	256	654	272	330	480	544	**2536**
Daughters Born	91	199	120	130	192	196	**928**
Daughters Calved	4	11	8	14	23	10	**70**
Complete Recording	2	4	2	0	6	5	**19**
Daughters Available	53	118	63	49	82	110	**475**

AI, Conception, Calvings and Daughters Retained –9th Set

Particulars	Bull No.					
	4611	**4612**	**4633**	**4647**	**4648**	**Total**
AI	780	513	462	425	711	**2891**
Pregnancies	210	93	248	155	127	**833**
Daughters Born	75	25	10	35	17	**162**
Daughters Calved	0	0	0	0	0	**0**
Complete Recording	0	0	0	0	0	**0**
Daughters Available	32	17	39	22	19	**129**

Set wise AI, Conception and daughters retained

Set No.	No. of Bulls	AI	Preg	Calving		Daughters Retained						
				Total	F	Up to 1Year	Up to 2 Year	Up to 3 Year	Daughters Recorded	Av. AFC (month)	Av. Milk Yield (kg/day)	Daughters to be Recorded
1	2	45	22	18	8	3	3	3	3	58.96/3	5.53	-
2	5	262	65	54	25	5	5	5	5	58.49/5	4.29	-
3	8	3927	896	700	302	115	115	115	104	34.48/104	4.01	-
4	8	4537	1236	978	419	96	96	96	88	61.89/88	4.12	0
5	8	7551	2430	1956	825	673	572	479	106	57.65/106	4.59	-
6	7	6895	2211	1671	725	624	537	432	101	59.12/101	5.35	0
7	7	4874	1528	1161	451	340	215	159	112	55.94/112	5.38	3
8	6	8069	2536	2091	928	145	16	2	19	49.21/19	4.48	475
9	5	1654	408	364	162	-	-	-	-	-	-	129

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Allocation as per R E 2022 – 23		Released	Expenditure as AUC		Closing Balance
Total	ICAR Share	ICAR Share	ICAR Share	State Share	(ICAR Share)
39.00	28.50+1.0*	28.50+1.00*	29.50*	9.50	0.00

*** SCSP Funds**

Herd Performance

Herd strength was 151 out of which 79 were breedable buffaloes (>2year). During the period 34 calving took place consisting of 23 males, 9 females and 2 still birth. The calf mortality (0-3 months) was 15 % much higher than the target of NPBI ≤ 3 %. Conception rate 40.23%. During the report period 8856 semen doses were produced, 1907 doses were used in centre and field. A total of 87584 frozen semen doses are available in stock.

During the year the production performances traits in terms of average lactation milk yield, 305 days or less milk yield and peak yield was 1592 kg (24), 1463 kg (24) and 8.23 kg/d (24), respectively. The wet and herd average was 4.05 kg/d and 2.39 kg/d during the year as compared to last year 5.20 kg/d and 3.04 kg/d, respectively. Decrease in all production traits was noticed as compared to 2021-22. On an average only 59 percent buffaloes were in milk during the report period. The reproductive traits viz. AFC, SP, DP and calving interval were 53.89 months (4), 143 days (29), 153 days (29) and 441 days (29) respectively. The reproductive performance remained poor during the year.

Accomplishment and Targets Achieved:

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	42.41±2.71 (7)	45.29±4.66 (8)	46.07±4.10 (4)	50.86±2.11 (10)	53.89±7.65 (4)
Av. Service period (days)	130	92±4.64 (30)	110±8.86 (27)	145 ±11.13 (29)	124 ±11.20 (27)	143 ±13.66 (30)
Calf mortality (0-3 months)	≤ 3 %	26.47 %	31.58	2.5 %	24.5 %	15.00 %
Wet average (kg)	≥8.5 kg	5.38	5.11	5.14	5.20	4.05
Herd average (kg)	≥5.5 kg	3.42	3.21	2.95	3.04	2.39

Field Unit:

A total of 1237 AI were performed in the year 2022-23 as compared to 1480 AI in 2021-22. During the year 425 conceptions were reported with conception rate of 34.36 %, 187 female progenies born out of 394 calving and 55 daughters/progenies were also calved.

Recommendations:

- Concerted efforts should be made to improve production and reproduction performance of the herd. In the past many years milk production traits remained more or less same.
- The AFC is increasing continuously from last five years and needs intervention.
- Calf mortality is very high and need to restrict within NPBI limit.
- Conception rate specially in the field is not up to the mark, more efforts need to improve.
- Needs to increase AI in field and recording of daughters.

ICAR-INDIAN GRASSLAND AND FODDER RESEARCH INSTITUTE, JHANSI

1. **Name of Centre** : IGFRI, Jhansi
2. **Project Code** : 17810170002
3. **Project Title** : Performance recording and improvement of Bhadawari Buffaloes
4. **Date of Start** : 01.04.2001
5. **Objectives** :
   - To establish elite herd of 50 to 100 Murrah (at each center) / Nili-Ravi / 50 Bhadawari / 50 Surti / 70 Jaffarabadi for the production of genetically superior young bulls.
   - To evaluate sires through institutional / associated herd/field progeny testing
   - To produce, test, propagate and conserve high genetic merit male germplasm

6. **Technical Programme** :
   - Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 100 and 50 breedable females.
   - Selection and testing of minimum 4-6 breeding bulls in every 24 months cycle.
   - Production of minimum 3000 to 5000 (Other breeds) frozen semen doses from each test bull.
   - Maintain a minimum number of 2000 (Bhadwari) frozen semen doses until the particular SET gets evaluated.
   - Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
   - Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
   - Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd / monthly recording in field units over complete lactation(s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, SLMY (305 days or less, up to minimum of 240 days (All breeds) / 1500 kg in Murrah) and Peak yield, Milk yield per day of herd life (total milk produced from date of birth till completion of 4^{th} or more lactation). New Table
   - Monthly testing of milk constituents (Fat%, SNF% and Protein%) and Somatic Cell Count, wherever feasible, at institutional herds.
   - Recording of reproductive traits viz., AFC, Service period, Days open, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
   - Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

7. **Staff associated with the project**:

Discipline	**Name of Scientist / Staff**	**Status PI/Co-PI/ Associated)**
AGB	Dr. B P Kushwaha	PI
ARGO		
ANFT	Dr. Sultan Singh	Co-PI
LPM	Dr. Deepak Upadhyay	CP-PI (Since November 2018)
Health / Others		
No. of staff		
Technical staff		
Contractual staff (RA / SRF / YP-I, YP-II)	1 (SRF)	

8. **Financial Statement** : Head wise budget allocation and utilization; revenue receipts

Expenditure head		Budget allotted	Expenditure incurred during financial year 2022-23	Balance
A) Recurring				
General		24.00	23.99763	0.00237
SCSP		1.00	0.99362	0.00638
Sub Total		25.00	24.99125	0.00875
B) Non-recurring				
	Equipment	0.50	0.49950	0.00050
	Works	Nil	0.00	0.00
Sub Total		0.00	0.00	0.00
Grand Total		25.50	45.49075 (Rupees Twenty Five Lakhs Forty Nine Thousand Seventy Five only)	0.00925

Revenue generation during 2022-23

S.No.	**Item**	**Revenue generated (Rs.)**
1	Animal sale	305500.00
2	Milk Sale	1779054.80
	Total	**2084554.80**

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	**Addition**			**Disposal**				**CB**
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	**CB**
	Female								
1.	Below 3 months	3	14		1	13			3
2.	3-12 months	10		13		13			10
3.	1-2 years	7		13		7			13
	Above 2 years	8		7					15
4.	Buffaloes in Milk	32							32
5.	Buffaloes Dry P /NP	21			2		3		16
	Sub Total	81	14	33	3	33	3		89
	Males								
1.	Below 3 months	9	11		3	15			2
2.	3-12 months	9		15		16	2		6
3.	1-2 years	5		16	1	4	6		10
	Above 2 years	2		4			3		3
4.	Breeding bulls	3							3
5.	Bullocks / Teasers / others	1					1		
	Sub Total	29	11	35	4	35	12		24
	Grand Total	110	25	68	7	68	15		113

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March

9.2 Calving Statistics including abnormalities during 1st April 22 to 31st March 23

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 22				1				1
May		1						1
June								
July	1							1
August	2							2
September	2	2						4
October	2	3						5
November	1	1						2
December	1	4						5
January 23	1	2						3
February	1							1
March		1						1
Overall	**11**	**14**		**1**				**26**

Sex ratio Male: Female (44:56) SB% = 0.00 Abortion % = 3.8

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 23

Female								
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves 0 to 3 months 3-12 months							1	1
Heifers 1-2 years > 2 years								
Buffaloes Milch Dry		2				2	1	5
Sub Total		2				2	2	6
Males								
Calves 0 to 3 months 3-12 months	2					2		2
1 to 2 year	6							6
. >2 year	3							3
Breeding bulls								
Bullock+Teaser+Others	1							1
Sub Total	12					2		16
Grand Total	12	2				7		22

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Female							Male					Overall Herd
	0-3 Month	3-12 Month	1-2 Yrs.	Above 2 Yrs.	Milk + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs.	>2 yrs.	Overall Male	
No.	17	23	20	15	53	95	20	24	21	6	40	135
Died	1	-	-	-	2	3	3	-	1	-	4	7
%	5.8	0	0	0	3.7	3.15	15	-	4.7	-	10	5.18

Calf mortality (0-3 months) 10.81% (4/37)

9.5. Causes of Mortality (quarter wise) during the period April 2022 to March 2023

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	Total
Enteritis					
Pheumonities			3		3
Septicamia / Toxaemia			1		1
Peritonitis	NIL				
JD/TB					
Milk Fever/ metabolic diseases					
TRP / TP					
Accidental death		1			1
Miscellaneous			2		2
Total		1	6		7

9.6 Prophylactic Measures undertaken

Disease	**Vaccination Date / No. of animals**	**No. of animals** Tested / Positive		**Dates and No. of animals treated for Parasitism**	
FMD	75 animals			Apr 62	Jan 29
HS	75 animals			May 19	Feb 29
BQ	75 animals			July 0	Mar 43
Brucellosis				Aug 8	
JD				Sep 31	
TB				Oct 26	
IBR		2	-ve	Nov 13	
Mastitis				Dec 29	

9.7. Female Conception Rate During the Period January to December 2022

AI No.→	1st			2ND			3RD			4TH & above			Over all		
Parity↓	AIs	C	CR %	AIs	C	CR %	AIs	C	CR%	AIs	C	CR %	AIs	C	CR %
Heifers	5	4	80	1	1	100							6	5	83
Adults	35	19	54.2	10	7	70							45	26	57.7
Overall	40	23	57.5	11	8	72.7							51	31	60.78

AIs = No. of animals inseminated C = No. of animals conceived CR % = Conception rate%

9.8.Quarter-wise conception rate

Quarter	No. of A I	Preg. animals	CR %
January – March Previous year	17	13	76.4
April - June	4	2	50.0
July - September	5	3	60.0
October- December	25	13	52.0
Overall	51	31	60.78

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	B331	13	7	53.8
2.	B333	15	9	60.0
3.	B354	11	5	45.4
4.	B393	4	4	100.0
5.	B428	8	6	75.0
No. of service per conception: 1.64				

9.10 Bull Wise Semen Stock as on 31.03.2023

Sr.No	Bull No	O.B.	Doses produced / received	Doses used /disseminated			Balance
				Supply	Sold	Exp.	
1.	B46	264		264			
2.	B76	215		215			
3.	B78	179		179			
4.	B79	337		337			
5.	B84	141		141			
6.	B87	368		368			
7.	B138	364					364
8.	B122	292					292
9.	B143	400					400
10	B147	30		30			
11	B150	169					169
12	B167	275					275
13	B170	254					254
14	B182	339					339
15	B184	291					291
16	B228	1397					1397
17	B240	872					872
18	B244	1105					1105
19	B331	9051					9051
20	B333	974					974
21	B354	2812		1200			1612
22	B366	3708		825			2883
23	B393	4154	5600	607			9147
24	B428	1182		27			1155
25	B452	1080	3500	800			3780
26	B481	850					850
Grand Total		**31103**	**9100**	**4993**			**35210**

9.11.1 Average Body weight (kg) since inception (Indicate number of animals in parenthesis)

Year	Birth	3 Months	6 Months	12 Months	18 Months	24 Months	At AFC (n)
Females							
2003-04	24.8 (7)	46.4 (12)	67.5 (9)	118.8 (11)	163.8 (8)		
2004-05	24.1 (13)	46.1 (12)	64.8 (5)	106.7 (7)	173.40 (15)		
2005-06	27.3 (13)	44.3 (10)	63.2 (8)	110.8 (12)	183.3 (11)	225.1	
2006-07	26.3 (11)	44.4 (5)	65.0 (7)	107.2 (8)	166.5 (11)	210.4 (12)	420 (6)
2007-08	24.7 (13)	40.5 (16)	62.0 (13)	104.1 (11)	167.2 (5)	230.8 (7)	346 (7)
2008-09	26.5 (10)	40.9 (10)	62.7 (11)	108.7 (17)	168.2 (13)	232.1 (14)	327 (6)
2009-10	26.8 (18)	41.5 (19)	64.8 (16)	115.1 (16)	169.3 (19)	228.0 (20)	363 (10)
2010-11	24.5 (18)	40.8 (13)	60.4 (15)	104.8 (16)	154.8 (13)	206.2 (9)	334 (6)
2011-12	26.0 (2)	42.6 (6)	57.9 (11)	108.3 (11)	156.9 (10)	196.0 (10)	336 (7)
2012-13	24.8 (9)	43.5 (6)	58.0 (3)	112.4 (2)	160.0	201.4 (8)	335 (2)
2013-14	25.4 (11)	43.7 (7)	67.4 (7)	106.8 (5)	161.2 (4)	192.5 (2)	387 (6)
2014-15	24.5 (12)	48.7 (12)	66.8 (11)	105.6 (11)	155.8 (11)	211.4 (6)	356 (15)
2015-16	25.6 (15)	51.8 (11)	79.2 (9)	110.5 (11)	143.7 (8)	205.5 (10)	373 (3)
2016-17	24.7 (7)	53.5 (5)	74.6 (6)	116.9 (10)	164.0 (11)	202 (10)	335 (3)
2017-18	23.6 (11)	52.0 (9)	80.0 (7)	114.5 (7)	170.0 (6)	223 (6)	352 (6)
2018-19	22.06 (12)	51.6 (12)	78.0 (15)	130.4 (10)	180.0 (10)	230 (7)	360 (12)
2019-20	24.8 (10)	56.0 (9)	95.3 (8)	137.1 (9)	183.7 (10)	252.4 (10)	354 (3)
2020-21	27.6 (9)	64.4 (13)	95.1 (12)	143.1 (9)	203.2 (6)	265.5 (9)	395.7 (8)
2021-22	24.3 (13)	59.0 (10)	92.0 (17)	151.0 (17)	197.0 (16)	248.0 (9)	386.0 (15)

2022-23	26.4 (14)	59.4 (9)	81.2 (14)	120.6 (13)	172.0 (5)	229.8 (7)	373 (5)
Males							**Adults**
2003-04	26.9 (16)	49.2 (14)	74.8 (10)	133.2 (10)			431 (5)
2004-05	24.6 (12)	47.0 (11)	68.4 (7)	115.7 (11)			501 (4)
2005-06	27.9 (25)	46.9 (20)	68.6 (16)	123.5 (10)	203.6 (10)	258.0	445 (9)
2006-07	27.3 (18)	45.0 (17)	70.4 (17)	115.5 (17)	179.7 (16)	234.3 (10)	460 (9)
2007-08	27.7 (20)	42.5 (20)	67.9 (21)	114.1 (19)	178.2 (14)	234.5 (12)	413 (15)
2008-09	27.3 (10)	43.0 (10)	67.8 (11)	114.3 (18)	180.0 (15)	242.5 (6)	420 (15)
2009-10	27.3 (20)	44.2 (22)	68.3 (19)	116.0 (12)	175.0 (10)	236.0 (11)	423 (9)
2010-11	26.2 (9)	41.9 (11)	65.0 (12)	112.7 (11)	160.4 (5)	224.5 (4)	416 (10)
2011-12	27.4 (5)	42.7 (6)	60.6 (8)	112.0 (3)	165.0 (1)	-	425 (5)
2012-13	25.9 (13)	43.6 (14)	60.5 (10)	116.0 (4)	175.0	235.0 (3)	457 (3)
2013-14	25.8 (13)	45.2 (9)	70.8 (10)	108.3 (10)	157.3(6)	195.0 (3)	446 (2)
2014-15	26.3 (18)	50.5 (14)	63.6 (13)	105.1 (6)	158.7(4)	261.0 (2)	436 (4)
2015-16	26.8 (12)	46.1 (9)	71.6 (6)	122 (8)	155.5(8)	230 (8)	470 (4)
2016-17	26.6 (15)	56.6 (9)	73.9 (17)	114.7 (6)	186.4(3)	221 (3)	459 (6)
2017-18	23.8 (10)	54.0 (9)	81.0 (9)	117.0 (6)	182.0 (2)	258.0 (2)	492 (4)
2018-19	24.3 (10)	53.1 (10)	82.3 (11)	134.0 (4)	198.0 (5)	250.0 (2)	184 (5)
2019-20	25.7 (7)	59.6 (5)	94.8 (7)	139.6 (5)	198.2 (5)	-	476 (6)
2020-21	26.4 (10)	63.7 (10)	99.2 (8)	143.5 (4)	218.5 (4)	249.8 (4)	474 (4)
2021-22	27.3 (22)	64.0 (12)	98.0 (18)	144.0 (9)	217.0 (9)	251.0 (4)	480 (6)
2022-23	29.4 (11)	62 (12)	87.5 (20)	127.8 (15)	178.4 (5)	237.3 (3)	460 (4)

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	TLMY (kg)	Lact. Length (days)	SLMY (kg)	Peak yield (kg)
1st	8	1541.5±113.1	310.1±14.10	1477.90±93.4	8.50±0.35
2nd	6	1537.05±139.8	327.6±23.6	1441.37±96	7.55±0.36
3rd	3	1413.6±61.1	259.3±18.2	1413.6±61.1	9.80±1.32
4th	1	1930.5	295	1930.5	8.30
5th & above	6	1627.3±82.9	344.5±15.8	1523.9±45.66	8.02±0.48
Overall	**24**	**1562.08±55.9**	**316.12±9.7**	**1491.09±43.89**	**8.30±0.26**

9.12.1 Average production performance of Buffaloes Since Inception of Network

Year	Lactation Length (days)	TLMY (kg)	SLMY (kg)	Peak yield(kg)
2003-04	296 (24)	1067.95	1029.41	6.6
2004-05	245 (29)	997.96	958.96	6.7
2005-06	236.53 (17)	891.81	891.81	6.30
2006-07	304.49 (35)	1294.65	1159.22	6.83
2007-08	279.29 (24)	1201.33	1188.92	6.61
2008-09	344 (31)	1561.11	1433.48	7.41
2009-10	294.7 (26)	1331.47	1286.50	7.5
2010-11	311.0 (34)	1381.44	1310.00	7.22
2011-12	293.76 (13)	1276.65	1214.78	6.19
2012-13	334 (8)	1587.76	1494.9	8.19
2013-14	294.5 (21)	1416.3	1385.9	7.50
2014-15	367 (21)	1638.8	1478.3	7.33
2015-16	330 (25)	1406.64	1321.8	7.36
2016-17	299 (26)	1430.3	1368.2	8.35
2017-18	316.5 (19)	1478.4	1402.5	7.69
2018-19	332 (17)	1373.9	1224.4	6.70
2019-20	357 (18)	1466.88	1285.57	6.73
2020-21	354 (10)	1733.5	1558.1	8.10
2021-22	356.4 (23)	1889.7	1631.8	8.19
2022-23	316.1 (24)	1562.08	1491.09	8.30

*Within parenthesis are number of observations

9.12.2 Herd Life Production (up to 4th Lactation) during 2022-23

Animal No.	DOB	Date of completion of 4th or more lact. or disposal	HLF (days) up to 4th or more lactation or disposal (d)	LTMY (kg)	Productive Days	Unproductive Days	MY/day HLF
B248	15.07.08	03.03.23	5344	8264	1777	3567	1.54
B258	20.09.08	24.02.21	4540	9049.6	1867	2673	1.99
B287	14.10.09	14.06.22	4626	9623.7	2201	2425	2.08
B293	10.12.09	18.12.22	4756	12100.6	2532	2224	2.54
B295	17.12.09	03.01.23	4765	11694.8	2463	2302	2.45
B308	22.08.10	09.06.22	4309	8490.7	1888	2421	1.97
B355	06.02.13	03.02.22	3284	6497.9	1402	1882	1.98
B346	03.09.12	14.06.22	3544	9798.2	1512	2032	2.76

Note: HLF (Herd Life- Date of birth to date of completion of 4th or more lact. Or date of disposal)
Productive Days (date of first calving to total days in milk), Unproductive days (total days when buffalo not give milk from the date of first calving)

9.13 Average Milk Composition from April 2022 to March 2023

9.14: Reproductive Performance

Lactation / Parity	AFC (Months) (N)	N →	Service Period (Days)	DP (Days)	CI (Days)
1	51.9±4.5	6			
2		3	181±43.8	262.5±108	488±42.2
3		6	187±42.5	158.1±28.9	484.6±44.4
4		3	139±18.2	148.3±7.8	426.3±32.4
5th and above		4	1.58±16.5	129.3±11.4	435±12.7
Over all		22	171.0±18.9	177.0±29.4	465.2±20.32

*Service Period (days)= Date of 1 st AI – Date of last calving
*Days Open (days) = Date of A I when animal conceived – date of last calving

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2003-04	-	137.90 (16)	220.25 (16)	444.5 (16)
2004-05	-	230.33 (24)	269.29 (24)	535.8 (24)
2005-06	-	156.25 (28)	218.46 (28)	463.57 (28)
2006-07	44.60 (5)	166.33 (21)	203.29 (21)	467.33 (21)
2007-08	43.20 (7)	226.73 (26)	216.13 (26)	530.80 (26)
2008-09	51.20 (6)	148.60 (15)	206.8 (15)	499.6 (15)
2009-10	53.22 (10)	167.84 (24)	202.75 (24)	525.79 (24)
2010-11	49.11 (7)	160.00 (20)	222.75 (20)	516.95 (20)
2011-12	49.00 (2)	179.28 (13)	187.92 (13)	497.20 (13)
2012-13	51.32 (12)	153.75 (8)	202.62 (8)	513.25 (8)
2013-14	50.13 (6)	174.90 (11)	214.2 (11)	520.10 (11)
2014-15	53.97 (15)	182.3 (15)	216.4 (15)	534.0 (15)
2015-16	47.25 (5)	212.3 (24)	192.08 (24)	523 (24)
2016-17	50.6 (4)	176.2 (18)	163.6 (18)	478.3 (18)
2017-18	46.26±0.7 (7)	190.5±31.8 (15)	177.3±24.3 (14)	493.3±31.7 (15)
2018-19	47.28±1.6 (13)	181.7±39.3 (9)	173.1±30.4 (9)	486.8±42.7 (9)
2019-20	48.23±2.9 (3)	189.1±39.0 (11)	171.8±24.3 (11)	490.5±40.4 (11)
2020-21	52.23±2.26 (8)	203.0±46.0 (12)	174.2±28.9 (12)	499.7±52.5 (12)
2021-22	48.2±2.4 (15)	228.1±31.9 (17)	170.8±25.6 (17)	523.1±32.2 (17)
2022-23	51.9±4.5 (6)	171.0±18.9 (16)	177.0±29.4 (16)	465.2±20.32 (16)

9.15 Milk Production and Disposal

Month	Total milk produced (kg)	Disposal (Kg)		
		Milk sold	Calf feeding	Expt.
April 22	4781.40	3760.70	1020.70	
May	4813.40	3779.50	1033.90	
June	4545.10	3632.30	912.80	
July	4049.30	3125.50	923.80	
August	3886.20	2904.80	981.40	
September	3680.80	2803.10	877.70	
October	3932.40	3105.10	827.30	
November	4155.20	3274.30	880.90	
December	4558.30	3348.20	1210.10	
January 23	4618.10	3433.20	1184.90	
February	4515.50	3461.50	1054.00	
March	4513.20	3542.80	970.40	
Total	52048.9	40171.	11877.9	

Note: Mention sale price of milk (range during the year): Rs. 42 per kg (upto 31.08.2022) and Rs. 46 per kg w.e.f.01.09.22

9.16 Feed and fodder (Quintals) availabilityApril 2022 to March 2023

Quarter		Qty. Produced at Farm (Qt.)	Qty. Purchased (Qt.	Actually fed (Qt)	Balance (Qt.)
I (April – June)	Green	226		226	
	Dry	574		574	
	Silage	-		-	
	Concentrate		*151.4	60	
II (July – September)	Green	646		646	
	Dry	447		447	
	Silage	-		-	
	Concentrate			50	
III (October – December)	Green	649		649	
	Dry	510		510	
	Silage	-		-	
	Concentrate	-		50	
IV (January-March)	Green	1000		1000	
	Dry	433.6		433.6	
	Silage	-		-	
	Concentrate	50.0		41.4	
Total	Green	2521		2521	
	Dry	1964.6		1964.6	
	Silage	-			
	Concentrate	50.0	*151.4	201.4	

*Balance from previous year

9.17: Milk performance during April 2022 to March 2023

Month	Buffaloes in milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April, 22	32	11	43	74.4	5.13	3.70
May	30	13	43	69.7	5.17	3.61
June	30	13	43	69.7	5.38	3.52
July	28	17	45	62.2	4.90	2.90
August	28	17	45	62.2	4.69	2.79
September	30	16	46	65.2	4.88	2.66
October	30	16	46	65.2	4.63	2.75

November	30	18	48	62.5	4.83	2.88
December	34	15	49	69.3	4.46	2.73
January, 23	35	15	50	70.0	4.44	2.98
February	32	17	49	65.3	5.10	3.29
March	32	16	48	66.6	4.73	3.03
Overall	**30.9**	**15.3**	**46.3**	**66.2**	**4.86**	**3.07**

9.17.1 Milking performance since inception

Year	No. of Animal in Milk	No. Of Animal dry	Total Animal	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2002-03	19	23	42	46.03	3.30	1.35
2003-04	18	22	40	44.74	3.44	1.35
2004-05	23	16	38	59.44	3.75	1.97
2005-06	22	20	42	51.43	3.74	1.80
2006-07	27	20	47	57.67	3.56	1.86
2007-08	27	19	46	58.69	4.67	2.57
2008-09	29	18	47	62.9	4.35	2.49
2009-10	27	23	50	54.5	4.64	2.37
2010-11	27	21	48	56.90	3.95	2.02
2011-12	12.5	20.92	33.41	37.41	4.65	1.58
2012-13	14	19.75	34	41.17	4.57	1.75
2013-14	21	19	40	52.50	4.72	2.24
2014-15	28	16	44	63.6	4.22	2.50
2015-16	27.58	15	42.58	64.77	4.49	2.64
2016-17	22.5	10.16	32.7	70.85	4.62	2.97
2017-18	17.83	10.33	28.16	64.02	4.16	2.39
2018-19	20.8	9.08	29.9	70.07	3.67	2.34
2019-20	15.8	14.5	30.3	52.42	4.44	2.10
2020-21	20.25	14.08	34.33	58.53	5.06	2.84
2021-22	25.9	13.4	39.1	65.9	4.66	2.79
2022-23	30.9	15.3	46.3	66.2	4.86	3.07

9.18: Bull wise daughters born (only numbers)

Bull No.	Set No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
*		22	16	16
B1		7	7	7
B44		13	9	9
B45		4	4	4
B46		10	8	8
B76		4	3	3
B78	1	5	5	5
B79	1	7	4	4
B84	1	12	8	6
B87	1	7	4	4
B89	1	5	1	1
B138	1	16	6	6
B143	2	2	1	1
B147	2	2		
B170	2	7	6	5
B182	2	3	1	1
B184	2	8	4	4
B228	3	5	5	3
B240	3	19	15	15
B244	3	15	11	9
B331	3	22	13	7

B333	3	15	6	2
B354	3	28	1	-
B366	3	5	-	-
B428	3	3	-	-

9.19 Bull wise daughters completing 1ST lactation

Sire No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
	B477	13.11.17	27.10.21	48.1	297	1168.4	1168.4
	B469	23.09.17	21.09.21	48.6	360	1973.3	1730.0
	B474	18.10.17	21.10.21	48.8	330	1659.8	1595.0
	B472	03.10.17	23.10.21	49.3	328	1765.4	1700.0
	B487	27.04.18	25.01.22	45.6	227	1057.5	1057.5
	B414	07.08.15	25.01.21	66.6	314	1347.10	1330.3
	B504	09.12.18	06.03.22	39.4	330	1648.5	1530.0
	B445	05.08.18	03.05.22	69.9	295	1712.3	1712.3
	B445	05.08.18	03.05.22	69.9	295	1712.3	1712.3

9.20 Breeding bulls Selected for current set

Sr. No.	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best SLMY
1	B-393	18/09/2014	88	244	2000
2	B-452	24/09/2016	88	240	2000
3	B-481	03/02/2018	195	331	1927
4	B-524	20/02/2020	258	354	1715
5	B-529	31/08/2020	293	354	1875

20.1 **Target achieved during the years**

Trait	**Target**	**Achieved**				
		2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23**
Av. Age at 1st calving (months)	40	47.28±1.6 (13)	48.23±2.9 (3)	52.23±2.26 (8)	48.2±2.4 (15)	51.9±4.5 (6)
Av. Service period (days)	90	180.6±38.9 (9)	172.3±38.4 (11)	181.3±407 (12)	199.2±33.3 (17)	127.8±15.5 (16)
Calf mortality (0-3 months)	≤ 3 %	4.16	0.0	4.00	5.55	10.81
Wet average (kg)	≥5 kg	3.67	4.44	5.06	4.66	4.86
Herd average (kg)	≥3 kg	2.34	2.10	2.84	2.79	3.07

Bhadawri Calves and Heifers in the Project herd at IGFRI, Jhansi

Conservation in the breeding Tract

a) Germ Plasm Dissemination (during 2022-23)

- 9 males and 2 females were sold to farmers through auction
- 1 Buffalo sold to Rajiv Gandhi South Campus (BHU), Barkachha, Mirzapur. They have also purchased 4 Bhadawari buffaloes from Orchha herd.
- 3 breeding bulls sold to ICAR-IGFRI ATIC center for distribution among the SC farmers for breeding purpose.
- A new Bhadawari breeding farm has been established by Madhya Pradesh Livestock and Poultry Development Board (MPL&PDB) at Shivpuri (MP).

b) Artificial Insemination in field (2022-23)

Month	**No. of AI**
July 22	90
August	130
September	174
October	193
November	228
December	370
January 23	472
February	208
March	167
TOTAL	**2032**

c) **Registration of Bhadawari animals in the field:** 250 Bhadawari animals has been registered in the Chakarnagar (Etawah), Registration work is continuing.

d) **Activities under SCSP program:** Mineral mixture and BN hybrid root slips were distributed among the farmers in villages selected under SCSP program.

10. Salient Research Achievements:

- Average lactation milk yield, 305 days or less milk yield and wet average and herd average were recorded as 1562.08 kg, 1491.01 kg, 4.86 kg and 3.07 kg, respectively.
- Average age at first calving, average service period and conception rate were 51.9 months, 127 days and 60.7 percent, respectively.
- Artificial insemination in the Bhadawari breeding tract was continued during the year 2022-23. A total of 2032 artificial inseminations were performed. Field AI work was started in Bhind and Morena district (MP) during this year with the help of state animal husbandry department.
- Kishan gosthy, exhibition in kishan mela and meeting with the farmers were held in the breeding tract to motivate farmers for keeping Bhadawari buffaloes.
- A video on Bhadawari buffaloes was prepared and uploaded in ICAR-IGFRI Jhansi You Tube Channel. Till date there are more than 50000 views.

11. Publications

Research papers in journals

- M M Das, Sultan Singh, K K Singh, P Sharma and Khem Chand 2022. Supplementary effect of berseem hay meal as relpaser of mustard cake protein in diet of lactating BHadawari buffaloes on nutrient utilization, milk yield and economics of production. *Buffalo Bulletin* (communicated)

Presentation in Conference/symposis/seminars/other for a etc.

- B P Kushwaha, Sultan Singh and K K Singh (2022). Milk fatty acid profile of Bhadawari and Murrah Buffaloes. Proceedings of "National Symposium on Innovations in Forage and Livestock Sector for Enhancing Entreneurship and Farm Productivity" held during 1-3 November at IFGRI, Jhansi Pp-198.

- B P Kushwaha, Deepak Upadhyay, Sultan Singh and K K Singh (2022). Conservation of Bhadawari Buffaloes. XIX Annual Convention, National Symposium on Contemporary Technology for Animal Genetic Resource (AnGR) Management (Society for Conservationof Domestic Animal Biodiversity) 21-22 September, 2022.
- M M Das, Sultan Singh, K K Singh, P Sharma and Khem Chand 2022. Impact of replacement of mustard cake protein by Berseem hay meal on nutrient utilization and milk yield of lactating Bhadawari buffaloes. Proceedings of "National Symposium on Innovations in Forage and Livestock Sector for Enhancing Entreneurship and Farm Productivity" held during 1-3 November at IFGRI, Jhansi Pp-197.

Socioeconomic impact/ success stories: Activities of the project is creating awareness among t he farmers about the Bhadawari buffaloes and farmers are coming forward to purchase Bhadawari animals for rearing purpose during auction. It is a means of livelihood to the resource poor and remotely located farmers.

13. Constraints if any: Nil

14. Focus of work in the coming year: Breed activities shall be continued through semen freezing and artificial insemination in the Bhadawari breeding tract. Efforts will be made to disseminate Bhadawari germplasm through sale of frozen semen/breeding bulls to various agencies for their use in the field. Demonstration, radiotalk and kishan gosthies shall be organized to motivate farmers for rearing of Bhadawari buffaloes.

Field AI work started in Bhind and Morena District (MP) with the help of Animal Husbandry Department of the state

Kishan Gosthy organized at Umarda on 10.02.2023, more than 50 farmers participated.

Award: Network project on Bhadawari buffaloes was conferred with the "Breed Conservation award 2022" by ICAR-NBAGR Karnal for conservation of Bhadawari buffaloes.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Closing balance
Total	ICAR Share		ICAR Share	State Share	
25.50*	24.50+1.00*	25.50*	25.49075	0.00	0.00925

* Includes 1.00 lakhs for SCSP

Herd Performance

The Herd strength was 113 head, which comprises of 63 breeding buffaloes (>2.0 years). During the year 25 calving took place, out of which 11 were male and 14 were female. The calf mortality (0-3-month) was recorded 10.81 % as compared to 5.55 % in 2021-22. Conception rate was 60.78 percent. A total of 9100 doses of frozen semen were produced and 4993 doses were used/supplied for AI in the field. As on 31st March, 2023, 35210 frozen semen doses were in the stock.

Average TLMY and SLMY were 1562 kg (24) and 1491 kg (24) during the year. Decline in production performance was observed in the year 2022-23 as compared to 2021-22, which were recorded 1890 and 1632 kg, respectively. Marginal improvement in wet average (4.86 vs 4.66 kg) and herd average (3.07 vs 2.79 kg) was noticed when 2022-23 and 2021-22 compared. Age at first calving, service period, dry period and calving interval was 51.9 months (6), 171 days (16), 177 days (16) and 465 days (16), respectively. Overall 66% animals were in the milk during the year. AFC was increased by 3.7 months, but service period decreased by 57 days in 2022-23 as compared to 2021-22. A total of 2032 AI were carried out in the field during 2022-23 as compared to 2821 AI in 2021-22.

Accomplishment and Targets Achieved:

Trait	**Target**	**Achieved**				
		2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23**
Av. Age at 1st calving (months)	40	47.28±1.6 (13)	48.23±2.9 (3)	52.23±2.26 (8)	48.2±2.4 (15)	51.9±4.5 (6)
Av. Service period (days)	130	180.6±38.9 (9)	172.3±38.4 (11)	181.3±407 (12)	199.2±33.3 (17)	127.8±15.5 (16)
Calf mortality (0-3 months)	≤ 3 %	4.16	0.0	4.00	5.55	10.81
Wet average (kg)	≥5 kg	3.67	4.44	5.06	4.66	4.86
Herd average (kg)	≥3 kg	2.34	2.10	2.84	2.79	3.07

Recommendations:

- Efforts should be made to improve the milk production traits and reduce AFC.
- Efforts to be taken to increase the inseminations in field and conception rate of field buffaloes.

NETWORK PROJECT ON BUFFALO IMPROVEMENT (NILI-RAVI, GADVASU)

1. Name of centre : GADVASU, Ludhiana
2. Project Code : AS-12/7/2017-AI-I
3. Project Title : Network Project on Buffalo Improvement
Sub-project **:** Performance recording and improvement of Nili-Ravi buffalo
4. Date of Start : 17 November, 2017

5. Objectives :

I. To establish elite herd of 50 to 100 Nili-Ravi (at each center) for the production of genetically superior young bulls.
II. To evaluate sires through institutional / associated herd/ field progeny testing
III. To produce, test, propagate and conserve high genetic merit male germplasm

6. Technical Programme:

- Establishment and maintenance of an elite herd of buffalo breed with a herd strength of 300 and 200 breed able females.
- Selection and testing of minimum 8-10 bulls for other breeds in every 24 months cycle.
- Production of minimum 3000 to 5000 frozen semen doses from each test bull.
- Maintain a minimum number of 2000 of frozen semen doses until the particular SET gets evaluated.
- Evaluation and ranking of bulls on the basis of their progeny performance (first lactation) for selection of top 20-25% as proven bulls from each set.
- Application of proven bull's semen on elite buffaloes for the production of future sires and replacement heifers.
- Minimum weekly recording of milk yield of individual daughters/ buffaloes at institutional herd over complete lactation (s) with wet average, herd average, percent in milk, lactation length, dry period, TLMY, and Peak yield.
- Monthly testing of milk constituents (Fat%, SNF% and Protein %) and Somatic Cell Count, wherever feasible, at institutional herds.
- Recording of reproductive traits viz., AFC, Service period, Calving interval, Number of services per conception, Conception rate and Calving abnormalities.
- Health management including udder health, vaccination, de-worming, disease screening, mortality and periodic body weight records

Name of PI : Dr. Ravi Kant Gupta

8. Financial Statement: Head wise budget allocation

Account Head	Budget Allotted	ICAR Share 75%	Expenses made	Balance
Recurring Contingencies	20,00,000.00	15,00,000.00	20,00,000.00	0
TA/POL	0	0	0	0
Non-Recurring Contingencies				
Livestock	0	0	0	0
Furniture	0	0	0	0
Total	20,00,000.00	15,00,000.00	20,00,000.00	0

ICAR Share 75% = Rs 15,00,000/- State Share 25% = Rs.5.00,000/-.

9.1 Herd Strength during the Period 1st April 2022 to 31st March, 2023

Sr. No.	Category	Addition			Disposal				CB
		OB	**B / P**	**T**	**D**	**T**	**S**	**E**	**CB**
	FEMALE								
1.	Below 3 months	8	17/0	-	5	16	-	-	4
2.	3-12 months	9	0/3	16	1	13	-	-	14
3.	1-2 years	25	-	13	-	18		-	20
	Above 2 years	31	-	18	-	21	2	-	26
4.	Buffaloes in Milk	31	-	21		21	3	-	28
5.	Buffaloes Dry P /NP	16	-	21	3	-	10	-	24
	Sub Total	**120**	**20**	89	9	89	15	-	**116**
	MALE								
1.	Below 0- 3 months	5	18/0	-	4	13	1	-	5
2.	3-12 months	6	0/0	13	1	11	5	-	2
3.	1-2 years	8	-	11	1	4	8	-	6
	Above 2 years	-	-	4	-	-	3	-	1
4.	Breeding bulls	6	-	-	-	3	-	-	3
5.	Bullocks / Teasers / others	-	-	-	-	-	-	-	-
	Sub Total	25	18	28	6	31	17	-	17
	Grand Total	**145**	**38**	**117**	**15**	**120**	**32**	-	**133**

OB = Opening Balance as on 1st April D = Deaths S = Sale E = Experimental
B / P = Birth / Purchase T = Transfer CB = Closing Balance as on 31st March 2023

9.2 Calving Statistics including abnormalities

Month	Male	Female	Still Birth	Abortion	Dystokia	ROP	Prolapse	Overall
April 22	1	2	-	-	-	-	-	3
May	-	-	-	2	-	-	-	2
June	-	1	-	-	-	-	-	1
July	-	1	-	-	-	-	-	1
August	4	2	-	-	-	-	-	6
September	3	2	-	2	-	-	-	7
October	2	2	-	-	-	-	-	4
November	1	3	-	-	-	-	-	4
December	2	-	-	-	-	-	-	2
January 23	1	1	-	-	-	-	-	2
February	1	1	-	-	-	-	-	2
March	3	2	-	-	-	-	-	5
Overall	**18**	**17**	-	**4**	-	-	-	**39**

Sex ratio Male: Female 1.05:1 SB% = Nil Abortion = 10.25%

9.3. Disposal of Animals during the Period 1st April 22 to 31st March 23

Female	**Primary cause of disposal**							
Category	Surplus	Below farm production standard	Reprod. Problem	Weak & Old	Udder Health	Death	Experimental purposes	Total
Calves 0 to 3 months	-	-	-	-	-	5	-	5
3-12 months	-	-	-	-	-	1	-	1
Heifers 1-2 years	-	-	-	-	-	-	-	-
> 2 years	-	-	2	-	-	-	-	2
Buffaloes Milch	-	-	-	3	-	-	-	3
Dry	-	5	-	5	-	3	-	13
Sub Total	-	5	2	8	-	9	-	**24**

Males								
Calves 0 to 3 months	1	-	-	-	-	4	-	5
3-12 months	5	-	-	-	-	1	-	6
1 to 2 year	8	-	-	-	-	**1**	-	9
.>2 year	3	-	-	-	-	-	-	3
Breeding bulls	-	-	-	-	-	-	-	-
Bullock+Teaser+Others	-	-	-	-	-	-	-	-
Sub Total	17	-	-	-	-	6	-	**23**
Grand Total	**17**	**5**	**2**	**8**	**-**	**15**	**-**	**47**

9.4. Mortality during the Period 1st April 2022 to 31st March, 2023

Female							Male					Overall Herd
	0-3 Month	3-12 Month	1-2 Yrs.	Above 2 Yrs.	Milch + Dry	Overall Female	0-3 Month	3-12 Month	1 -2 Yrs	>2 yrs.	Overall Male	
No. Died	5	1	-	-	3	9	4	1	1	-	6	15

Calf mortality (0 to 3 months) 18.75 % (9/48)

9.5. Causes of Mortality (quarter wise) during the period April 22 to March 2023

Particulars	1st quarter (April-June)	2nd quarter (July-Sept)	3rd quarter (Oct-Dec.)	4th quarter (Jan.-March)	Total
Enteritis					
Haem. Enteritis					
Pheumo Enteritis		1	2		3
Broncho-Pheumonia	4			1	5
Septicamia / Toxaemia	1	1			2
Peritonitis		1			1
JD/TB					
Milk Fever / metabolic diseases					
TRP/TP					
Parasitism					
Accidental death	1	1			2
Peri-parturient disorders					
Miscellaneous	2				2
Total	**8**	**4**	**2**	**1**	**15**

9.6 Prophylactic Measures undertaken

Disease	**Vaccination No. of animals**	**No. of animals** Tested	Positive	**Dates and No. of animals treated for Parasitism**
FMD+HS (Twice)	113		All negative	No clinical case of parasitic infestation was observed during the year. All the animals were dewormed as per normal schedule
BQ (Once)	106		All negative	
Brucelloses • Calf Hood • Adult	 14 48		 All negative All negative	
JD	-		All negative	
TB	-		All negative	

9.7. Female Conception Rate during the Period January 2022 to December 2023

AI →	1st			2ND			3RD			4TH & above			Over all		
Parity↓	Ais	C	CR %	Ais	C	CR %	Ais	C	CR%	Ais	C	CR %	Ais	C	CR %
Heifers	23	8	34.78	11	4	36.36	7	2	28.57	5	3	60.00	46	17	36.95
Adults	28	12	42.85	21	12	57.14	11	5	45.45	16	7	43.75	76	36	47.37
Overall	51	20	39.21	32	16	50.00	18	7	38.88	21	10	47.61	122	53	**43.44**

Ais = No. of animals inseminated; C = No. of animals conceived; CR % = Conception rate %

9.8 Quarter-wise conception rate:

Quarter	No. of A I	Preg. Animals	CR %
January – March	31	15	48.38
April – June	30	11	36.66
July – September	32	12	37.50
October- December	29	15	51.72
Overall	**122**	**53**	**43.44**

9.9. Bull-wise Conception Rate During the period January to December, 2022

Sr. No.	Bull No.	Total Number of AI	Total Conceived	CR%
1.	27 PT	16	7	43.75
2.	480	3	1	33.33
3.	507	3	3	100.00
4.	543	14	5	35.71
5.	551	15	5	33.33
6.	579	4	1	25.00
7.	702	12	5	41.67
8.	705	19	10	52.63
9	710	13	2	15.38
10	905	13	6	46.15
11	916	10	8	80.00
Total		**122**	**53**	**43.44**

9.10 Bull Wise Semen Stock: -

Sr. No	Bull No	O.B.	Doses produced/ received	Doses used /disseminated			Total Supply	Balance
				Dairy Farm	Sold	Exp.		
1.	NR3002	2270	6300	20	5963	-	5983	2587
2.	NR 507	4038	1565	50	3194	-	3244	2319
3.	NR Dimond	-	1475	-	415	-	415	1060
4.	NR Shahansaah	-	130	-	-	-	-	130
5.	NR 2563	2874	-	-	1704	-	1704	1170
6.	NR 2591	150	-	-	50	-	-	100
Total		10297	3675	3722	5002	-	8784	5244

9.11. Average Body weight (kg) (Indicate number of animals in parenthesis)

Year	**Birth**	**3 Months**	**6 Months**	**12 Months**	**18 Months**	**24 Months**	**WFC**
Female							
2017-18	36.30 (25)	57.00 (17)	92.00 (15)	168.00 (16)	310.00 (24)	385.00 (21)	595.00 (18)
2018-19	34.12 (23)	67.38 (11)	110.63 (11)	193.22 (18)	313.25 (9)	406.00 (14)	605.62 (16)
2019-20	32.34 (25)	63.37 (20)	104.99 (17)	181.17 (16)	309.96 (16)	397.81 (22	561.64 (16)
2020-21	31.80 (25)	61.80 (18)	110.30 (16)	169.00 (14)	298.40 (19)	370.00 (27)	549.54 (12)
2021-22	31.20 (24)	63.79 (15)	110.30 (14)	167.00 (19)	304.00 (17)	344.00 (23)	547.00 (21)
2022-23	35.29 (17)	60.45 (14)	107.50 (4)	184.50 (15)	302.80 (11)	399.80 (14)	550.40 (14)
Male							Adults
2017-18	34.70 (26)	70 (19)	110(15)	190 (8)	330 (4)	480.00 (2)	
2018-19	34.87 (29)	70.06 (12	110.00 (7)	231.00 (5)	354.20 (5)	490.00 (4)	
2019-20	34.13 (24)	69.45 (12)	113.81 (9)	235.24 (5)	350.0	540.09 (2)	
2020-21	34.07 (26)	72.00 (11)	120.40 (6)	210.60 (8)	335.80 (5)	590.40 (5)	
2021-22	33.20 (27)	70. 80 (5)	114.00 (6)	238.00 (4)	380.00 (3)	690.00 (4)	
2022-23	32.28 (18)	68.80 (10)	119.00 (8)	210.00 (6)	360.70 (3)	575.0 (3)	

9.12 Average Production Performance of Buffaloes Completing their Lactation

Lact. No.	No. of obs.	TLMY (kg)	SLMY (kg)	Lact. Length (days)	Peak yield (kg)
1st	14	2253.65±159.41	298.5±10.95	2222.08±152.53	12.28±0.78
2nd	3	2095.66±218.86	263.67±7.12	2095.66±218.86	13.20±1.10
3rd	5	1959.74±116.93	289.6±25.41	1929.34±97.63	12.14±0.69
4th	1	2279	256	2279	14.6
5th & above	2	2522±23.5	320±36	2451±48	13.3±1.3
Overall	**25**	**2198.43±98.00**	**292.56±8.52**	**2168.95±93.37**	**12.53±0.48**

9.12.1 Average production performance of Buffaloes since Inception of Network

Year	N	Lact. Length (days)	TLMY (kg)	SLMY (kg)	Peak yield (kg)
2017-18	36	278	2248.77	2187.60	12.36
2018-19	39	300	2543	2458	13.54
2019-20	44	302	2549	2478	13.71
2020-21	29	281	2511	2473	13.4
2021-22	32	299.18	2552.0	2485.43	13.94
2022-23	25	292.56	2198.43	2168.95	12.53

9.12.2 Average production performance of Buffaloes (elite) since Inception of Network

Year	No. of Animals	Av. 305-day Yield (Kg)	Av. Lactation Length (days)	Average Complete Lactation Yield (kg)	Average Peak Yield (kg)
2017-18	3	2810	355	2941	16.03
2018-19	6	3206	342	3452	17.57
2019-20	11	2907	348	3090	14.91
2020-21	6	2900	291	2922	15.6
2021-22	6	3092	329	3185	16.75
2022-23	4	2940	306	2970	15.12

9.13 Average Milk Composition from April 2022 to March 2023

Month	N	Fat	SNF	Protein	Lactose
April 22	31	7.46	10.22	3.75	5.68
May	30	7.49	10.26	3.79	5.76
June	25	7.61	10.46	3.89	5.85
July	21	7.05	10.4	3.69	5.51
August	25	7.37	10.34	3.88	5.8
September	22	7.25	10.71	3.7	5.8
October	26	6.85	10.27	3.93	5.83
November	27	7.15	10.47	3.9	5.89
December	28	7.6	10.37	3.85	5.81
January 23	27	7.4	10.6	3.77	5.79
February	25	7.87	10.55	3.95	5.53
March	28	7.27	10.65	3.73	5.73
Overall	**26**	**7.36**	**10.44**	**3.82**	**5.75**

9.14: Reproductive Performance during the year 4/2022 to 3/2023

Lactation / Parity	N	AFC (Months)	SP (Days)	DP (Days)	CI (Days)
1	15	40.54±1.15	-	-	-
2	8	-	108.25±14.74	187.14±38.14	418.42±13.01
3	1	-	124	232	425
4	4	-	100.75±17.37	226.75±39.55	410.5±18.93
5th and above	2	-	208±39	284±9.5	512±33
Overall	**30**	**40.54±1.15**	**120.87±12.69**	**209.87±22.13**	**429.13±11.89**

9.14.1 Reproduction Performance Since inception of Network.

Years	AFC (Months)	Service Period (days)	Dry Period (days)	Calving Interval (days)
2017-18	42.43 (18)	180.15 (34)	215.09 (34)	486.82 (34)
2018-19	40.27±1.80 (15)	168.02±30.10 (40)	238.37±33.20 (40)	475.57±30.31 (40)
2019-20	40.9±1.21 (18)	150.4±11.8 (53)	217±20.29 (53)	452.31±12.79 (53)
2020-21	40.3±2.2 (12)	109.6±10.9 (45)	183.6±5.9 (45)	417.9±3.8 (45)
2021-22	41.14±0.86 (21)	123.20±14.66 (45)	138.79±9.69 (45)	426.25±14.75 (45)
2022-23	**40.54±1.15 (15)**	**120.87±12.69 (15)**	**209.87±22.13 (15)**	**429.13±11.89 (15)**

9.15. Month-wise milk production and disposal during the period 4/2022 to 3/2023

Month	**Production**	**Disposal**			
	Total milk produced (kg)	Liquid milk (kg)	Calf feeding (kg)	Experimental purposes (kg)	Milk lost in handling (kg)
April 2022	7859.1	6700	1131.2	-	27.9
May	7670.6	6953	690.0	-	27.6
June	6700.9	6411	263.2	-	26.7
July	5362.3	5108	226.5	-	27.8
August	4932.3	4421	483.5	-	27.8
September	6089.3	5264	803.2	-	22.1
October	6678.7	5605	1047.7	-	26.0
November	6349.3	5399	922.7	-	27.6
December	7006.8	6092	888.5	-	26.3
January 2023	6968.5	6383	556.0	-	29.5
February	6191.8	5635	531.0	-	25.8
March	6855.3	6146	685.0	-	24.3
Total	**78664.9**	**70117.0**	**8228.5**	**-**	**319.4**

9.15.1 Milk production and disposal during the period 4/2022 to 3/2023

Years	**Production**	**Disposal**			
	Total milk produced (kg)	Liquid milk (kg)	Calf feeding (kg)	Experimental purposes (kg)	Milk lost in handling (kg)
2017-18	88913.10	76025.0	12576.6	0.0	311.5
2018-19	97106.80	84574.0	12213.4	0	319.4
2019-20	85304.6	72319.0	12659.0	0	326.7
2020-21	100586.4	84412.0	15848.9	0	325.5
2021-22	80695.80	69312.0	11051.8	0	332.0
2022-23	78664.90	70117.0	8228.5	0	319.4

9.16 Feed and Fodder (Quintals) availability April 2022 – March 2023)

Quarter	**Feed/fodder**	**Quantity produced at farm**	**Quantity purchased**	**Actually fed to Nilli-Ravi buffaloes**
I (April – June)	Green	12103.00		2178.54
	Dry		2383.4	357.51
	Silage	1918.60		345.35
	Concentrate		942.75	942.75
II (July – September)	Green	10767.30		1938.11
	Dry		1278.60	191.79
	Silage	1715.60		308.80
	Concentrate		940.25	940.25

III (October – December)	Green	6786.90		1221.65
	Dry		1456.75	218.51
	Silage	1820.20		327.66
	Concentrate		894.75	894.75
IV (January-March)	Green	13467.8		2424.10
	Dry		2095.25	314.30
	Silage	2829.3		509.30
	Concentrate		1021.25	1021.25
Total	Green	43125.0		7762.4
	Dry		7214.00	1082.11
	Silage	8283.7		1491.11
	Concentrate		3799.0	3799.0

9.17: Milk performance during April 22 to March 2023

Month	Buffaloes in Milk	Dry buffaloes	Total	% in Milk	Wet Av. (kg)	Herd Av. (kg)
April 2022	31	19	50	62.0	8.45`	5.24
May	30	18	48	58.0	8.53	4.94
June	25	19	44	56.18	8.93	5.07
July	21	22	43	48.83	8.23	4.02
August	25	22	47	53.19	7.75	4.22
September	22	21	43	51.0	8.72	4.47
October	26	20	46	57.0	8.28	4.68
November	27	20	47	57.44	7.84	4.50
December	28	21	49	57.14	8.07	4.61
January 2023	27	18	45	60.0	8.32	4.99
February	25	18	43	58.1	8.14	4.73
March	28	24	52	53.84	7.90	4.25
Overall	**26**	**20**	**46**	**56.06**	**8.26**	**4.64**

9.17.1 Milking performance since inception

Year	No. of Animals in Milk	No. of Animals dry	Total Animals	% in Milk	Wet Av. (kg)	Herd Av. (kg)
2017-18	35	27.50	62.08	55.50	7.85	4.2
2018-19	33	32	65	50.69	7.97	4.12
2019-20	34	31	65	52.15	7.99	4.06
2020-21	37	20	57	66.33	7.49	4.98
2021-22	28	17	45	62.79	8.21	4.95
2022-23	26	20	46	56.06	8.26	4.64

9.18: Bull wise daughters born (only numbers)

Bull No.	Daughters born	Daughters Calved	Daughters completing 1st Lactation
27	1	1	-
480	1	-	-
543	1	-	-
579	1	-	-
674	1	-	-
705	4	-	-
710	1	-	-
763	1	-	-
916	1	-	-
NAAG (352)	1	1	-
NAAG-2 (702)	1	1	1
OVERALL	**14**	**3**	**1**

9.19 Bull wise daughters completing 1ST lactation

Bull No.	Daughter No.	Date of birth	Date of calving	AFC (months)	Lact. Length (days)	TLMY (kg)	SLMY (kg)
NAAG-2	3274	06-08-2019	11-08-2022	36.09	163	1123	1123

9.20 Breeding bulls Selected for current set

Sr. No	Bull No.	Date of Birth	Dam No.	Sire No.	Dam's best SLMY
1	2976	11-11-20	2873	NRNAAG-2	3871
2	3039	08-08-21	2861	NR501	3516
3	3087(935)	08-08-21	378	NR487	3533
4	3088(943)	28-08-21	561	NR480	3345
5	2103	12-08-21	118	PUR	3612

9.20.1 PT Bulls for nominated mating

Bull No	Set No	Centre	Dams' best Yield	Sire Index	% Superiority
702	3rd	CIRB	3421	2376.83	8.88
905	4th	CIRB	3639	2561.40	15.29
916	4th	CIRB	2961	2424.74	9.99
27	5th	CIRB Nabha	3979	2488.1	6.79
03	5th	CIRB Nabha	2866	2401.2	4.47
252	6th	CIRB Nabha	3469	2616.82	5.93
254	6th	CIRB Nabha	2811	2579.39	4.42

9.21 Target achieved during the year

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	40.3 (15)	40.9 (18)	40.3 (12)	41.14 (21)	40.54 (15)
Av. Service period (days)	130	168 (40)	150 (35)	110 (45)	123 (45)	121 (15)
Calf mortality (0-3 months)	≤ 3 %	15.87 %	9.37%	7.69%	17.54 %	18.75 %
Wet average (kg)	≥8.5 kg	7.97	7.99	7.49	8.21	8.26
Herd average (kg)	≥5.5 kg	4.12	4.06	4.98	4.95	4.64

10. Salient Research Achievements:

A considerable progress has been made in achieving the targets of reduction in AFC and the Service Period. Similarly, the wet average improved significantly from the previous years

11. Publications: -

12. Constraints if any:

- Very limited availability of true to breed quality animals.
- Short lactation in animals.
- High calf mortality due to shed renovation, space constrains due to more birth of animals at the calf shed.

13. Focus of work in the coming year: Enhance the herd strength of elite animals by introducing superior germplasm, apply effective strategy/measures to reduce calf mortality, effective disease control, improve production and reproduction, and production of superior germplasm.

Project Co-ordinator's observations on centre performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Closing balance
Total	ICAR Share		ICAR Share	State Share	
20.00	15.00	15.00	15.00	5.00	Nil

Herd Performance

The herd strength of Nili-Ravi was 133, included 78 breedable buffaloes (> 2 years). A total 35 calves (18 male and 17 female) were born, 4 abortions were reported during 2022-23. The calf mortality (0-3 months) was 18.75 %. Conception rate of 43.44 percent was better than the previous year 42.14 percent. During the report period 9470 frozen semen doses produced/received and 11396 doses disseminated. The closing balance of frozen semen doses as on 31-03-2023 was 7366.

A sharp decline in annual average of total lactation milk yield and 305 or less day lactation milk yield was noticed to 2198 kg (25) and 2169 kg (25) in 2022-23 as compared to 2552 kg (32) and 2485 kg (32) during last year. The wet average and herd average reported during the year 8.26 kg/d and 4.64 kg/d, respectively. Overall 56 % buffaloes remained in milk during the year 2022-23. The reproductive traits viz: age at first calving, service period, dry period and calving interval was 40.54 months (15), 121 days (15), 210 days (15) and 429 days (15), respectively.

Accomplishment and Targets Achieved

Trait	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Av. Age at first calving (months)	40	40.3 (15)	40.9 (18)	40.3 (12)	41.14 (21)	40.54 (15)
Av. Service period (days)	130	168 (40)	150 (35)	110 (45)	123 (45)	121 (15)
Calf mortality (0-3 months)	≤ 3 %	15.87 %	9.37%	7.69%	17.54 %	18.75 %
Wet average (kg)	≥8.5 kg	7.97	7.99	7.49	8.21	8.26
Herd average (kg)	≥5.5 kg	4.12	4.06	4.98	4.95	4.64

Recommendations:

- Concerted efforts should be made to improve the production performance of Nili herd.
- Calf mortality is on higher side and emphasis should be given to improve calf management and health care to reduce calf mortality.
- Bulls for test mating should be used uniformly and nominated mating for elite animals.

NETWORK PROJECT ON BUFFALO IMPROVEMENT (FIELD UNITS)

Participating Units : **1. CIRB, Hisar**
2. GADVASU, Ludhiana
3. NDRI, Karnal

Date of start : 2001

INTRODUCTION:
Murrah is most important breed among milch buffaloes which draws maximum demand of its germplasm in the country. But the problem of non-availability of genetically superior and progeny tested bulls is acute to meet everincreasing demand for improvement of the country buffaloes. It is, therefore, essential to develop superior germplasm and test them efficiently on large organized herds as well as the ones available with the farmers. Progeny testing under institutional and field conditions besides providing superior bulls for use in developmental programme, helps in developing elite breeding herds. Buffalo herds available with various research institutions and those managed by the state/central government developmental agencies are too small in size to independently implement a worthwhile progeny testing programme for even a moderately accurate evaluation of bulls. It is more desirable to evaluate the bulls on the basis of their progeny performance raised in different environments at various associated organized as well as at the farmers herds.

OBJECTIVES:
To strengthen the on going sire evaluation programme of associated herd progeny testing by including field performance recording of the daughters of test bulls.

FIELD UNIT: CIRB HISAR

Name of the Institute : Central Institute for Research on Buffaloes, Hisar
Title of the project : Progeny testing of bulls under field conditions (FPT)
Principal Investigator : Dr A Bharadwaj, Principal Scientist

Technical programme: The use of semen of test bulls under Network Project on Buffalo Improvement on buffaloes in ten adopted villages of CIRB Hisar is to be undertaken. This has to be followed by pregnancy diagnosis, calving records, tagging and follow up of progenies till the completion of first lactation for milk records on the basis of monthly test day recording. Data on different aspects to be recorded as per specified format.

Report of the Project (April 2022– March 2023): Under field progeny testing program (FPT) semen of test bulls is used for artificial insemination in the field, followed by pregnancy diagnosis, calving records and follow up of progenies till the completion of first lactation for milk records on the basis of monthly test day recording. During the period from April 2022 to March 2023, 3766 artificial inseminations were performed using test bulls of 20th set. The use 20th set was initiated from Jan 2022. The conception rate in the field was worked out to be 54.14%. In this period 1986 pregnancies were confirmed and 1502 calving (males 782, females 720) were recorded. Besides, 226 daughters (14 of 16th, 193 of 17th and 19 of 18th set) with an average age at first calving of 40.95 months were also calved, out of which 187 completed the lactation and rest were sold before completion of lactation. The physical identification using ear tagging has been done in all female progenies born in the field till Nov 2022 and being done for progenies born thereafter. As on 31st March 2023, 1243 female progenies of 17th to 20th set of different age are standing at various field unit centres for future recordings.

F 1. Herd Strength of Registered females under field unit during 2022-23

Name of Village	OB	*Addition*	*Deduction*		CB
		New Reg. (Birth/ Purchase)	Sold	Death	
	--				

F 2. Status of Breedable females under field unit during 2022-23

Name of Village	Heifers >2 ½ years		*Buffalo (NP)*		*Buffalo Pregnant*	
	Total	Pregnant	In milk	Dry	In milk	Dry
	--					

F 3. Month-wise AI at Different Field Unit Centres during 2022-23

Months	Centre/ Village										Total
	Beed	Juglan	Dhiktana	Kheri	Jewra	Kirara/ Syamsukh	Sarsod	Bichpari	Bado	Bugana	
April 22	21	19	18	13	18	20	8	24	9	8	**158**
May	17	23	12	14	21	20	24	23	17	11	**182**
June	10	21	24	22	31	25	23	30	17	10	**213**
July	22	35	23	29	33	15	17	25	23	20	**242**
Aug	35	45	34	38	55	38	36	22	27	15	**345**
Sept	51	54	42	37	47	25	34	43	27	24	**384**
Oct	50	65	57	40	56	36	54	50	25	19	**452**
Nov	48	82	46	49	55	36	58	50	31	14	**469**
Dec	75	70	37	44	52	40	63	40	28	15	**464**
Jan 23	48	29	34	4	35	25	65	52	15	17	**324**
Feb	31	44	25	12	30	34	27	20	14	13	**250**
March	23	32	25	25	32	30	38	33	30	15	**283**
Total	**431**	**519**	**377**	**327**	**465**	**344**	**447**	**412**	**263**	**181**	**3766**

F 4. Bull-wise AI at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	19 XX	1454 XX	2793 XX	2831 XX	2838 XX	2848 XX	2850 XX	3004 XX	5427 XX	5481 XX	5500 XX	5505 XX	5511 XX	5588 XX	7584 XX	7649 XX	Total
April 22	-	-	-	-	-	2	-	68	73	-	-	-	-	-	-	15	**158**
May	-	7	-	-	-	-	-	14	77	-	-	-	-	84	-	-	**182**
June	-	116	-	-	-	-	21	14	-	-	-	-	-	62	-	-	**213**
July	1	1	91	-	-	-	147	2	-	-	-	-	-	-	-	-	**242**
Aug	136	-	47	-	-	-	12	-	-	137	13	-	-	-	-	-	**345**
Sept	1	103	-	132	-	-	36	-	-	19	93	-	-	-	-	-	**384**
Oct	14	31	-	13	45	-	84	124	-	-	-	-	-	-	141	-	**452**
Nov	131	113	-	132	85	-	-	1	-	-	-	-	5	-	2	-	**469**
Dec	-	8	-	36	17	-	-	-	-	-	101	-	154	-	-	148	**464**
Jan 23	-	-	14	-	153	-	-	-	-	-	27	130	-	-	-	-	**324**
Feb	-	-	111	-	5	-	-	-	-	74	-	56	4	-	-	-	**250**
March	-	-	26	-	1	-	-	45	-	96	-	112	3	-	-	-	**283**
Total	**283**	**379**	**289**	**313**	**306**	**2**	**300**	**268**	**150**	**326**	**234**	**298**	**166**	**146**	**143**	**163**	**3766**

F 5. Month-wise Conception at Different Field Unit Centres during 2022-23

Months	**Centre/ Village**										**Total**
	Beed	**Juglan**	**Dhiktana**	**Kheri**	**Jewra**	**Kirara/Syamsukh**	**Sarsod**	**Bichpari**	**Baado**	**Bugana**	
April 22	34	31	10	19	15	11	30	21	15	5	**191**
May	22	23	6	17	13	9	14	11	11	4	**130**
June	12	8	7	13	11	3	9	12	9	6	**90**
July	12	13	9	7	12	11	5	13	5	3	**90**
Aug	11	14	6	7	13	13	14	12	8	5	**103**
Sept	7	13	8	11	24	16	11	18	9	3	**120**
Oct	13	17	10	15	13	6	11	15	11	9	**120**
Nov	22	23	9	18	27	20	22	14	13	3	**171**
Dec	28	29	22	19	23	13	21	27	12	13	**207**
Jan 23	30	38	32	19	28	17	32	33	7	12	**248**
Feb	29	56	26	15	26	19	37	26	14	7	**255**
March	43	43	19	21	24	22	40	24	17	8	**261**
Total	**263**	**308**	**164**	**181**	**229**	**160**	**246**	**226**	**131**	**78**	**1986**

F 6. Bull-wise Conception at Different Field Unit Centres during the Period 4/2022 to 3/2023

Months	Bull No												
	1315 XIX	**2674 XIX**	**2737 XIX**	**2759 XIX**	**5181 XIX**	**5246 XIX**	**5310 XIX**	**5320 XIX**	**5333 XIX**	**5374 XIX**	**7604 XIX**	**19 XX**	**1454 XX**
April 22	-	-	27	-	-	-	1	73	-	-	12	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-	4
Sept	-	-	-	-	-	-	-	-	-	-	-	-	67
Oct	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	63	-
Dec	-	-	-	-	-	-	-	-	-	-	-	1	62
Jan 23	-	-	-	-	-	-	-	-	-	-	-	7	15
Feb	-	-	-	-	-	-	-	-	-	-	-	70	67
March	-	-	-	-	-	-	-	-	-	-	-	-	4
Total	**-**	**-**	**27**	**-**	**-**	**-**	**1**	**73**	**-**	**-**	**12**	**141**	**219**

Cont..F6

Months	Bull No														Total
	2793 XX	**2831 XX**	**2838 XX**	**2848 XX**	**2850 XX**	**3004 XX**	**5427 XX**	**5481 XX**	**5500 XX**	**5505 XX**	**5511 XX**	**5588 XX**	**7584 XX**	**7649 XX**	
April 22	-	-	-	-	-	-	4	-	-	-	-	-	74	-	**191**
May	-	-	-	45	-	-	70	-	-	-	-	-	15	-	**130**
June	-	-	-	20	-	16	-	-	-	-	-	-	1	53	**90**
July	-	-	-	-	-	40	42	-	-	-	-	-	-	8	**90**
Aug	-	-	-	-	-	5	46	-	-	-	-	48	-	-	**103**
Sept	-	-	-		13	10	-	-	-	-	-	30	-	-	**120**
Oct	39	-	-	-	79	2	-	-	-	-	-	-	-	-	**120**
Nov	14	-	-	-	4	-	-	83	7	-	-	-	-	-	**171**
Dec	-	66	-	-	20	-	-	9	49	-	-	-	-	-	**207**
Jan 23	-	5	24	-	47	65	-	-	-	-	-	-	85	-	**248**
Feb	-	74	41	-	-	1	-	-	-	-	2	-	-	-	**255**
March	-	19	11	-	-	-	-	-	66	-	80	-	-	81	**261**
Total	**53**	**164**	**76**	**65**	**163**	**139**	**162**	**92**	**122**	**-**	**82**	**78**	**175**	**142**	**1986**

F 7. Month-wise Calving at Different Field Unit Centres during 2022-23

Month	Centre/Village																				Total	
	Beed		Juglan		Dhiktna		Kheri		Jewra		Kirara/ Syamsukh		Sarsod		Bichpari		Bado		Bugana			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 22	3	4	7	6	3	1	5	3	4	9	2	4	6	6	3	4	1	2	1	0	**35**	**39**
May	4	5	9	8	3	0	4	4	6	8	3	2	3	5	4	5	2	3	1	0	**39**	**40**
June	6	6	11	10	3	0	6	4	4	6	3	3	9	8	9	12	3	3	1	1	**55**	**53**
July	9	10	20	15	4	5	10	7	5	5	1	2	7	8	11	9	5	3	5	1	**77**	**65**
Aug	11	17	20	17	11	7	8	6	14	21	3	4	6	13	13	9	6	4	5	2	**97**	**100**
Sept	23	15	22	19	16	4	10	9	10	12	7	8	3	10	7	7	7	5	8	2	**113**	**91**
Oct	24	16	24	19	8	7	9	7	7	9	5	5	13	13	9	11	10	6	8	2	**117**	**95**
Nov	17	13	16	12	6	4	8	6	5	6	4	4	14	10	8	8	7	4	3	2	**88**	**69**
Dec	10	10	11	11	3	3	6	8	6	4	3	4	6	7	5	5	6	3	2	2	**58**	**57**
Jan 23	5	4	4	2	3	4	3	5	3	4	2	1	3	4	5	5	3	2	2	4	**33**	**35**
Feb	5	4	5	5	4	5	1	1	4	4	5	4	2	3	4	6	1	2	2	1	**33**	**35**
March	3	4	4	5	3	3	3	3	6	4	4	5	5	6	4	5	2	4	3	2	**37**	**41**
Total	**120**	**108**	**153**	**129**	**67**	**43**	**73**	**63**	**74**	**92**	**42**	**46**	**77**	**93**	**82**	**86**	**53**	**41**	**41**	**19**	**782**	**720**

F 8. Bull-wise Calving at Different Field Unit Centres during the Period 4/2022 to 3/2023

Month	Bull No																					
	1315 XIX		2674 XIX		2737 XIX		2759 XIX		5181 XIX		5232 XIX		5246 XIX		5310 XIX		5320 XIX		5333 XIX		5374 XIX		7604 XIX	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 22	1	4	8	7	-	-	1	0	-	-	-	-	-	-	-	-	-	-	25	28	-	-	-	-
May	10	13	1	0	-	-	-	-	-	-	-	-	-	-	-	-	23	21	5	5	-	-	0	1
June	16	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	6	-	-	0	1	29	29
July	41	38	11	7	7	9	-	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	17	11
Aug	8	7	11	7	7	9	-	-	24	31	-	-	-	-	19	19	-	-	24	25	-	-	4	2
Sept	33	16	2	3	-	-	-	-	-	-	-	-	1	1	6	10	-	-	23	15	41	28	7	18
Oct	-	-	35	23	11	13	-	-	-	-	-	-	38	28	-	-	-	-	11	12	1	0	21	19
Nov	-	-	-	-	14	9	-	-	-	-	-	-	-	-	1	0	34	26	-	-	-	-	3	7
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jan 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**109**	**95**	**68**	**47**	**39**	**40**	**1**	**0**	**24**	**31**	**-**	**-**	**39**	**29**	**26**	**29**	**67**	**53**	**89**	**85**	**42**	**29**	**81**	**87**

Cont..F8

Month	Bull No																											
	19 XX		1454 XX		2793 XX		2831 XX		2838 XX		2848 XX		2850 XX		3004 XX		5427 XX		5481 XX		5500 XX		5588 XX		7584 XX		7649 XX		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
April 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**35**	**39**
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**39**	**40**
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**55**	**53**
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**77**	**65**
Aug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**97**	**100**
Sept	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**113**	**91**
Oct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**117**	**95**
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	34	25	-	-	**88**	**69**
Dec	-	-	-	-	-	-	-	-	-	-	19	22	-	-	-	-	30	29	-	-	-	-	-	-	9	6	-	-	**58**	**57**
Jan 22	-	-	-	-	-	-	-	-	-	-	5	11	-	-	2	8	-	-	-	-	-	-	-	-	-	-	26	16	**33**	**35**
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	14	20	-	-	-	-	-	-	-	-	5	1	**33**	**35**
March	-	-	3	0	-	-	-	-	-	-	-	-	-	-	1	2	16	23	-	-	-	-	17	16	-	-	-	-	**37**	**41**
Total	**-**	**-**	**3**	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**24**	**33**	**-**	**-**	**17**	**24**	**62**	**74**	**-**	**-**	**-**	**-**	**17**	**16**	**43**	**31**	**31**	**17**	**782**	**720**

F 9. Bull-wise Live Female Progeny at Different Field Unit Centers (0-6month) as on 3/2023

Bull No. Centres	2674 XIX	2737 XIX	5246 XIX	5320 XIX	5333 XIX	5374 XIX	7604 XIX	7604 XIX	2848 XX	3004 XX	5427 XX	5588 XX	7584 XX	7649 XX	Total
Beed	-	-	2	1	1	-	1	**5**	3	2	5	-	4	2	**16**
Juglan	3	1	2	3	3	-	2	**14**	3	1	5	2	4	1	**16**
Dhiktana	-	2	-	1	-	1	2	**6**	2	2	3	-	-	1	**8**
Kheri	-	2	2	-	1	-	1	**6**	1	2	4	-	2	1	**10**
Jewra	-	2	2	1	-	-	3	**8**	1	-	3	2	2	1	**9**
Kirara	-	-	2	1	2	-	-	**5**	-	1	3	1	1	1	**7**
Sarsod	1	3	2	4	-	-	3	**13**	3	2	4	2	1	-	**12**
Bichpari	1	-	3	3	1	-	4	**12**	2	2	3	1	1	1	**10**
Bado Patti	1	3	1	-	-	-	1	**6**	-	1	3	1	-	1	**6**
Bugana	-	-	1	-	-	-	-	**1**	1	1	1	1	1	-	**5**
Total	**6**	**13**	**17**	**14**	**8**	**1**	**17**	**76**	**16**	**14**	**34**	**10**	**16**	**9**	**99**

F 10. Bull-wise Live Female Progeny at Different Field Unit Centers (6-12month) as on 3/2023

Bull No. Centres	1315 XIX	2674 XIX	2737 XIX	5181 XIX	5232 XIX	5310 XIX	5320 XIX	5333 XIX	5374 XIX	7604 XIX	Total
Beed	11	6	1	-	-	1	2	9	3	1	**34**
Juglan	9	4	1	2	-	1	2	4	3	7	**33**
Dhiktana	2	2	3	2	-	1	-	1	-	-	**11**
Kheri	-	2	-	4	3	-	1	4	-	1	**15**
Jewra	5	-	-	1	-	4	6	7	5	3	**31**
Kirara	3	-	-	-	-	-	-	1	2	4	**10**
Sarsod	-	3	2	4	-	3	2	8	3	5	**30**
Bichpari	10	-	2	1	-	2	2	3	2	8	**30**
Bado Patti	2	4	-	1	-	1	1	-	-	-	**9**
Bugana	1	-	-	-	-	-	-	-	-	1	**2**
Total	**43**	**21**	**9**	**15**	**3**	**13**	**16**	**37**	**18**	**30**	**205**

F 11. Bull-wise Live Female Progeny at Different Field Unit Centers (1-3 years) as on 3/2023

Bull No. Centres	1150 XVIII	1208 XVIII	1209 XVIII	1219 XVIII	2645 XVIII	2676 XVIII	2677 XVIII	2689 XVIII	4905 XVIII	4995 XVIII	5147 XVIII	7094 XVIII	7147 XVIII	7227 XVIII	7263 XVIII
Beed	4	10	4	5	2	4	5	5	1	8	3	5	2	4	-
Juglan	1	11	3	5	5	5	5	4	2	7	4	3	1	2	1
Dhiktana	2	1	-	1	1	-	2	4	-	-	-	6	1	-	1
Kheri	-	4	-	1	-	-	-	1	1	-	-	1	2	-	2
Jewra	-	3	1	2	3	-	2	3	1	2	2	-	2	2	1
Kirara	-	1	-	-	-	-	-	2	1	2	1	1	-	-	-
Sarsod	5	3	-	6	5	5	4	2	4	5	7	2	3	10	-
Bichpari	1	3	4	8	4	4	2	4	1	4	6	5	2	3	3
Bado Patti	1	-	-	-	2	1	2	-	-	-	-	1	1	-	1
Bugana	-	3	1	-	-	3	2	3	1	-	4	4	2	-	-
Total	**14**	**39**	**13**	**28**	**22**	**22**	**24**	**28**	**12**	**28**	**27**	**28**	**16**	**21**	**9**

Cont..

Bull No. Centres	1315 XIX	2674 XIX	2737 XIX	2759 XIX	5181 XIX	5232 XIX	5246 XIX	5310 XIX	5320 XIX	5333 XIX	5374 XIX	7604 XIX	Total
Beed	-	1	10	11	2	15	11	7	2	2	8	-	**131**
Juglan	-	5	9	10	4	13	4	8	3	3	4	1	**123**
Dhiktana	-	1	6	-	2	2	1	2	1	-	-	-	**34**
Kheri	10	2	3	5	-	-	2	3	2	5	2	-	**46**
Jewra	-	2	5	3	6	12	5	2	6	6	9	5	**85**

Kirara	-	3	1	2	1	2	2	2	1	2	2	-	**26**
Sarsod	5	2	11	6	5	8	9	3	3	2	4	-	**119**
Bichpari	-	6	6	5	5	9	7	5	6	4	4	1	**112**
Bado Patti	-	-	3	5	2	2	2	3	2	3	1	3	**35**
Bugana	-	1	-	-	-	2	2	-	2	-	1	-	**31**
Total	**15**	**23**	**54**	**47**	**27**	**65**	**45**	**35**	**28**	**27**	**35**	**10**	**742**

F 12. Bull-wise Live Female Progeny at Different Field Unit Centers (> 3 years) as on 3/2023

Bull No. Centres	**1148 XVII**	**2558 XVII**	**2565 XVII**	**2594 XVII**	**2607 XVII**	**4687 XVII**	**4715 XVII**	**4733 XVII**	**4837 XVII**	**6942 XVII**	**7010 XVII**	**B1/330 XVII**	**53M XVII**	**Dara XVII**	**Sikander XVII**
Beed	2	1	2	-	3	1	-	-	1	3	3	3	-	2	-
Juglan	1	1	1	1	-	-	-	1	3	1	3	1	-	3	-
Dhiktana	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2
Kheri	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
Jewra	1	-	-	1	1	-	1	-	1	1	3	-	-	3	-
Kirara	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sarsod	2	-	2	3	-	-	-	1	-	1	2	-	3	-	3
Bichpari	1	-	-	-	1	-	-	1	-	-	-	-	1	2	1
Bado Patti	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Bugana	-	1	-	1	-	-	1	-	1	-	-	-	-	1	-
Total	**7**	**3**	**6**	**6**	**6**	**1**	**2**	**3**	**6**	**8**	**11**	**4**	**6**	**12**	**6**

Cont.. F 12.

Bull No. Centres	**1150 XVIII**	**1208 XVIII**	**1209 XVIII**	**2645 XVIII**	**2676 XVIII**	**4905 XVIII**	**4995 XVIII**	**7094 XVIII**	**7147 XVIII**	**7227 XVIII**	**Total**
Beed	1	1	1	1	1	4	-	1	-	1	**32**
Juglan	3	-	1	-	-	2	-	1	-	-	**23**
Dhiktana	-	-	-	-	-	-	-	-	-	-	**5**
Kheri	-	-	-	-	-	-	-	-	1	-	**3**
Jewra	3	-	-	-	1	2	2	-	1	-	**21**
Kirara	2	-	-	-	1	-	-	-	-	-	**3**
Sarsod	1	-	-	1	1	-	-	1	-	-	**21**
Bichpari	-	-	-	-	-	-	2	1	-	-	**10**
Bado Patti	-	-	-	-	-	-	-	-	-	-	**2**
Bugana	1	-	-	-	-	-	-	-	-	-	**6**
Total	**11**	**1**	**2**	**2**	**4**	**8**	**4**	**4**	**2**	**1**	**126**

F 13. Bull-wise Daughters Calved at Different Field Units during 2022-2023

Bull No. Centres	1027 XVI	1053 XVI	1064 XVI	4592 XVI	4705 XVI	6379 XVI	6753 XVI	M-51 XVI	1148 XVII	2558 XVII	2565 XVII	2594 XVII	2607 XVII	4687 XVII	4715 XVII	4733 XVII	4733 XVII
Beed	1	-	1	-	-	1	1	-	-	1	2	4	1	5	2	4	4
Juglan	-	-	-	-	-	-	-	-	4	1	3	1	1	2	2	1	1
Dhiktana	1	-	-	-	-	-	-	**1**	3	-	1	-	1	-	-	1	1
Kheri	-	-	-	2	1	-	-	-	1	2	-	1	3	1	-	-	-
Jewra	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1	2	2
Kirara	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Sarsod	-	1	-	-	-	-	-	**1**	1	2	7	2	1	3	2	2	2
Bichpari	-	-	-	-	-	-	-	-	1	-	2	3	1	-	1	-	-
Bado	-	1	-	2	-	-	-	-	-	1	-	1	1	1	-	-	-
Bugana	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Total	**2**	**2**	**1**	**4**	**1**	**1**	**1**	**2**	**11**	**9**	**15**	**12**	**10**	**14**	**8**	**10**	**10**

Cont..

Bull No. Centres	4837 XVII	6942 XVII	7010 XVII	B1-330 XVII	Dara XVII	M-53 XVII	Siknder XVII	1150 XVIII	1209 XVIII	2645 XVIII	2676 XVIII	2677 XVIII	2689 XVIII	4905 XVIII	4995 XVIII	7227 XVIII	**Total**
Beed	-	2	1	3	-	1	1	-	1	-	-	-	-	1	-	-	**33**
Juglan	6	2	3	4	6	2	-	2	-	1	-	1	-	1	1	-	**44**
Dhiktana	3	1	-	3	6	2	-	1	-	1	-	-	-	-	-	-	**25**
Kheri	1	1	1	2	-	-	-	1	-	-	-	-	-	-	-	-	**17**
Jewra	1	1	1	1	-	4	2	-	-	-	-	-	-	1	-	-	**17**
Kirara	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
Sarsod	2	3	4	2	6	4	5	-	2	1	1	-	-	-	-	-	**52**
Bichpari	1	2	-	2	1	3	3	-	-	-	-	-	1	-	-	**1**	**22**
Bado	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	**9**
Bugana	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	**5**
Total	**14**	**13**	**11**	**18**	**19**	**16**	**12**	**4**	**4**	**3**	**1**	**1**	**1**	**3**	**1**	**1**	**226**

F 14. Bull-wise Daughters Recorded at Different Field Units Centres during the Period 4/2022 to 3/2023

Field Units	Bull No.	Dgtr No.	Date of Birth	Date of Calving	Monthly Milk Records																	
					I		II		III		IV		V		VI		VII		VIII		IX		X	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
Beed																								
	1053 XVI	656	18/04/17	12/07/21	4.0	4.0	3.0	3.0	4.5	4.5	5.0	5.0	4.8	4.7	4.5	4.5	4.3	4.2	4.0	4.0	3.5	3.5	5.0	0.0
	1053 XVI	657	28/04/17	21/07/21	3.5	3.5	5.0	5.0	5.3	5.2	5.0	5.0	4.5	4.5	4.5	4.5	4.3	4.2	3.8	3.7	3.0	3.0	4.0	0.0
	2383 XVI	735	15/10/17	22/07/21	3.5	3.5	4.3	4.2	4.8	4.7	5.5	5.5	5.0	5.0	4.8	4.7	4.0	4.0	4.0	4.0	3.3	3.2	5.0	0.0
	B1/330 XVII	917	02/05/19	23/07/21	4.0	4.0	4.5	4.5	5.0	5.0	5.5	5.5	5.5	5.5	5.0	5.0	4.3	4.2	3.8	3.7	3.5	3.5	2.0	2.0
	4705 XVI	688	14/08/17	03/08/21	3.5	3.5	4.0	4.0	5.8	5.7	5.0	5.0	5.5	5.0	4.8	4.7	4.0	4.0	3.5	3.5	3.0	3.0	2.5	2.5
	M-51 XVI	692	20/08/17	03/08/21	3.0	3.0	4.3	4.2	4.5	4.5	4.8	4.7	4.0	4.0	4.5	4.5	4.3	4.2	4.0	4.0	3.8.	3.7	3.0	3.0
	6646 XVI	745	05/11/17	04/08/21	3.0	3.0	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	3.8	3.7	3.5	3.5	3.0	3.2	3.0	2.5
	4592 XVI	746	07/11/17	07/08/21	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0	3.8	3.7	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	2.0	2.0
	M-29 XVI	669	25/06/17	08/08/21	4.0	4.0	4.3	4.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	3.8	3.7	3.5	3.5	3.0	3.0
	6753 XVI	800	18/06/18	21/08/21	3.5	3.5	4.0	4.0	4.5	4.5	4.8	4.7	4.5	4.5	4.3	4.5	4.0	4.0	3.3	3.2	2.5	2.5	4.0	0.0
	2565 XVII	838	09/09/18	26/08/21	4.0	4.0	5.0	5.0	6.0	6.0	5.8	5.7	5.5	5.5	4.8	4.7	4.3	4.2	4.0	4.0	3.0	3.0	5.0	0.0
	2467 XVI	740	21/10/17	29/08/21	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.0	3.0	2.5	2.5	3.0	0.0
	2501 XVI	651	31/03/17	01/10/21	3.5	3.5	4.3	4.2	4.5	4.5	4.5	4.5	4.3	4.2	4.0	4.0	3.8	3.7	3.5	3.5	3.0	3.0	3.0	0.0
	1053 XVI	687	12/08/17	03/10/21	3.0	3.0	4.0	4.0	4.8	4.7	5.0	5.0	4.5	4.5	4.5	4.5	4.0	4.0	3.8	3.7	3.5	3.5	4.0	0.0
	4733 XVII	805	02/07/18	23/10/21	3.0	3.2	4.0	4.0	4.3	4.2	4.5	4.5	4.3	4.2	4.0	4.0	4.0	4.0	3.0	3.0	3.0	0.0	3.0	0.0
	1148 XVII	905	05/03/19	24/10/21	3.5	3.5	4.3	4.2	4.5	4.5	4.3	4.2	4.3	4.2	4.0	4.0	3.8	3.7	3.3	3.2	2.5	2.5	2.0	2.0
	M-53 XVII	845	22/09/18	28/10/21	3.5	3.5	4.0	4.0	4.8	4.7	4.5	4.5	4.8	4.7	4.5	4.5	4.0	4.0	3.5	3.5	4.0	0.0	3.0	0.0
	6409 XVI	646	04/03/17	03/11/21	4.0	4.0	4.3	4.2	4.5	4.5	4.8	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	3.0	2.0	4.0	0.0
	M-51 XVI	696	22/08/17	16/11/21	3.8	3.7	4.0	4.0	4.5	4.5	4.8	4.7	4.5	4.5	4.3	4.2	4.0	4.0	3.5	3.5	3.0	3.0	2.0	2.0
	6753 XVI	796	30/05/18	26/11/21	3.5	3.5	4.3	4.2	4.5	4.5	4.8	4.7	4.5	4.5	4.3	4.2	4.0	4.0	3.0	3.0	2.5	2.5	3.0	0.0
	1148 XVII	897	15/01/19	02/12/21	4.0	4.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.0	4.0	4.0	4.0	3.0	3.0	4.0	0.0
	M-51 XVI	741	26/10/17	08/12/21	3.8	3.7	4.5	4.5	5.3	5.2	5.0	5.0	4.5	4.5	4.3	4.2	3.8	3.7	3.8	3.7	3.0	3.0	3.0	0.0
	2383 XVI	770	08/01/18	24/12/21	4.0	4.0	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	2.5	2.5	3.0	0.0	3.0	0.0
	SiknderXVII	802	28/06/18	28/03/22	3.5	3.5	4.0	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.0	3.0	3.0	3.0	5.0	0.0
	1027 XVI	694	22/08/17	01/04/22	4.0	4.0	5.0	5.0	5.0	5.0	4.3	4.2	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0
	2594 XVII	989	13/10/19	05/04/22	3.5	3.5	4.0	4.0	4.3	4.2	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x
	6942 XVII	932	18/06/19	16/04/22	3.3	3.2	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7	3.5	3.5	3.3	3.2	3.0	3.0	2.5	2.5
	6753 XVI	752	15/11/17	04/05/22	3.0	3.0	4.0	4.0	4.5	4.5	4.2	4.3	4.3	4.2	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	5.0	0.0
	1064 XVI	791	28/04/18	06/05/22	3.5	3.5	4.3	4.2	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.3	3.2	3.0	3.0	2.5	2.5
	2607 XVII	995	24/10/19	21/06/22	4.0	4.0	4.0	4.0	4.3	4.0	3.8	3.7	3.8	3.8	3.5	3.5	3.5	3.5	3.0	3.0	5.0	0.0		
	6942 XVII	952	13/08/19	26/06/22	4.0	4.0	5.0	5.0	4.5	4.5	4.3	4.2	4.0	4.0	4.0	4.0	3.3	3.2	3.0	3.0	2.5	2.5		
	4733 XVII	859	09/10/18	11/07/22	5.0	5.0	5.3	5.2	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5	3.8	3.7	3.5	3.5	3.0	3.0		
	4715 XVII	815	22/07/18	24/07/22	4.0	4.0	4.3	4.2	4.5	4.5	4.3	4.2	4.0	4.0	3.8	3.7	3.5	3.5	3.0	3.0				
	6379 XVI	786	31/03/18	27/7/22	4.0	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0				
	4905 XVIII	1009	24/11/19	28/07/22	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.0	5.0	4.8	4.7	4.3	4.2	4.0	4.0				
	4733 XVII	858	17/10/18	14/08/22	3.8	3.7	4.3	4.2	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4715 XVII	817	25/07/18	26/08/22	4.0	4.0	4.5	4.5	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	3.3	3.2						
	4687 XVII	837	04/09/18	14/09/22	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	4.3	4.2	4.0	4.0						
	4687 XVII	834	27/08/18	24/09/22	3.5	3.5	4.0	4.0	4.5	4.5	4.8	4.7	4.5	4.5	4.3	4.2								

	4733 XVII	866	26/10/18	26/09/22	3.0	3.0	3.8	3.7	4.5	4.5	4.3	4.2	4.0	4.0	3.3	3.2								
	2565 XVII	841	18/09/18	29/09/22	3.5	3.5	4.5	4.5	4.7	4.8	5.0	5.0	4.5	4.5	4.3	4.2								
	4687 XVII	822	31/07/18	03/10/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4687 XVII	831	25/08/18	08/10/22	3.3	3.2	4.0	4.0	4.3	4.2	4.5	4.5	4.5	4.5	4.0	4.0								
	SiknderXVII	942	24/07/19	10/10/22	4.0	4.0	4.5	4.5	5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.0								
	2594 XVII	893	04/01/19	11/10/22	3.5	3.5	4.0	4.0	4.5	4.5	4.8	4.7	5.0	5.0	4.5	4.5								
	2594 XVII	857	10/10/18	17/10/22	3.5	3.5	4.3	4.2	4.5	4.5	5.0	5.0	5.3	5.2	4.5	4.5								
	2594 XVII	979	25/09/19	26/10/22	3.8	3.7	4.3	4.2	4.5	4.5	5.0	5.0	4.3	4.2										
	4733 XVII	869	10/11/18	28/10/22	4.0	4.0	4.5	4.5	4.5	4.5	4.8	4.7	4.5	4.5										
	330 XVII	907	15/03/19	22/11/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	M-53 XVII	912	07/04/19	23/11/22	3.5	3.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	7010 XVII	887	11/12/18	24/11/22	4.3	4.2	4.5	4.5	5.0	5.0	4.8	4.7												
	330 XVII	914	23/04/19	02/12/22	4.0	4.0	5.0	5.0	5.3	5.2	5.0	5.0												
	2558 XVII	993	20/10/19	26/12/22	3.8	3.7	4.5	4.5	4.0	4.0														
	2565 XVII	839	07/09/18	28/12/22	3.5	3.5	4.0	4.0	4.0	4.0														
	4687 XVII	832	23/08/18	14/02/23	4.3	4.2	4.5	4.5																
	1209 XVIII	1045	28/04/20	16/03/23	3.5	3.5																		
Juglan																								
	2501 XVI	1271	06/07/17	28/06/21	4.0	4.0	4.3	4.2	4.5	4.5	4.8	4.7	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	0.0
	M-29 XVI	1390	13/06/18	28/06/21	4.5	4.5	4.5	4.5	5.0	5.0	6.5	5.5	5.5	5.5	4.5	4.5	4.3	4.2	4.0	4.0	3.5	3.5	3.0	3.0
	4687 XVII	1407	03/08/18	21/07/21	4.3	4.2	4.0	4.0	4.5	4.5	4.3	4.2	4.0	4.0	3.8	3.7	3.5	3.5	2.5	2.5	4.0	0.0	4.0	0.0
	6379 XVI	1378	02/05/18	22/07/21	4.0	4.0	5.0	5.0	5.3	5.2	5.0	5.0	4.5	4.5	4.5	4.5	4.3	4.2	3.8	3.7	3.5	3.0	5.0	0.0
	1053 XVI	1283	05/08/17	25/07/21	3.0	3.0	5.0	5.0	5.0	5.0	4.8	4.7	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7	3.0	3.0
	M-29 XVI	1358	03/02/18	26/07/21	3.5	3.5	4.8	4.7	5.0	5.0	5.0	5.0	4.8	4.7	4.3	4.2	4.0	4.0	3.8	3.7	3.5	3.5	2.5	2.5
	1053 XVI	1286	05/08/17	02/08/21	4.0	4.0	4.5	4.5	5.3	5.2	4.8	4.7	4.3	4.2	4.0	4.0	4.3	4.2	4.0	4.0	3.8	3.7	3.0	3.0
	1053 XVI	737	14/10/17	10/08/21	3.5	3.5	4.5	4.5	5.0	5.0	5.5	5.5	4.8	4.7	4.5	4.5	3.8	3.7	3.5	3.5	3.0	3.0	5.0	0.0
	4687 XVII	1392	25/06/18	10/08/21	3.5	3.5	5.0	5.0	5.8	5.7	5.3	5.2	5.0	5.0	5.0	5.0	4.5	4.5	4.3	4.2	4.0	4.0	3.3	3.2
	M-29 XVI	1314	28/09/17	17/08/21	4.0	4.0	4.3	4.2	5.0	5.0	5.0	5.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	2.8	2.7
	2565 XVII	1411	15/08/18	22/08/21	4.3	4.2	4.8	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.2	4.0	4.0	4.0	4.0	3.0	3.0	4.0	0.0
	4837 XVII	1452	24/10/18	25/08/21	4.0	4.0	4.5	4.5	5.0	5.0	5.0	5.0	4.8	4.7	4.5	4.5	3.8	3.7	3.5	3.5	3.3	3.2	2.5	2.0
	M-29 XVI	1429	07/09/18	02/09/21	4.5	4.5	4.0	4.0	4.5	4.5	4.8	4.7	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.0	4.0	3.0	3.0
	1064 XVI	1366	13/03/18	05/09/21	3.5	3.5	4.3	4.2	5.5	5.5	5.3	5.2	5.0	5.0	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
	6753 XVI	1383	20/05/18	17/09/21	3.5	3.5	4.5	4.5	4.0	4.0	5.0	5.0	4.8	4.7	4.3	4.2	3.8	3.7	3.5	3.5	3.5	3.5	3.3	3.2
	M-29 XVI	1369	21/03/18	23/09/21	3.0	3.0	4.3	4.2	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.2	4.0	4.0	3.8	3.7	3.0	3.0	4.0	0.0
	6379 XVI	1375	25/04/18	02/10/21	3.5	3.5	4.0	4.0	5.0	5.0	5.0	5.0	4.8	4.7	4.5	4.5	4.0	4.0	4.0	4.0	3.8	3.7	3.0	3.0
	6379 XVI	1359	07/02/18	09/12/21	4.0	4.0	4.5	4.5	4.3	4.2	4.0	4.0	3.8	3.7	3.5	3.5	3.5	3.5	3.3	3.2	2.5	2.0	3.0	0.0
	2558 XVII	1401	22/07/18	27/12/21	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.2	4.0	4.0	4.0	4.0	3.0	3.0	4.0	0.0	3.0	0.0
	6379 XVI	1373	12/04/18	02/01/22	3.5	3.5	4.3	4.2	4.5	4.5	4.8	4.7	4.5	4.5	4.3	4.2	4.0	4.0	3.5	3.5	4.0	0.0	3.0	0.0
	7010 XVII	1458	08/11/18	06/04/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	1148 XVII	1479	20/01/19	26/05/22	3.5	3.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.0	3.0	2.5	2.5	4.0	0.0	3.0	0.0
	4715 XVII	1473	20/12/18	05/06/22	3.8	3.7	5.0	5.0	5.3	5.2	4.0	4.0	3.5	3.5	3.5	3.5	3.2	3.3	3.0	3.0	3.0	3.0	4.0	0.0
	4687 XVII	1415	24/08/18	08/06/22	4.0	4.0	5.3	5.2	5.5	5.5	4.8	4.7	4.3	4.2	4.0	4.0	3.5	3.5	3.3	3.2	3.0	3.0	2.8	2.7
	2677 XVIII	1620	18/02/20	14/07/22	4.0	4.0	4.5	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	6942 XVII	1515	04/07/19	22/07/22	3.5	3.5	4.8	4.7	4.5	4.5	4.5	4.5	4.0	4.0	3.8	3.7	3.5	3.5	3.0	3.0				

	4995 XVIII	1601	11/12/19	27/07/22	4.0	4.0	5.5	5.5	5.0	5.0	4.8	4.7	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5				
	4715 XVII	1419	22/08/18	03/08/22	4.3	4.2	5.3	5.2	4.8	4.7	4.5	4.5	4.3	4.2	4.0	4.0	4.0	4.0	3.5	3.5				
	1148 XVII	1487	02/03/19	14/08/22	4.0	4.0	5.5	5.0	5.5	5.5	5.5	5.5	5.0	5.0	4.5	4.5	4.3	4.2	4.0	4.0				
	4837 XVII	1564	05/10/19	18/08/22	3.5	3.5	5.0	5.0	6.0	6.0	5.8	5.7	5.5	5.5	5.0	5.0	4.8	4.7	4.3	4.2				
	Dara XVII	1585	04/11/19	09/09/22	3.5	3.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.2						
	2558 XVII	1462	18/11/18	11/09/22	4.3	4.2	4.8	4.7	5.0	5.0	5.5	5.5	5.8	5.7	5.0	5.0	4.5	4.5						
	M-53 XVII	1430	15/09/18	18/09/22	4.0	4.0	4.3	4.2	4.5	4.5	4.5	4.5	4.3	4.2	4.5	4.5	4.3	4.2						
	7010 XVII	1541	24/08/19	22/09/22	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	4.3	4.5	4.0	4.0								
	4687 XVII	1486	04/03/19	23/09/22	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0	4.0	4.0	3.5	3.5								
	Dara XVII	1576	20/10/19	24/09/22	4.0	4.0	4.8	4.7	5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.0								
	4733 XVII	1421	01/09/18	25/09/22	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7								
	330 XVII	1506	15/06/19	26/09/22	4.0	4.0	4.5	4.5	4.5	4.5	4.3	4.2	4.0	4.0	3.5	3.5								
	Dara XVII	1517	13/07/19	27/09/22	4.3	4.2	5.0	5.0	6.0	6.0	5.5	5.5	5.3	5.2	4.8	4.7								
	2607 XVII	1574	29/10/19	28/09/22	4.0	4.0	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.5								
	1150 XVIII	1596	27/11/19	29/09/22	3.8	3.7	4.5	4.5	4.8	4.7	5.0	5.0	5.3	5.2	5.0	5.0								
	330 XVII	1491	23/03/19	01/10/22	4.0	4.0	4.8	4.7	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Dara XVII	1528	26/07/19	02/10/22	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	4.5	4.5								
	7010 XVII	1456	13/11/18	03/10/22	5.0	5.0	6.0	6.0	6.5	6.5	7.0	7.0	7.0	7.0	6.8	6.7								
	330 XVII	1496	26/04/19	03/10/22	4.0	4.0	4.5	4.5	5.0	5.0	5.5	5.5	5.5	5.5	5.0	5.0								
	Dara XVII	1442	20/10/18	11/10/22	4.0	4.0	4.5	4.5	5.0	5.0	4.5	4.5	4.8	4.7	4.5	4.5								
	1148 XVII	1488	13/03/19	28/10/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2565 XVII	1543	18/08/19	18/11/22	4.0	4.0	4.0	4.0	5.5	5.5	6.0	6.0	5.8	5.7										
	M-53 XVII	1584	06/11/19	22/11/22	3.5	3.5	4.0	4.0	4.3	4.2	4.0	4.0												
	2594 XVII	1436	21/09/18	26/11/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4837 XVII	1550	10/09/19	28/11/22	4.0	4.0	4.5	4.5	5.0	5.0	5.0	5.0												
	4837 XVII	1547	01/08/19	02/12/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4837XVII	1467	08/12/18	05/12/22	3.0	3.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	330 XVII	1492	15/04/19	18/12/22	3.5	3.5	4.5	4.5	4.8	4.7	5.0	5.0												
	1148XVII	1483	18/02/19	21/12/22	4.5	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2565XVII	1410	10/08/18	22/12/22	6.0	6.0	6.0	6.0	5.5	5.5														
	4905 XVIII	1589	16/11/19	23/12/22	4.5	4.5	5.5	5.5	5.3	5.2														
	1150 XVIII	1586	13/11/19	24/12/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4837 XVII	1454	05/11/19	27/12/22	4.0	4.0	5.0	5.0	5.0	5.0														
	6942 XVII	1518	15/07/19	27/12/22	4.3	4.2	5.5	5.5	5.3	5.2														
	2645 XVIII	1616	06/02/20	28/01/23	4.0	4.0	4.5	4.5																
	Dara XVII	1599	04/12/19	07/02/23	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2565 XVII	1546	23/08/19	02/03/23	4.0	4.0																		
Dhiktana																								
	M-51 XVI	798	27/09/17	11/07/21	4.0	3.5	6.5	6.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	2.0	Dry	x
	1027 XVI	829	18/12/17	02/09/21	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	2.5	2.5	2.0	0.0
	4715 XVII	850	14/06/18	07/09/21	3.0	3.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	0.0
	2607 XVII	865	01/08/18	10/09/21	3.0	2.5	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	0.0	Dry	x	x	x
	4733 XVII	851	17/06/18	11/09/21	2.5	2.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	0.0	2.0	0.0
	6646 XVI	774	05/06/17	16/09/21	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	0.0	Dry	x	x	x

	4592 XVI	847	28/05/18	21/09/21	5.5	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	3.0	2.0	3.0	0.0	2.0	0.0
	2558 XVII	868	08/08/18	21/09/21	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0	2.0	2.0	Dry	x	x	x	x	x
	M-51 XVI	814	21/10/17	26/11/21	7.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.5	4.5	5.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0
	7010 XVII	895	23/11/18	07/12/21	5.0	4.0	6.0	5.0	6.0	5.0	6.0	5.0	5.0	5.0	4.5	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	2.0
	4715 XVII	901	01/01/19	04/01/22	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	4.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
	2565 XVII	893	11/11/18	10/01/22	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.5	2.0	3.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
	2594 XVII	897	02/12/18	07/02/22	5.0	5.0	5.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0
	4715 XVII	862	21/07/18	21/03/22	7.0	6.0	7.0	6.0	7.0	6.0	7.0	6.0	6.0	6.0	5.0	5.0	5.0	4.0	4.0	3.0	3.0	2.0	2.0	2.0
	2607 XVII	879	25/09/18	15/04/22	3.0	2.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	1027 XVI	839	19/03/18	20/04/22	3.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0
	Dara XVII	966	08/10/19	19/06/22	3.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	2.0	2.0	0.0
	6942 XVII	939	07/07/19	07/07/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	m-53 XVII	916	19/04/19	12/07/22	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	3.0	3.0	2.0	2.0		
	Dara XVII	888	12/10/18	14/07/22	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	2.0		
	Dara XVII	953	24/08/19	15/07/22	4.0	4.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	M-53 XVII	969	22/10/19	18/07/22	3.0	2.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	0.0		
	1148 XVII	914	21/03/19	05/08/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	3.0	3.0	3.0				
	M-51 XVI	860	18/07/18	16/08/22	6.0	5.0	6.0	5.0	6.0	5.0	5.0	4.0	5.0	5.0	5.0	4.0	4.0	3.0	3.0	3.0				
	4837 XVII	965	07/10/19	16/08/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	2.0	2.0	2.0				
	330 XVII	950	04/08/19	21/08/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	3.0	3.0						
	330 XVII	948	19/07/19	22/08/22	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0						
	2565 XVII	967	24/10/19	18/09/22	4.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0						
	4733 XVII	854	17/06/18	21/09/22	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0								
	Dara XVII	946	11/07/19	21/09/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	3.0								
	1148 XVII	907	28/02/19	27/09/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	3.0	3.0								
	330 XVII	926	17/05/19	30/09/22	5.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0								
	4837 XVII	956	28/08/19	01/10/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0								
	1148 XVII	945	10/07/19	21/10/22	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0										
	Dara XVII	924	13/05/19	22/10/22	5.0	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0	3.0										
	4837 XVII	957	01/09/19	30/10/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0										
	1150 XVIII	980	01/01/20	10/11/22	3.0	2.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0										
	Dara XVII	929	24/05/19	23/11/22	6.0	6.0	6.0	6.0	5.0	5.0	5.0	4.0												
	2645 XVIII	993	11/04/20	24/01/23	5.0	4.0	4.0	4.0																
Kheri																								
	1053 XVI	671	20/04/17	23/06/21	5.5	5.0	5.0	4.5	5.0	4.5	4.5	4.0	4.5	4.0	4.5	4.0	4.5	3.5	3.5	3.0	3.0	3.0	0.0	2.0
	4592 XVI	765	28/07/18	28/07/21	4.5	4.0	4.0	3.5	4.0	3.5	3.5	3.0	3.5	3.0	3.5	3.0	3.5	3.0	3.5	3.0	2.5	2.0	0.0	3.0
	6405 XV	603	08/06/16	02/08/21	5.0	4.5	4.5	4.0	4.0	3.5	4.5	4.0	4.0	3.5	3.5	3.0	4.0	3.5	4.0	3.0	0.0	4.0	0.0	3.0
	4592 XVI	744	04/05/18	04/08/21	4.5	4.0	4.5	4.0	4.5	4.0	5.0	4.5	4.5	4.0	4.5	4.0	3.5	3.0	3.0	2.5	3.0	2.5	3.0	0.0
	4592 XVI	751	09/06/18	23/08/21	4.0	3.5	3.5	3.0	5.0	4.5	4.0	3.5	4.5	3.5	3.5	3.0	3.5	3.0	3.0	2.5	2.0	2.0	2.0	1.5
	2558 XVII	770	12/08/18	30/08/21	4.5	4.0	4.5	4.0	4.5	4.0	5.0	4.5	4.5	4.0	4.0	3.5	3.5	3.0	3.5	3.0	2.5	2.5	2.5	2.0
	2558 XVII	805	16/12/18	05/09/21	4.5	4.0	4.0	3.5	4.0	4.0	3.5	3.0	4.0	3.5	4.0	3.5	4.0	3.5	3.5	3.0	3.0	2.5	3.0	2.5
	4592 XVI	767	31/07/18	03/10/21	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5	4.0	3.0	3.5	4.0	3.0	3.5	2.5	2.0
	2594 XVII	792	29/10/18	03/10/21	4.0	3.5	4.5	4.0	4.5	4.0	4.0	3.5	5.0	4.5	5.0	4.5	4.5	4.0	3.0	2.5	3.0	3.5	2.5	2.5
	2558 XVII	781	11/09/18	11/10/21	5.0	4.5	4.5	4.5	4.0	3.5	4.5	4.0	4.5	4.0	5.0	4.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	2.5

	2467 XVI	696	27/08/17	02/11/21	5.5	5.0	5.0	4.5	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0	5.0	4.5	4.5	4.0	3.5	3.0
	4733 XVII	783	25/09/18	03/11/21	5.0	4.5	4.5	4.0	4.5	4.0	4.0	4.5	5.0	4.5	4.5	4.0	4.0	3.5	3.5	3.0	4.0	3.5	4.0	3.5
	4733 XVII	779	09/09/18	05/11/21	4.5	4.5	4.0	3.5	4.5	4.0	4.5	4.0	4.5	4.0	5.0	4.5	4.0	3.5	4.5	4.0	4.0	3.5	3.0	2.5
	4592 XVI	749	31/05/18	16/11/21	4.5	4.0	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	3.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5
	2467 XVI	686	13/07/17	19/11/21	4..5	4.0	5.5	5.0	5.0	4.5	5.0	4.5	4.5	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0	3.5	3.5	3.0
	4592 XVI	747	14/05/18	19/03/22	5.0	4.5	4.5	4.0	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	4.0	3.5	3.0	2.0	2.5	2.0	2.0	1.5
	2558 XVII	806	18/12/18	18/04/22	5.5	5.0	5.0	5.0	5.5	5.0	5.0	4.5	5.0	4.5	5.0	4.5	30	3.0	4.0	3.0	3.5	3.0	2.0	1.5
	1148 XVII	815	10/02/19	22/05/22	4.5	4.0	5.0	5.0	4.5	4.0	4.0	3.5	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	2.5	2.5	2.3	2.1
	2607 XVII	810	06/01/19	11/06/22	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	3.5	3.0	4.0	4.0	4.0	3.5	3.0	3.0	3.0	2.5	2.8	2.3
	4687 XVII	763	18/07/18	13/07/22	4.5	4.0	5.0	4.5	5.0	5.0	4.0	3.5	4.0	3.5	3.5	3.0	4.0	3.0	3.5	3.0	3.2	3.0		
	4837 XVII	807	27/12/18	14/08/22	5.0	4.5	4.5	4.0	4.5	4.0	4.0	3.5	4.0	3.0	Sold	x	x	x	x	x	x	x	x	x
	330 XVII	829	29/05/19	06/09/22	4.5	4.0	5.0	4.5	5.0	5.0	5.0	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x
	4592 XVI	762	15/07/18	14/09/22	5.0	4.5	5.0	5.0	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0	4.4	3.8						
	2607 XVII	797	12/11/18	06/10/22	4.0	4.5	4.5	4.0	5.0	4.5	5.0	5.0	5.0	4.5	4.8	4.3								
	4705 XVI	738	28/03/18	11/10/22	5.0	4.5	4.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	4.2	3.8								
	6942 XVII	843	04/08/19	11/10/22	5.0	5.0	5.5	5.0	5.0	5.0	5.0	4.0	4.5	4.0	4.3	3.8								
	2594 XVII	853	13/09/19	15/10/22	4.0	3.5	4.0	3.5	5.0	4.5	5.0	5.0	5.0	4.5	4.8	4.3								
	2558 XVII	803	04/12/18	28/10/22	5.0	5.0	4.5	4.0	5.0	4.0	4.5	4.0	4.2	3.8										
	1150 XVIII	867	11/12/19	09/11/22	4.0	4.0	5.0	5.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	4592 XVI	756	28/06/18	13/11/22	4.5	4.0	5.0	4.5	5.0	5.0	5.0	4.5	4.9	4.2										
	2607 XVII	820	14/03/19	17/11/22	4.5	4.5	5.0	5.0	4.5	4.0	4.0	4.0	4.1	3.8										
	330 XVII	833	18/06/19	21/11/22	4.5	4.0	4.5	4.0	4.0	4.5	4.0	4.3												
	7010 XVII	825	26/04/19	02/12/22	5.0	5.0	5.0	5.0	5.5	5.0	5.2	4.9												
Jewra																								
	M-51 XVI	1071	26/02/18	06/07/21	4.0	4.0	5.0	5.0	4.5	4.0	4.5	4.5	3.5	3.5	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.0	2.5	2.5
	M-29 XVI	1126	22/07/18	02/08/21	4.0	4.0	4.0	4.0	5.5	5.0	5.5	5.5	5.0	5.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5
	4837 XVII	1150	21/09/18	02/09/21	4.5	4.5	5.0	5.0	4.5	4.0	4.0	4.0	4.0	3.5	4.5	3.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
	6409 XVI	1092	18/05/18	02/10/21	4.5	3.0	3.5	3.0	3.0	3.0	2.5	2.5	3.5	3.0	2.5	2.5	2.5	2.0	Dry	x	x	x	x	x
	2565 XVII	1137	25/08/18	03/10/21	4.5	4.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.0	2.5	2.5	2.0	2.0	Dry	x
	4837 XVII	1151	22/09/18	07/10/21	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	2.5	0.0
	6753 XVI	1089	08/05/18	21/10/21	4.5	4.0	4.0	4.0	3.5	3.0	3.5	3.0	3.0	3.0	3.5	3.0	3.0	3.0	2.0	2.0	Dry	x	x	x
	7010 XVII	1178	04/12/18	10/11/21	3.5	3.5	3.0	3.0	2.5	2.5	3.0	3.0	2.5	2.5	2.5	2.5	Dry	x	x	x	x	x	x	x
	4733 XVII	1160	15/10/18	18/11/21	4.0	4.0	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.0	2.0	Dry	x
	4687 XVII	1181	19/12/18	12/12/21	4.0	3.5	4.0	3.0	4.5	3.5	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.0	2.0
	2565 XVII	1134	25/08/18	08/01/22	4.0	4.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5
	M-51 XVI	1177	28/12/18	06/02/22	4.0	4.0	4.5	4.0	3.5	3.5	4.0	3.5	4.0	4.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5
	4837 XVII	1176	10/12/18	13/04/22	4.5	4.0	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5
	4733 XVII	1115	15/07/18	11/05/22	3.5	3.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	3.5	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0
	M-53 XVII	1171	10/11/18	10/07/22	4.0	3.5	4.0	4.0	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0		
	4687 XVII	1131	15/08/18	14/07/22	3.5	3.5	3.5	3.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0		
	SiknderXVII	1203	14/08/19	28/07/22	4.0	3.5	4.0	3.5	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0				
	4715 XVII	1123	30/07/18	18/08/22	4.0	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5				
	4733 XVII	1148	26/09/18	30/09/22	3.5	3.5	4.0	3.5	4.0	4.0	4.0	3.5	4.0	4.0	4.0	3.5								
	M-53 XVII	1189	23/04/19	02/10/22	4.0	3.5	4.0	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.5	4.5								

	Siknder XVII	1187	29/04/19	21/10/22	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5										
	6942 XVII	1198	29/06/19	12/12/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	1148 XVII	1200	19/07/19	16/12/22	4.0	4.0	4.5	4.0	4.5	4.5	5.0	4.5												
	330 XVII	1190	24/04/19	22/12/22	4.0	4.0	4.5	4.0	4.0	4.0														
	4905 XVIII	1235	24/11/19	14/01/23	4.5	4.0	4.5	4.0	4.5	4.5														
	M-53 XVII	1191	23/05/19	16/01/23	4.0	4.0	4.5	4.0	4.5	4.0														
	7010 XVII	1207	24/08/19	11/02/23	4.0	4.0	4.5	4.0																
	M-53 XVII	1195	07/07/19	12/03/23	3.5	3.5																		
	2607 XVII	1226	24/10/19	19/03/22	3.0	3.0																		
Kirara																								
	6646 XVI	464	05/10/17	05/09/21	4.0	4.0	4.5	4.0	3.0	3.0	2.5	2.5	2.0	2.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5
	M-51 XVI	487	19/07/18	09/10/21	4.0	4.0	3.5	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.0	2.0	Dry	x	x	x	x	x	x	x
	1053 XVI	481	29/04/18	25/10/21	4.0	4.0	4.0	3.5	3.5	3.5	4.5	4.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.0	2.0
	2558 XVII	491	29/08/18	24/01/22	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5
	4733 XVII	493	06/09/18	29/01/22	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.0	2.0
	7010 XVII	485	25/06/18	12/04/22	3.5	3.5	4.0	3.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5
	2558 XVII	492	11/09/18	14/09/22	4.0	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5						
Sarsod																								
	4837 XVII	592	21/09/18	24/06/21	5.4	5.2	7.3	7.0	6.5	6.0	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0	4.5	4.0	2.5	2.0	3.0	2.5
	2467 XVI	507	05/11/17	25/06/21	6.5	6.3	5.6	5.4	5.5	5.0	5.5	5.0	4.5	4.0	4.0	3.5	5.0	4.5	5.0	4.5	4.0	3.5	2.5	2.0
	1027 XVI	523	09/01/18	30/06/21	4.7	4.5	3.8	3.5	3.5	3.0	3.5	3.0	3.5	3.0	3.0	2.5	3.0	2.5	2.5	2.0	2.0	1.5	Dry	x
	4687 XVII	575	03/08/18	05/07/21	5.2	5.0	5.2	5.0	5.0	4.5	4.5	4.0	3.5	3.0	5.0	4.5	3.5	3.0	3.0	2.5	3.0	2.5	2.5	2.0
	6753 XVI	546	09/05/18	08/07/21	5.2	5.0	5.4	5.2	5.0	4.5	5.0	4.5	4.5	4.0	4.5	4.0	4.0	3.5	4.0	3.5	3.5	3.0	3.5	3.0
	M-51 XVI	497	10/10/17	27/07/21	4.2	4.0	5.5	5.0	4.5	4.0	4.5	4.0	4.0	3.5	3.5	3.0	3.0	2.5	3.5	3.0	2.5	2.0	1.5	0.0
	2558 XVII	607	11/10/18	01/08/21	5.0	4.8	5.0	4.5	5.5	5.0	4.5	4.0	4.0	3.5	3.5	3.0	3.0	2.5	2.5	2.0	Dry	x	x	x
	2594 XVII	599	25/09/18	02/08/21	5.4	5.2	5.0	5.5	5.0	4.5	4.0	3.5	4.5	4.0	5.0	4.5	4.0	3.5	4.0	3.5	3.5	3.0	2.5	2.0
	M-53 XVII	613	22/10/18	02/08/21	4.2	4.0	4.5	4.0	5.5	4.5	4.5	4.0	3.5	3.0	4.0	3.5	4.0	3.5	2.5	2.0	3.5	3.0	Dry	x
	4715 XVII	572	16/08/18	12/08/21	4.5	4.3	3.5	3.0	5.5	5.0	4.5	4.0	5.0	4.5	5.0	5.0	3.5	3.0	3.5	3.0	3.0	2.5	3.5	3.0
	2467 XVI	503	03/11/17	19/08/21	4.2	4.0	5.5	5.0	6.0	5.5	6.0	5.5	5.5	5.0	5.0	4.5	4.5	4.0	4.0	3.5	3.0	2.5	3.0	2.5
	4889 XVI	513	29/11/17	25/08/21	6.0	5.5	5.5	5.0	6.5	6.0	5.5	5.0	5.5	5.0	5.0	4.5	4.0	3.5	4.0	3.5	2.5	2.0	2.5	2.0
	2459 XV	409	03/11/16	03/09/21	5.5	5.0	5.0	4.5	6.0	6.5	5.0	4.5	5.5	5.0	5.5	5.0	5.5	5.0	5.5	5.0	4.5	4.0	3.5	3.0
	2467 XVI	476	20/08/17	04/09/21	4.5	4.0	4.0	4.5	6.5	6.0	6.0	5.5	4.5	4.0	5.0	4.5	4.5	4.0	5.0	4.5	Dry	x	x	x
	M-51 XVI	643	04/12/18	16/09/21	5.5	5.0	3.5	3.0	6.0	5.5	6.5	6.0	4.5	4.0	4.0	3.5	4.0	3.5	4.5	4.0	Dry	x	x	x
	7010 XVII	670	01/05/19	22/09/21	4.0	4.0	4.5	4.5	6.0	5.5	5.5	5.0	4.5	4.0	4.0	3.5	3.0	2.5	2.5	2.0	2.5	2.0	Dry	x
	4715 XVII	648	12/01/19	28/09/21	4.5	4.0	5.0	4.5	5.0	4.5	5.5	5.0	5.5	5.0	5.5	5.0	4.5	4.0	4.5	4.0	1.5	1.0	Dry	x
	4733 XVII	559	25/07/18	12/10/21	5.5	5.0	4.5	4.0	6.0	5.5	5.5	5.0	5.0	4.5	4.5	4.0	4.5	4.0	Sold	x	x	x	x	x
	2607 XVII	649	07/01/19	13/10/21	5.5	4.5	6.5	6.0	5.0	4.5	6.5	6.0	6.0	5.5	6.0	5.5	5.0	4.5	4.5	4.0	2.5	2.0	Dry	x
	4837 XVII	617	04/11/18	15/10/21	4.0	3.5	5.0	4.5	4.0	4.5	5.5	5.0	4.5	4.0	4.0	3.5	3.5	30	3.0	2.5	2.5	2.0	2.0	1.0
	4687 XVII	654	28/01/19	01/11/21	4.0	3.5	4.0	4.5	5.0	4.5	3.0	2.5	2.5	2.0	Dry	x	x	x	x	x	x	x	x	x
	4687 XVII	569	22/08/18	25/11/21	6.0	5.5	6.0	5.5	4.0	3.5	3.5	3.0	4.0	3.5	2.5	2.0	3.0	2.0	2.5	2.0	2.5	2.0	2.0	1.0
	4837 XVII	618	07/11/18	13/12/21	5.5	5.0	5.0	5.0	6.0	5.5	5.5	5.0	4.5	4.0	4.5	4.0	4.5	4.0	3.5	3.0	3.5	3.0	2.5	2.0
	4687 XVII	567	13/08/18	26/02/22	3.5	3.0	5.5	5.0	5.0	4.5	5.0	4.5	3.5	3.0	3.0	2.5	2.5	2.0	2.5	2.0	4.0	0.0	1.5	1.0
	2607 XVII	625	15/11/18	02/03/22	3.5	3.0	6.0	5.5	6.0	5.5	5.5	5.0	5.5	5.0	3.5	3.0	3.5	3.0	3.0	2.5	2.5	2.0	2.5	2.0
	6942 XVII	702	19/08/19	07/04/22	6.0	5.5	6.5	6.0	6.5	6.0	6.5	6.0	5.0	4.5	4.5	4.0	Dry	x	x	x	x	x	x	x

	M-53 XVII	674	17/05/19	03/05/22	5.5	5.0	6.5	6.0	6.5	6.0	5.5	5.0	5.0	4.5	4.5	4.0	5.5	5.0	3.5	3.0	2.0	0.0	Dry	x
	4715 XVII	574	29/08/18	06/05/22	4.5	4.0	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0	3.5	3.0	4.0	3.5	Sold	x	x	x	x	x
	2565 XVII	628	19/11/18	11/05/22	5.5	5.0	6.0	5.5	5.5	5.0	5.5	5.0	5.5	5.0	4.5	4.0	4.0	3.5	5.0	4.5	2.5	2.0	4.0	0.0
	4687 XVII	581	05/09/18	27/05/22	6.5	6.0	6.0	5.5	5.5	5.0	5.0	4.5	3.5	3.0	5.0	4.5	4.0	3.5	4.0	3.5	3.5	3.0	3.0	0.0
	M -53 XVII	731	21/09/19	10/06/22	6.5	5.0	6.5	6.0	6.0	5.5	5.5	5.0	6.5	6.0	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	Sold	x
	Dara XVII	748	15/10/19	14/06/22	5.5	5.0	5.0	4.5	5.5	5.0	5.5	5.0	4.5	4.0	4.0	3.5	2.5	2.0	3.0	2.5	2.5	2.0	2.0	1.5
	SikanderXVII	676	06/05/19	19/06/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	6942 XVII	698	13/08/19	20/06/22	6.5	6.0	6.5	6.0	6.5	6.0	5.0	4.5	5.5	5.0	4.5	4.0	4.5	4.0	4.0	3.5	4.0	3.5	3.0	2.5
	7010 XVII	664	25/04/19	22/06/22	5.5	5.0	5.5	5.0	5.5	5.0	6.0	5.5	5.0	4.5	5.0	4.5	3.5	3.0	3.0	2.5	4.0	3.5		
	2565 XVII	756	18/10/19	26/06/22	4.5	4.0	5.5	5.0	5.0	4.5	4.5	4.0	5.5	5.0	4.5	4.0	4.5	4.0	4.5	4.0	3.5	3.0		
	4733 XVII	557	11/07/18	02/07/22	5.5	5.0	6.0	5.5	6.5	6.0	5.5	5.0	5.0	4.5	5.0	4.5	4.0	3.5	3.5	3.0	4.5	4.0		
	2594 XVII	730	16/09/19	07/07/22	4.5	4.0	5.0	4.5	4.0	3.5	5.0	4.5	4.5	4.0	4.5	4.0	3.5	3.0	3.0	2.5	3.5	3.0		
	330 XVII	681	10/06/19	27/07/22	5.0	4.5	5.0	4.5	5.5	5.0	4.5	4.0	5.5	5.0	4.0	3.5	4.0	3.5	3.0	2.5				
	4837 XVII	716	09/09/19	30/07/22	5.5	5.0	5.5	5.0	5.0	4.5	5.0	4.5	4.5	4.0	3.0	2.5	2.5	2.0	3.5	3.0				
	4687 XVII	571	13/08/18	06/08/22	6.0	5.5	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	4.5	4.0	3.5	3.0	3.5	3.0				
	4733 XVII	742	04/10/19	06/08/22	6.0	5.5	5.5	5.0	6.0	5.0	4.0	3.5	5.0	4.5	4.0	3.5	3.5	3.0	3.5	3.0				
	1053 XVI	465	05/08/17	07/08/22	5.5	5.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5	3.5	3.0	Dry	x	x	x	x	x
	M-53 XVII	735	23/09/19	09/08/22	5.0	4.5	5.5	5.0	5.5	5.0	5.0	4.5	5.0	5.0	3.5	3.0	3.0	2.5	4.0	3.5				
	Dara XVII	694	01/08/19	10/08/22	5.0	4.5	5.0	4.5	5.5	5.0	5.5	5.0	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0				
	330 XVII	678	05/06/19	11/08/22	5.5	5.0	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	4.0	3.5	3.5	3.0	4.0	3.5				
	7010 XVII	708	25/08/19	13/08/22	5.0	4.5	5.0	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2594 XVII	724	09/09/19	21/08/22	3.5	3.0	3.5	3.0	4.5	4.0	3.5	3.0	3.5	3.0	3.0	0.0	2.5	2.0						
	2558 XVII	565	06/08/18	22/08/22	3.0	2.5	4.0	3.5	6.0	5.0	4.5	4.0	4.5	4.0	4.0	3.5	Sold	x	x	x	x	x	x	x
	4715 XVII	655	10/02/19	22/08/22	5.5	5.0	3.5	3.0	4.0	3.5	5.0	4.5	4.0	3.5	4.0	3.5	3.5	3.0						
	2565 XVII	715	30/08/19	27/08/22	4.5	4.0	4.5	4.0	4.5	4.0	3.5	3.0	4.5	4.0	4.5	4.0	2.5	2.0						
	Siknder XVII	699	14/08/19	29/08/22	4.5	4.0	5.5	5.0	4.5	4.0	4.5	4.0	Gifted	x	x	x	x	x	x	x	x	x	x	x
	Dara XVII	705	22/08/19	30/08/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	SiknderXVII	711	30/08/19	30/08/22	4.5	4.0	4.5	4.0	3.5	3.0	3.5	3.0	3.5	3.0	3.0	2.5	3.0	0.0						
	6942 XVII	700	18/08/19	01/09/22	3.5	3.0	4.0	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.5	4.0						
	SiknderXVII	712	05/09/19	09/09/22	5.0	4.5	5.5	5.0	5.0	4.5	4.0	3.5	3.5	3.0	Sold	x	x	x	x	x	x	x	x	x
	2558 XVII	762	26/10/19	09/09/22	5.0	4.5	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	5.0	4.5	4.5	4.0						
	4837 XVII	616	02/11/18	15/09/22	5.5	5.0	6.0	5.5	5.5	5.0	4.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5						
	2565 XVII	714	29/08/19	17/09/22	5.0	4.5	5.0	4.5	4.0	4.5	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0						
	M-51 XVI	640	15/12/18	19/09/22	4.5	4.0	4.5	4.0	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0	5.0	4.5						
	7010 XVII	707	22/08/19	21/09/22	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	3.5	3.0								
	7010 XVII	709	28/08/19	28/09/22	4.5	4.0	5.5	5.0	4.5	4.0	4.5	4.0	5.0	4.5	5.0	4.5								
	2676 XVIII	793	23/01/20	30/09/22	5.5	5.0	5.5	5.0	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0								
	M-53 XVII	673	04/05/19	01/10/22	4.5	4.0	4.0	3.5	5.0	4.5	5.5	5.0	5.5	5.0	Sold	x	x	x	x	x	x	x	x	x
	1209 XVIII	807	28/03/20	01/10/22	2.5	2.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2565 XVII	627	06/11/18	05/10/22	5.5	5.0	5.0	4.5	6.0	5.5	4.5	4.0	4.0	3.5	4.0	3.5								
	1209 XVIII	809	10/05/20	12/10/22	6.0	5.5	6.5	6.0	5.0	4.5	5.0	4.5	4.5	4.0	5.0	4.5								
	2645 XVIII	797	06/02/20	13/10/22	4.0	3.5	5.0	4.5	4.5	4.0	5.0	4.5	4.5	4.0	4.0	3.5								
	Dara XVII	743	14/10/19	15/10/22	6.0	5.5	6.5	6.0	6.5	6.0	6.0	5.5	6.0	5.5	5.5	5.0								
	Dara XVII	769	15/11/19	22/10/22	2.5	2.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

	Siknder XVII	706	20/08/19	25/10/22	5.0	4.5	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0										
	Dara XVII	750	18/10/19	31/10/22	4.5	4.0	3.5	3.0	3.5	3.0	3.0	2.5	3.5	3.0										
	2565 XVII	754	22/10/19	05/11/22	5.5	5.0	5.5	5.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2607 XVII	570	12/08/18	08/11/22	5.0	4.5	5.5	5.0	5.0	4.5	5.5	5.0	4.5	4.0										
	2565 XVII	759	26/10/19	27/11/22	5.0	4.5	5.0	4.5	5.0	5.5	5.0	4.5												
	4687 XVII	579	30/08/18	05/12/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bichpari																								
	M-51 XVI	509	26/07/18	25/06/21	4.2	4.0	5.8	5.4	5.5	4.5	5.0	4.5	4.0	3.5	3.5	3.0	4.0	3.5	3.5	3.0	2.5	2.0	1.5	1.0
	2501 XVI	443	30/09/17	02/07/21	4.2	4.0	4.6	4.4	5.0	4.5	4.5	4.0	3.5	3.0	4.0	3.5	4.0	3.5	2.5	2.0	2.0	1.5	2.5	2.0
	6646 XVI	487	16/05/18	02/07/21	3.8	3.6	3.9	3.7	4.5	4.0	4.5	4.0	3.5	3.0	3.5	3.0	3.5	3.0	2.5	2.0	2.0	1.5	Dry	x
	2594 XVII	499	02/07/18	03/07/21	5.4	5.2	5.2	5.0	5.5	5.0	5.0	4.5	2.5	2.0	4.0	3.5	4.0	3.5	4.5	4.0	4.0	3.5	2.0	1.5
	4733 XVII	522	04/09/18	03/07/21	5.0	4.8	5.6	5.4	6.5	6.0	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0	2.5	2.0	3.5	3.0
	2607 XVII	511	09/08/18	22/07/21	4.3	4.1	4.5	4.0	4.0	3.5	2.5	2.0	2.5	2.0	4.5	4.0	2.5	2.0	2.5	2.0	2.5	2.0	2.5	2.0
	6409 XVI	490	08/05/18	24/07/21	4.3	4.1	5.5	5.5	6.0	5.5	3.5	3.0	4.0	3.5	4.5	4.0	4.0	3.5	3.5	3.0	3.5	3.0	2.5	2.0
	4733 XVII	523	06/09/18	01/08/21	5.5	5.3	6.5	6.5	5.5	5.0	6.0	5.5	5.0	5.0	5.5	5.0	5.5	5.0	3.5	3.0	4.5	4.0	2.5	2.0
	4889 XVI	462	04/12/17	03/08/21	4.2	4.0	5.5	5.0	4.5	4.0	4.5	4.0	5.0	4.5	5.0	4.5	5.0	4.5	3.0	2.5	4.0	3.5	3.0	2.5
	4715 XVII	518	26/08/18	10/08/21	4.3	4.1	5.0	4.5	4.5	4.0	5.5	5.0	4.0	4.5	4.5	4.0	4.0	3.5	2.5	2.0	Dry	x	x	x
	2467 XVI	455	26/10/17	18/08/21	4.2	4.0	5.0	4.5	5.0	4.5	4.0	3.5	5.5	5.0	5.5	5.0	4.0	3.5	3.5	3.0	2.5	2.0	Dry	x
	2558 XVII	514	05/08/18	04/09/21	3.5	3.0	3.5	3.0	3.5	3.0	3.5	3.0	3.0	2.0	3.5	3.0	3.5	3.0	Dry	x	x	x	x	x
	6379 XVI	465	28/12/17	06/09/21	5.5	5.0	5.5	5.0	6.5	6.0	6.0	5.5	5.5	5.0	5.0	4.5	5.0	4.5	3.5	3.0	3.5	3.0	2.5	2.0
	1148 XVII	559	11/03/19	08/09/21	4.5	4.0	6.0	5.5	6.5	6.0	6.5	6.0	6.5	6.0	6.0	5.5	6.0	5.5	4.5	4.0	5.0	4.5	3.5	3.0
	4592 XVI	493	20/05/18	20/09/21	4.5	4.0	5.5	5.0	6.0	5.5	6.5	6.0	5.5	5.0	5.5	5.0	4.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5
	M-51 XVI	536	06/10/18	22/09/21	5.5	5.0	6.5	6.0	6.5	6.0	6.0	5.5	6.0	5.5	5.0	4.5	5.0	4.5	3.5	3.0	3.0	2.5	4.0	3.5
	2594 XVII	538	22/10/18	17/10/21	4.5	4.0	5.5	5.0	5.5	5.0	5.0	4.5	5.0	4.5	6.0	5.0	3.5	3.0	4.5	4.0	3.5	3.0	3.5	3.0
	4715 XVII	554	06/12/18	14/11/21	3.5	3.0	5.5	5.0	5.5	5.0	5.0	5.0	5.0	5.0	4.5	4.0	4.0	3.5	4.5	4.0	5.0	4.5	3.0	2.5
	Dara XVII	541	29/10/18	23/11/21	5.0	4.5	5.0	5.0	5.0	4.5	5.0	4.5	4.5	4.0	4.0	3.5	3.5	3.0	3.5	3.0	3.5	3.0	3.0	2.0
	6409 XVI	491	12/05/18	28/11/21	5.5	5.0	6.0	5.5	6.0	5.5	5.5	5.0	4.5	4.0	4.0	3.5	4.0	3.5	4.0	3.5	2.5	2.0	3.0	2.5
	4715 XVII	552	03/01/19	30/12/21	4.5	4.0	4.0	3.5	5.0	4.5	3.5	3.0	4.5	4.0	3.5	3.0	3.5	3.0	2.5	2.0	3.0	2.5	2.0	0.0
	2565 XVII	543	08/11/18	10/04/22	3.0	2.5	5.0	4.5	5.5	5.0	5.5	5.0	4.5	4.0	4.5	4.0	3.5	3.0	3.5	3.0	2.5	2.0	2.5	2.0
	2594 XVII	619	07/10/19	12/04/22	3.5	3.0	4.5	4.0	6.0	5.5	5.0	4.0	5.5	5.0	5.0	4.5	4.5	4.0	4.5	4.0	3.5	3.0	4.0	0.0
	4715 XVII	558	12/02/19	06/05/22	3.5	3.0	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	5.5	5.0	4.0	3.5	4.0	3.5	3.0	2.5	3.0	2.2
	SiknderXVII	573	04/06/19	16/06/22	3.0	2.5	3.5	3.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0	3.5	3.0	3.0	2.5	3.0	2.5	2.0	0.0
	330 XVII	578	08/06/19	01/07/22	4.5	4.0	5.0	4.5	6.0	5.5	5.0	4.5	5.5	5.0	5.0	4.5	4.5	4.0	4.5	4.0	Sold	x	x	x
Bugana																								
	4837 XVII	613	02/10/19	24/07/22	5.5	5.0	5.5	5.0	6.0	5.5	5.0	4.5	4.5	4.0	4.0	3.5	3.5	3.0	2.0	1.5				
	M-53 XVII	571	06/05/19	26/07/22	5.5	5.0	5.0	4.5	6.5	6.0	4.0	3.5	5.5	5.0	5.0	4.5	4.0	3.5	3.5	3.0				
	M-53 XVII	607	11/09/19	30/07/22	5.5	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	4.5	4.0	3.5	3.0	3.5	3.0				
	6942 XVII	597	14/08/19	11/08/22	3.5	3.0	4.5	4.0	3.5	3.0	3.5	3.0	3.5	3.0	3.0	2.5	5.0	4.5	2.0	1.5				
	1148 XVII	560	22/03/19	15/08/22	5.5	5.0	5.5	5.0	6.0	5.5	5.5	5.0	4.5	4.0	5.0	4.5	4.5	4.0	4.0	3.5				
	330 XVII	589	26/07/19	15/08/22	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2594 XVII	530	26/09/18	25/08/22	4.5	4.0	4.5	4.0	4.5	4.0	3.0	2.5	4.5	4.0	3.5	3.0	3.0	3.5						
	M-53 XVII	614	24/09/19	28/08/22	5.0	4.5	5.5	5.0	5.0	4.5	5.0	4.5	5.0	4.5	3.5	3.0	3.0	2.5						
	Dara XVII	539	22/10/18	02/09/22	5.5	5.0	5.5	5.0	4.5	4.0	6.0	5.5	6.0	5.5	4.0	3.5	4.5	4.0						
	2594 XVII	611	24/09/19	22/09/22	4.5	4.0	5.0	4.5	3.5	3.0	4.0	3.5	3.5	3.0	3.5	3.0								

	6942 XVII	594	11/08/19	23/09/22	5.5	5.0	5.0	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	2565 XVII	517	13/08/18	15/10/22	4.0	3.5	5.5	5.0	6.0	5.5	6.0	5.5	5.5	5.0	6.0	5.5							
	2689 XVIII	674	26/04/20	25/10/22	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	3.5	3.0									
	2607 XVII	632	27/10/19	12/12/22	4.5	4.0	5.5	5.0	5.0	4.5	5.5	5.0											
	SiknderXVII	622	12/10/19	05/01/23	5.0	4.5	6.5	6.0	6.0	5.5													
	SiknderXVII	592	06/08/19	12/01/23	5.0	4.5	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bado Patti																							
	4733 XVII	336	26/09/18	03/08/21	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	4.0	3.0	4.0	3.0	3.0	2.5	3.0	3.5	2.5	2.5	4.0	0.0
	M-53 XVII	363	03/04/19	21/08/21	4.5	4.0	4.0	3.5	5.0	4.5	4.0	3.5	3.5	3.0	3.5	3.0	3.0	2.5	0.0	1.5	0.0	2.0	0.0	2.0
	4592 XVI	319	04/07/18	27/08/21	5.0	4.5	4.5	4.0	4.5	4.0	4.5	4.0	4.0	3.5	3.5	3.0	3.5	3.0	2.0	2.5	3.0	2.0	2.0	2.0
	2558 XVII	349	30/11/18	07/09/21	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0	5.5	5.0	5.0	4.5	4.5	4.0	3.5	3.0	3.5	3.0	3.5	3.0
	6379 XVI	311	30/04/18	03/10/21	4.5	4.0	5.5	5.0	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	3.0	2.5	3.0	2.5	3.5	3.0	2.5	2.0
	1027 XVI	307	17/03/18	14/10/21	4.0	3.5	4.5	4.0	5.0	4.5	5.0	4.5	4.5	4.0	4.5	4.0	4.0	3.5	3.0	3.5	3.5	4.0	3.0	2.5
	2594 XVII	340	21/10/18	16/10/21	4.5	4.0	5.0	4.5	5.5	5.0	5.5	5.0	5.5	5.0	5.0	4.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0
	1053 XVI	318	30/06/18	21/10/21	5.5	5.0	5.0	4.5	5.0	4.5	5.0	4.5	4.5	4.0	4.0	3.5	3.5	3.0	4.0	3.5	3.5	3.0	2.5	2.0
	M-29 XVI	256	08/02/17	27/03/22	5.0	4.5	4.0	3.5	4.5	4.0	4.5	4.0	4.0	3.5	3.5	3.0	2.5	2.0	2.0	2.0	2.0	1.5	2.0	1.5
	4592 XVI	315	03/06/18	11/05/22	4.5	5.0	5.0	5.5	5.0	5.5	5.0	4.5	4.5	4.0	3.0	3.0	4.0	3.5	3.5	3.0	3.0	2.5	2.2	2.0
	2558 XVII	329	10/08/18	24/05/22	5.0	4.5	5.0	4.5	5.0	4.5	5.0	4.5	4.0	3.0	4.0	4.0	3.5	3.0	3.5	3.0	3.0	2.5	2.5	2.0
	1053 XVI	265	29/04/17	11/08/22	4.5	4.0	4.0	3.5	4.0	3.0	4.0	3.5	4.0	3.5	4.0	3.5	3.5	3.0	3.5	3.2				
	2594 XVII	344	01/11/18	16/08/22	5.0	4.5	5.0	4.5	5.0	4.0	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5	3.2				
	330 XVII	366	09/05/19	18/08/22	5.0	4.5	5.5	5.0	5.0	4.5	5.0	4.0	4.5	4.0	3.5	4.0	3.5	3.0	3.0	3.2				
	4592 XVI	323	23/07/18	28/08/22	4.5	4.0	5.0	4.0	5.0	4.5	5.0	5.0	4.0	4.0	4.0	3.5	3.7	3.2						
	4687 XVII	321	16/07/18	07/10/22	5.5	4.5	5.0	5.0	5.0	4.5	5.0	4.5	4.5	4.5	4.3	4.2								
	M-53 XVII	368	23/05/19	28/11/22	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.0												
Bugana																								
	2501 XVI	163	29/09/17	09/07/21	4.2	4.0	5.0	5.5	4.0	3.0	4.0	3.5	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0
	2501 XVI	164	24/09/17	27/07/21	2.5	2.5	2.0	2.0	3.5	3.5	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	2.0	2.0	Dry	x
	4592 XVI	173	21/03/18	19/08/21	5.0	5.5	5.5	5.5	6.0	6.0	5.5	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0	3.0	2.0	2.5	2.0
	2607 XVII	187	20/09/18	30/08/21	3.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	Dry	x	x	x
	4837 XVII	199	29/11/18	01/10/21	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	0.0	Dry	x	x	x	x	x
	Dara XVII	218	19/06/19	21/11/21	6.0	5.0	6.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0	3.0	2.5	3.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
	4687 XVII	204	18/01/19	13/02/22	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	0.0	2.0	0.0
	330 XVII	224	22/07/19	12/06/22	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	3.0	0.0
	4687 XVII	200	01/12/18	11/10/22	4.0	4.0	Sold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	1209 XVIII	254	11/03/20	11/10/22	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0								
	6942 XVII	217	30/06/19	21/10/22	5.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0	3.0										
	2558 XVII	185	16/09/18	08/11/22	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0										

Milk Recording & Calving till March 2023

F 15. Set-wise AI, Conception and daughters retained

Set No.	Duration	Bulls (n)	AI	Preg	Calving		Progenies				
					Total	F	Calved (n)	Av. AFC (month)	Complete Recording	Av. Milk Yield (kg/day)	Available (n)
VIII	Jan 2004 to July 2005	17	1679	737	440	199	23	40.84	18	6.89	-
IX	Aug 2005 to Jan 2007	14	3418	1744	1222	556	89	44.45	58	7.88	-
X	Jan 2007 to Oct 2008	13	3400	1795	1252	600	100	42.23	78	7.49	-
XI	Oct 2008 to March 2010	14	4058	2066	1825	892	128	42.39	88	7.10	-
XII	March 2010 to Sept 2011	12	4569	2356	1119	538	142	42.13	101	7.43	-
XIII	Sept 2011 to March 2013	9	6251	3197	1989	937	272	42.75	203	7.77	-
XIV	March 2013 to July 2014	10	4693	2271	1325	638	162	41.63	132	8.00	-
XV	July 2014 to Dec 2015	15	6955	3762	2732	1286	299	40.42	229	8.10	-
XVI	Jan 2016 to July 2017	15	6116	3218	2485	1251	276	40.89	225	7.93	-
XVII	July 2017 to March 2019	15	6053	3382	2636	1254	292#	39.14	233	8.10	85
XVIII	Jan 2019 to July 2020	15	5287	2839	2192	1000	18#	33.15	-	-	368
XIX	July 2020 to Dec 2021	12	5568	3139	2420	1216	-	-	-	-	691
XX	Jan 2022 to July 2023	15	4281 Jan 22 to March 23	1873*	392*	195*	-	-	-	-	99
# Calving and milk recording of progenies of XVIIth and XVIIIth set is in progress *Pregnancies, calving and female born of XX set till 31 March 2023											1243

F 16. Performance of FPT Programme on Farmer's Buffaloes

Duration	AI	Pregnancies	CR%	Progenies		Progenies				
				Total	Females	Calved (n)	Av. AFC (months)	Complete Recording	Av. Milk Yield (kg/day)	Daughters Available for Future Recording
2001-02	139	25	17.98	15	7	-	-	-	-	-
2002-03	540	236	43.70	147	73	12	42.06	11	7.28	-
2003-04	1001	356	35.56	237	129	15	46.84	12	6.42	-
2004-05	1298	566	43.61	361	173	21	39.66	18	6.54	-
2005-06	1999	1009	50.48	744	345	55	43.80	36	7.75	-
2006-07	2102	1139	54.19	650	305	48	44.40	34	8.09	-
2007-08	2132	1104	51.78	694	341	58	42.77	45	7.60	-
2008-09	2176	1086	49.91	955	477	72	41.44	52	7.04	-
2009-10	2803	1450	51.73	1276	627	90	42.95	60	7.16	-
2010-11	3433	1743	50.77	787	377	97	42.40	72	7.31	-
2011-12	3308	1756	53.08	1103	557	157	43.26	112	7.62	-
2012-13	4204	2104	50.05	1247	553	163	41.94	129	7.88	-
2013-14	3962	1903	48.03	1079	517	135	41.54	133	7.96	-
2014-15	4129	2218	53.72	1614	776	183	40.17	147	8.20	-

Cont..F 16

Duration	AI	Pregnancies	CR%	Progenies		Progenies				
				Total	Females	Calved (n)	Av. AFC (months)	Complete Recording	Av. Milk Yield (kg/day)	Daughters Available for Future Recording
2015-16	4434	2326	52.46	1693	806	174	40.66	133	8.00	-
2016-17	3807	2063	54.19	1591	802	182	41.15	145	7.92	-
2017-18	4093	2248	54.92	1724	845	217	40.58	179	7.84	-
2018-19	3977	2214	55.67	1748	798	143	37.43	114	8.54	9
2019-20	3957	2140	54.08	1530	702	-	-	-	-	110
2020-21	3480	1901	54.63	1401	722	-	-	-	-	307
2021-22	3167	1815	57.31	1458	702	-	-	-	-	422
2022-23	3766	1575	54.14*	-	-	-	-	-	-	395
Overall	**63907**	**32977**	**51.52**	**20330**	**9789**	**1818**	**41.94**	**1432**	**7.60**	**1243**

* Upto March 2023

Project Co-ordinator's observations on field unit performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC	
Total	ICAR Share		ICAR Share	Balance
15.00	15.00	15.00	15.00	0.00

- During the period from April 2022 to March 2023, 3766 artificial inseminations were performed using test bulls of 20th set. The conception rate in the field was worked out to be 54.14%.
- In this period 1986 pregnancies were confirmed and 1502 calving (males 782, females 720) were recorded. 226 daughters were also calved and monthly test day milk yield were recorded.
- The average age at first calving for these 226 daughters was 40.49 months
- The ear tagging has been done in all female progenies born in the field.
- As on 31st March 2023, 1243 female progenies of 17th to 20th set of different age are standing at various field unit centres for future recordings.

Recommendations:

- No. of AI in field should be increased to meet out the target of 4500 inseminations.
- To create awareness and active participation of farmers in FPT program.

FIELD UNIT: GADVASU, LUDHIANA

(i) Nodal agency : Coordinating unit CIRB HISAR

(ii) Participating Units : 1. CIRB, Hisar
2. GADVASU, Ludhiana
3. NDRI, Karnal

Date of start : November, 2001

OBJECTIVES:

To strengthen the ongoing sire evaluation programme of associated herd progeny testing by including field performance recording of the daughters of test bulls.

Financial Statement :

Statement showing budget sanctioned, amount spent for the period 1st April, 2022 to March, 2023.

Financial Statement for the year 2022-23 (Rs in Lakhs)

	Budget Sanctioned (Rs.)	**Amount Spent (Rs.)**
Pay & allowances	-	-
T.A.		
Contingencies		
Recurring	20,00,000	20,00,000
Equipments	-	-
Total	**20,00,000**	**20,00,000**

Staff and Infrastructure Buildup during the year :

Staff in position:

Principal Investigator : Dr. Puneet Malhotra (Associate Professor)

Sr. No.	Name & Designation of the person employed on the sanctioned post with pay scale	Pay scale	Total time spent for the project	Remarks
1.	Milk Recording Supervisor	Rs. 10300-34800+3800	-	Post withdrawn wef 31.03.2022
2.	Milk Recorder	Rs. 10300-34800+3200	-	

F 1. Herd Strength of Registered females at Different Field Centers during 2022-23

Centers/ Village	OB	Addition			Deduction		Closing Birth
		New Reg.	Birth	Purchase/ Traced	Sold/	Death/ AB	
Aitiana	308	68		0	4	0	372
Barsal	208	8		0	2	3	208
Batha Dhua	385	6		0	10	4	377
Bharowal Kalan 1 (Bharowal Khurd)	82	60		0	1	0	141
Bhundri (Gorahoor), Bhundri dairy	474	0		0	7	2	465
Boparai Kalan	32	6		0	1	0	37
Chimna	464	61		0	12	36	477
Chowkiman	273	34		0	11	2	294
Dhat	7	7		0	0	0	14
Bharowal Kalan 2 (GKB)	273	61		0	1	1	332
Gurusar Kaunke	163	4		0	2	5	160
Gidharpindi	90	42		0	0	0	132
Hans Kalan	145	56		0	0	0	201
Jandi	86	10		0	0	1	95
Jassowal	651	158		0	13	2	794
Kailpur	357	16		0	10	0	363
Kehra Bet	341	85		0	11	0	415
Khudai Chak	283	62		0	6	0	339
Mandiani	17	0		0	0	0	17
Ponna	129	12		0	3	9	129
Raqba	42	0		0	1	0	41
Sadarpura	205	42		0	6	1	240
Sawaddi Kalan (Majri)	41	0		0	6	1	34
Sawaddi Khurd	323	24		0	6	0	341
Sidhwana Bet/Leelan	55	75		0	0	0	130
Talwandi Khurd	285	69		0	9	0	345
Walipur Kalan	293	63		0	28	2	326
Walipur Khurd	287	10		0	9	0	288
Chhajjawal	25	41		0	0	0	66
Thakanbad	0	29		0	0	0	29
Sibian	0	1		0	0	0	1
Total	6324	1110		0	159	69	7203

F2. Status of breedable females at different field unit centers during 2021-22

Centers/ Village	Heifers >3 years		Buffalo (NP)		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Aitiana	100	36	20	20	10	12
Barsal	80	20	10	15	6	5
Bhatha Dhua	80	25	15	11	10	10
Bharowal Kalan 1 & 2 GKB	150	30	12	8	5	8
Bhundri 1 & 2 Gorahoor	140	70	20	22	15	6
Boparai Kalan	110	30	8	4	2	1
Chimna	130	150	15	18	8	6
Dhatt	80	15	3	1	1	1
Walipur Kalan	150	50	15	14	5	5
Gurusar	170	30	10	10	13	5
Jandi	170	30	10	8	5	4
Kailpur	90	80	7	10	8	6
Kehra Bet	90	65	30	40	8	7
Khudai Chak	95	70	10	12	12	4
Pandori	30	20	2	1	1	1
Raqba	80	35	3	2	2	1
Sawaddi Khurd	160	65	30	25	10	10
Walipur Khurd 1 & 2	180	80	20	20	15	7

Chowkiman	210	50	15	14	10	6
Sadarpura	210	60	20	12	13	9
Jasowal	270	140	30	35	30	10
Mandiani	40	06	2	1	2	1
Talwandi Khurd	160	90	30	25	12	6
Sidhwan bet	150	50	20	18	5	4
Thakanbad	120	100	40	30	15	10
Gidarpindi	100	80	30	28	12	8
Sibian	80	70	25	25	10	5
Hans kalan	80	80	15	15	10	10
Total	**3505**	**1627**	**467**	**444**	**255**	**168**

F3. Monthly A.I.'s at different field unit centers during the period from 4/2022 to 3/2023

Centre/ month	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Grand Total
Aitiana	25	20	25	20	25	20	35	45	25	35	35	40	350
Barsal	14	10	10	15	27	20	15	20	7	10	10	10	168
Bharowal Khurd	25	25	15	26	15	20	20	30	20	20	25	32	273
Bhatha Dhua	10	10	10	10	5	5	10	10	15	10	5	8	108
Bhundri Dairy	5	5	5	5	5	5	10	5	5	5	5	5	65
Boparai Kalan	10	12	15	15	7	10	15	15	15	8	15	16	153
Chhajjawal	13	23	20	20	23	25	35	20	20	30	25	30	284
Chimna	40	30	30	30	30	35	35	25	35	50	45	33	418
Chowkiman	15	10	10	12	15	15	25	20	18	15	15	14	184
Dhat	0	0	0	0	0	40	35	42	25	34	25	8	209
G.K.B.	0	4	3	0	0	5	5	5	5	3	5	0	35
Giderpindi	30	35	40	40	40	35	45	35	65	50	45	50	510
G K B	10	15	8	20	10	20	30	15	22	25	30	27	232
Gorahoor	5	10	0	10	0	0	0	0	0	0	0	0	25
Gurusar	20	20	10	20	10	20	5	10	10	10	15	10	160
Hans Kalan	20	25	25	34	28	20	20	25	55	20	30	12	314
Jainpur Dairy	10	0	0	0	0	0	0	0	0	0	0	0	10
Jandi	30	20	20	20	20	16	25	35	20	25	10	15	256
Jassowal	60	37	55	60	60	62	70	60	90	100	80	85	819
Kailpur	40	35	30	30	25	30	40	40	35	50	35	30	420
Khera Bet	0	15	20	20	25	20	40	30	25	30	40	30	295
Khudai Chak	20	10	15	10	10	0	0	0	0	0	0	0	65
Leelan/Sidhwan Bet	0	10	15	20	15	10	25	25	20	25	25	21	211
Ponna	25	20	20	15	9	10	10	13	15	10	10	15	172
Raqba	3	0	5	5	0	10	5	10	5	5	5	5	58
Sadarpura	15	20	25	25	15	15	28	22	25	20	32	26	268
Sawaddi Kalan/majri	15	15	25	25	10	10	20	25	10	10	10	20	195
Sawaddi Khurd	10	20	20	20	15	15	15	33	30	30	30	15	253
Sibian	0	0	10	25	21	15	20	35	25	0	0	15	166
Talwandi Khurd	30	35	35	35	25	35	30	35	40	45	45	35	425
Thakanbad	25	40	26	30	70	51	60	68	51	37	34	34	526
Walipur Kalan	40	45	30	35	35	30	40	40	40	40	38	50	463
Walipur Khurd	27	25	25	20	20	25	26	25	10	20	15	15	253
Grand total	**592**	**601**	**602**	**672**	**615**	**649**	**794**	**818**	**783**	**772**	**739**	**706**	**8343**

F4. Bull-wise A.I's. at different field unit centers during the period from4/2022 to 3/2023

Bull No.	Set no.	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Grand Total
1994	9								6	3			1	10
2269	13						2			1		1		4
1454	20	61			282	24		206	138	108	80			899
2793	20	25									125	208	232	590
2831	20		40	26		30	37		19	14	14	9	53	242
2838	20			191	6					117	368	151	158	991
2847	20								90	35				125
2848	20		25											25
2850	20								52	4				56
3004	20			8	19	3	13			2	4	17	62	128

5427	20		159	195	25								23	402
5481	20	25	15				178	25						243
5500	20				190	110			210	285	15			810
5505	20					210	86	10	20	20				346
5511	20								40	35			61	136
5588	20	45					67	365	149					626
5592	20					218	189	95						502
7584	20	300	110								105	35		550
7649	20	136	252	27								80	35	530
19M	20			155	150	20	77	93	94	159	61	238	81	1128
Grand Total		**592**	**601**	**602**	**672**	**615**	**649**	**794**	**818**	**783**	**772**	**739**	**706**	**8343**

F5: Month –wise Conception at different field unit centers for period from 12/2022 to 11/2023

Centre	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Grand Total
Aitiana	20	15	13	21	13	10	12	10	13	10	18	23	178
Barsal	10	6	5	3	8	5	5	8	14	10	8	10	92
Bharowal khurd	27	10	10	14	14	14	7	13	7	11	12	15	154
Bhatha dhua	5	5	5	5	5	5	4	5	2	2	4	4	51
Bhundri dairy	3	2	2	2	2	2	2	3	2	2	4	2	28
Boparai kalan	15	3	6	8	5	7	8	8	4	6	8	8	86
Chhajjawal	13	11	13	9	7	12	11	11	12	13	18	10	140
Chimna	20	15	15	24	17	14	13	14	14	15	17	12	190
Chowkiman	9	8	8	5	8	5	5	7	8	8	13	10	94
Churchak										18	18	22	58
Dhat	2	3	3	3		2	2			3	3	3	24
Giderpindi	34	18	14	15	16	18	18	19	20	17	23	18	230
Gkb	7	8	8	11	4	6	3	9	4	9	14	6	89
Gorahoor	11		3		3	6		5					28
Gurusar	14	13	13	11	8	9	4	9	5	8	2	5	101
Hans kalan	18	5	13	20	10	13	12	18	15	11	10	13	158
Jainpur dairy	9	10	14	19	3								55
Jandi	10	21	19	20	16	10	10	9	11	9	14	15	164
Jassowal	60	25	35	28	30	19	25	30	30	31	35	24	372
Kailpur	10	10											20
Khera bet	17	14	14	19	20	17	14	13	12	17	19	23	199
Khudai chak	6		2			7	9	10	14	12	22	13	95
Leelan/sidhwan bet	23	13	11	15	11	6	7	6	6				98
Noorpur bet						6	7	9	7	6	12	12	59
Ponna	11	8	7	7	10	8	9	7	4	4	5	6	86
Raqba	3	3	3	3	2		3	3		6	3	5	34
Sadarpura	14	8	11	8	9	11	11	13	7	7	16	11	126
Sawaddi khurd	9	7	10	15	9	7	12	12	6	6	11	13	117
Sibian	14	6	10	8	6	9	9	9	8	8	9	16	112
Sohian							5	13	11	9	10	18	66
Talwandi khurd	30	20	22	20	14	17	14	16	12	17	14	15	211
Thakanbad	24	20	25	15	10	19	13	15	33	22	30	39	265
Walipur kalan	25	17	22	22	20	21	15	17	15	15	19	20	228
Walipur khurd	12	12	10	11	14	12	11	10	10	12	12	12	138
Grand Total	**485**	**316**	**346**	**361**	**294**	**297**	**280**	**331**	**306**	**324**	**403**	**403**	**4146**

F6: Month –wise Calving at different field unit centers during the period from 4/2022 to 3/2023

Month	Apr-22		May-22		Jun-22		Jul-22		Aug-22		Sep-22		Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		Total	
CENTRE	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**
Aitiana	4	4	5	5	7	5	9	10	9	9	9	10	7	7	8	8	6	6	5	5	9	8	6	5	84	82
Barsal	2	2	2	2	3	2	3	3	3	3	3	3	3	3	4	4	2	2	2	2	2	1	4	3	33	30
Bharowal khurd	4	3	4	4	6	6	5	4	6	5	7	7	7	9	9	12	4	3	4	4	5	6	5	6	66	69
Bhatha dhua	1	1	2	3	2	0	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	2	2	21	21
Bhundri dairy	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	10	13
Boparai kalan	5	5	2	2	5	3	2	3	4	4	3	2	2	2	6	6	1	1	3	2	3	3	3	2	39	35
Chhajjawal	3	2	3	3	4	3	2	2	6	6	5	5	6	6	5	5	3	3	5	5	5	4	3	3	50	47
Chimna	5	6	3	4	3	5	5	8	4	7	3	5	5	7	6	11	5	8	4	8	8	11	6	9	57	89
Chowkiman	2	1	2	2	4	4	4	4	3	3	5	5	4	4	4	3	3	3	4	3	2	2	3	3	40	37
Dhat	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1			14	11
Giderpindi	2	3	4	4	3	2	4	3	5	7	5	4	7	9	13	14	6	8	5	6	6	5	6	7	66	72
Gkb	2	3	2	4	3	3	3	4	3	5	2	4	4	6	3	3	3	4	3	4	4	5	1	2	33	47
Gorahoor	2	2	3	3	4	3	4	4	5	3	3	3	2	3	4	4			1	1			1	1	29	27
Gurusar	2	2	2	3	2	2	3	4	2	2	4	7	3	4	5	9	5	5	4	7	5	5	2	4	39	54
Hans kalan	4	5	6	6	3	3	4	4	6	6	7	7	5	5	6	6	2	2	5	5	7	7	4	4	59	60
Jainpur dairy							6	5	5	7	7	6	5	8	3	4	4	5	4	7	7	9	1	2	42	53
Jandi	6	7	6	8	3	2	6	5	7	7	6	7	10	12	4	3	8	8	8	7	7	8	5	7	76	81
Jassowal	10	10	10	15	15	14	14	14	17	17	17	17	18	18	23	23	11	11	12	12	10	10	11	11	168	172
Kailpur	6	9	7	7	6	5	7	7	7	7	3	2	3	4	5	5	4	5							48	51
Khera bet	7	10	8	8	7	7	8	9	9	7	8	6	9	5	9	7	7	6	7	6	9	8	9	8	97	87
Khudai chak	3	4	2	3	3	3	3	2	3	3	5	5	4	4	3	2			1	1					27	27
Leelan/sidhwan bet	4	3	4	4	5	4	3	3	4	5	5	6	7	9	9	8	5	5	4	4	5	6	5	4	60	61
Ponna	3	3	2	3	3	4	3	5	2	4	2	4	3	4	5	6	3	4	2	4	2	4	3	5	33	50
Raqba	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	2	1	1	1	14	13
Sadarpura	4	4	4	3	3	2	4	2	4	4	4	5	5	6	5	6	3	3	4	5	3	2	4	3	47	45
Sawaddi khurd	3	4	3	3	3	3	2	1	4	4	4	4	3	4	3	3	3	2	4	4	5	6	3	4	40	42
Sibian	2	2	2	2	3	2	3	4	4	4	5	6	3	4	5	5	3	2	4	3	3	4	3	2	40	40
Talwandi khurd	5	6	9	10	7	7	7	7	9	12	9	7	9	6	14	14	10	9	10	10	10	9	7	6	106	103
Thakanbad											7	10	13	12	7	14	10	9	10	12	5	8	3	6	55	71
Walipur kalan	7	8	7	7	6	5	8	8	11	8	9	8	10	8	11	11	8	6	11	9	11	11	9	9	108	98
Walipur khurd	3	4	5	5	3	3	5	5	4	5	7	7	6	5	6	3	6	5	4	4	5	6	6	6	60	58
Grand Total	**104**	**116**	**112**	**126**	**120**	**105**	**131**	**134**	**149**	**159**	**158**	**167**	**168**	**179**	**190**	**205**	**130**	**130**	**137**	**145**	**145**	**154**	**117**	**126**	**1661**	**1746**

F= Female M = Male

F7: Bull–wise Conception at different field unit centers during the period from 4/2022 to 3/2023

BULL NO	SET NO	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Grand Total
1994	9												3	3
2269	13										0			0
1315	19	28												28
2674	19	132												132
2737	19	33												33
5181	19	7												7
5310	19	85												85
5320	19	22												22
5333	19	13												13
5374	19	34												34
7604	19	131												131
1454	20				58	35			137	11		103	62	406
2793	20			60	65	14								139
2831	20						19	13		15	16		11	74
2838	20							84	3					87
2847	20												45	45
2848	20						12							12
2850	20												29	29
3004	20		20					3	9	2	7			41
5427	20		59	116	45		80	92	12					404
5481	20				81	12	7				87	14		201
5500	20								96	55			103	254
5505	20									103	44	4	10	161
5511	20												20	20
5588	20				40	22					33	186	75	356
5592	20									108	96	48		252
7584	20		85	114	53	143	53							448
7649	20		152	56	19	68	126	12						433
19M	20							76	74	12	41	48	45	296
Grand Total		**485**	**316**	**346**	**361**	**294**	**297**	**280**	**331**	**306**	**324**	**403**	**403**	**4146**

F8: Bull–wise calving at different field unit centers during the period from 4/2022 to 3/2023

Month		Apr-22		May-22		Jun-22		Jul-22		Aug-22		Sep-22		Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		Total	
Bull No.	Set No.	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
1315	19					38	34	94	98	34	34			8	10	10	11									184	187
2674	19			3	3	29	28	21	17							52	52									105	100
2737	19															14	14									14	14
2759	19	62	67	103	115	50	40																			215	222
5181	19	11	13	3	5	3	3							10	14	3	2									30	37
5232	19	13	15	3	3			3	5																	19	23
5246	19	2	1																							2	1
5310	19													6	8	32	38									38	46
5320	19	9	10									53	61	67	67	10	9									139	147
5333	19									34	39	76	75	19	19	6	6									135	139
5374	19	7	10									15	18	31	34	13	15									66	77
7604	19							13	14	81	86	14	13	27	27	50	58									185	198
1454	20																					21	24	14	14	35	38
2793	20																			23	27	26	29	5	7	54	63
3004	20																	10	9							10	9
5427	20																	22	24	46	48	18	19			86	91
5481	20																					33	36	4	6	37	42
5588	20																					19	19	9	10	28	29
7584	20																	36	34	46	48	19	19	56	62	157	163
7649	20																	62	63	22	22	9	8	29	27	122	120
Grand Total		**104**	**116**	**112**	**126**	**120**	**105**	**131**	**134**	**149**	**159**	**158**	**167**	**168**	**179**	**190**	**205**	**130**	**130**	**137**	**145**	**145**	**154**	**117**	**126**	**1661**	**1746**

F = Female M = Male

F9. Live female progeny at field unit centers from (0 to ≤ 6 mo.) as on 3/2023.

317 live female progenies (0 to ≤ 6 month.) available in the field unit centres.

F10. Live female progeny at different field unit centers from (>6 to ≤ 12mo.) as on 3/2023.

548 live female progenies (>6 to ≤ 12month) available in the field unit centres.

F11: Live female progeny at different field unit centers (>1 to ≤3 years) as on 3/2023

2096 live female progeny (>1 to ≤3 years) available in the field unit centres.

F12: Live female progeny at different field unit centers (>3 years) as on 3/2023

5103 live female progenies (>3 years) available in the field unit centres.

F13: Daughters calved at different field unit centers during 2022-2023

375 daughters calved during the report period at different field unit centres.

F14: Daughters recorded at different field units during 2022-2023

Test day milk recording of 370 daughters completed at different field unit during the period and 305 days average milk yield was 2549.65 kg

F15. Bull-wise A.I., Conception, Calving and Daughter's retained till completion of milk recording

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
1667	6	159	56	18	7	0	0	2	2	02
1706	6	421	141	130	61	0	0	4	4	4
1713	6	423	208	121	54	0	0	0	0	0
1717	6	497	168	145	65	0	0	4	4	4
1933	6	27	11	5	3	0	0	0	0	0
1944	6	25	11	5	2	0	0	0	0	0
4506	6	210	76	49	21	0	0	1	1	1
4523	6	117	82	65	30	0	0	4	4	4
4619	6	99	52	26	11	0	0	0	0	0
4637	6	124	48	30	12	0	0	3	3	3
4640	6	221	90	75	34	0	0	6	6	6
1727	7	301	109	88	42	0	0	5	5	5
1746	7	594	219	132	67	0	0	9	9	9
1749	7	314	110	84	39	0	0	0	0	0
1796	7	200	80	45	17	0	0	1	1	1
2121	7	85	34	13	6	0	0	0	0	0
2133	7	103	32	26	12	0	0	3	3	3
2184	7	36	28	27	13	0	0	0	0	0
2331	7	61	19	13	7	0	0	2	2	2
2363	7	61	20	8	3	0	0	0	0	0
1492	8	134	43	40	18	0	0	1	1	1
1509	8	101	30	26	13	0	0	1	1	1
1867	8	604	202	173	78	0	0	9	9	9
1868	8	520	199	169	85	0	0	8	8	8
1875	8	980	366	236	105	0	0	7	7	7
1893	8	342	110	88	41	0	0	1	1	1
2250	8	84	33	27	14	0	0	0	0	0
2308	8	136	48	27	12	0	0	3	3	3
2396	8	60	22	16	6	0	0	0	0	0
2422	8	63	30	22	10	0	0	0	0	0
2479	8	81	38	27	13	0	0	1	1	1
2522	8	77	35	28	14	0	0	2	2	2
4813	8	21	12	5	2	0	0	1	1	1

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
4865	8	103	51	37	20	0	0	0	0	0
5049	8	88	34	23	10	0	0	0	0	0
5054	8	73	25	10	6	0	0	0	0	0
5083	8	75	40	28	14	0	0	0	0	0
1575	9	76	29	19	9	0	0	1	1	1
1903	9	785	299	219	97	0	0	14	14	14
1913	9	571	224	146	66	0	0	7	7	7
1940	9	1107	427	272	121	0	0	18	18	18
1964	9	1014	378	267	118	0	0	14	14	14
1994	9	866	304	209	92	0	0	15	15	15
2582	9	165	72	48	26	0	0	6	6	6
2592	9	146	58	35	13	0	0	2	2	2
2720	9	105	39	17	6	0	0	0	0	0
2910	9	54	22	12	6	0	0	0	0	0
5112	9	95	54	40	18	0	0	5	5	5
5197	9	33	13	10	4	0	0	1	1	1
5218	9	76	27	19	9	0	0	0	0	0
5258	9	36	13	6	3	0	0	0	0	0
5312	9	37	14	12	6	0	0	0	0	0
1693	10	52	19	15	6	0	0	0	0	0
2045	10	1431	555	425	187	0	0	43	43	43
2062	10	1190	481	354	162	0	0	33	33	33
2073	10	1022	388	279	129	0	0	23	23	23
2074	10	945	347	253	111	0	0	16	16	16
2083	10	497	195	145	66	0	0	15	15	15
2084	10	10	3	2	1	0	0	0	0	0
2990	10	50	20	13	5	0	0	1	1	1
3103	10	101	47	28	12	0	0	1	1	1
3631	10	70	28	19	8	0	0	1	1	1
5396	10	28	11	9	3	0	0	0	0	0
2133	11	3263	1202	759	379	0	0	59	59	59
2148	11	2905	1068	706	338	0	0	77	77	77
2154	11	2558	975	647	322	0	0	66	66	66
3226	11	76	32	23	13	0	0	1	1	1
3255	11	220	104	67	32	0	0	8	8	8
3267	11	53	37	11	5	0	0	2	2	2
3591	11	46	17	12	7	0	0	2	2	2
5496	11	45	18	10	5	0	0	0	0	0
5516	11	35	14	10	5	0	0	0	0	0
HAU12	11	217	91	65	33	0	0	3	3	3
ND6	11	23	8	4	2	0	0	1	1	1
ND8	11	37	13	12	6	0	0	0	0	0
2176	12	2980	1159	913	429	0	0	73	73	73
2177	12	2520	956	672	315	0	0	85	85	85
2185	12	2420	893	626	293	0	0	74	74	74
3598	12	104	36	26	13	0	0	3	3	3
HAU183	12	80	29	17	9	0	0	2	2	2
HAU220	12	35	13	9	5	0	0	0	0	0
KHURANA	12	2	1	0	0	0	0	0	0	0
REDHU11	12	71	23	17	9	0	0	1	1	1
2234	13	5060	2129	1651	749	0	0	199	182	173
2269	13	3353	1445	1158	536	0	0	102	95	93

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
2304	13	6134	2631	2115	985	0	0	258	238	230
3964	13	131	52	45	25	0	0	11	10	10
4059	13	214	85	69	32	0	0	13	11	11
5943	13	31	13	10	5	0	0	1	1	1
2357	14	1640	701	578	262	0	0	76	64	62
2369	14	5454	2323	2001	973	0	0	179	150	146
4093	14	253	109	91	42	0	0	20	14	13
4100	14	110	48	45	24	0	0	16	12	11
4196	14	143	60	73	50	0	0	6	6	6
4439	14	214	87	76	35	0	0	24	22	21
6014	14	146	63	60	31	0	0	19	15	15
6044	14	166	70	68	33	0	0	14	10	9
6136	14	202	89	85	42	0	0	32	26	25
2371	15	854	378	297	137	0	0	98	56	50
2412	15	820	367	304	139	0	0	70	51	50
2417	15	1605	707	592	284	0	0	163	106	99
2429	15	991	430	358	171	0	0	109	52	48
2459	15	917	383	352	158	0	0	54	34	32
4324	15	1121	505	419	193	0	0	67	46	43
4328	15	701	314	265	125	0	0	60	37	36
4354	15	1069	461	369	168	0	0	103	56	51
4363	15	588	257	202	98	0	0	59	37	36
4403	15	624	272	215	97	0	0	55	29	27
4438	15	564	257	211	96	0	0	54	35	33
6007	15	579	247	213	97	0	0	29	12	11
6139	15	407	183	147	71	0	0	40	24	21
6290	15	371	159	129	59	0	0	30	22	20
6405	15	411	180	142	63	0	0	35	23	23
1027	16	425	190	161	74	0	0	26	18	16
1053	16	278	127	108	48	0	0	18	14	11
1064	16	0	0	0	0	0	0	0	0	0
2383	16	1069	471	386	177	0	0	112	63	51
2467	16	856	383	306	146	0	0	72	51	34
2501	16	1161	520	419	199	1	0	130	68	44
4592	16	386	173	136	61	0	0	23	17	10
4623	16	0	0	0	0	0	0	0	0	0
4705	16	1074	476	392	188	0	0	118	64	34
4889	16	888	403	330	157	0	0	84	50	32
6379	16	174	82	66	33	0	0	11	8	6
6409	16	260	117	95	42	0	0	21	9	7
6646	16	341	154	132	63	0	0	39	24	21
6753	16	52	24	18	7	0	0	0	0	0
29M	16	489	222	175	82	0	0	44	23	15
1148	17	674	327	285	128	0	0	43	3	0
2558	17	1308	604	511	237	0	0	146	34	2
2565	17	1192	545	460	215	1	4	111	39	3
2594	17	1335	609	536	259	0	0	164	39	5
2607	17	1291	610	525	252	0	0	174	32	3
4687	17	857	392	328	166	0	0	129	42	7
4715	17	741	336	288	142	0	0	92	23	2
4733	17	454	209	176	86	0	0	50	8	2
4837	17	584	237	197	98	0	0	67	12	2

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
7010	17	286	132	110	56	0	0	29	18	7
6942	17	381	190	157	76	0	0	44	0	0
51M	17	890	411	299	123	0	0	103	23	12
53M	17	362	173	201	119	0	0	33	0	0
B-1-330	17	368	171	151	69	0	0	33	0	0
Sikander	17	207	96	83	41	0	0	25	3	0
Dara	17	147	78	69	33	0	0	17	0	0
4905	18	977	472	427	211	0	0	129	0	0
4928	18	0	0	0	0	0	0	0	0	0
4995	18	803	415	372	188	0	0	92	0	0
5031	18	0	0	0	0	0	0	0	0	0
1150	18	689	331	306	160	0	0	92	0	0
1198	18	0	0	0	0	0	0	0	0	0
1208	18	761	382	318	148	0	82	23	0	0
1209	18	763	389	356	176	0	0	106	0	0
1219	18	952	489	421	210	0	21	131	0	0
2645	18	1540	762	644	305	0	34	119	0	0
2676	18	1416	684	602	284	0	21	148	0	0
2677	18	685	328	293	145	0	0	81	0	0
2689	18	743	370	317	151	0	2	58	0	0
7094	18	582	294	248	115	0	0	70	0	0
7147	18	748	382	334	163	0	4	85	0	0
7227	18	763	392	337	163	0	2	98	0	0
7263	18	563	298	246	110	0	8	53	0	0
5147	18	1051	541	451	208	0	53	93	0	0
1315	19	940	442	371	184	126	0	0	0	0
2674	19	1205	580	496	247	73	100	0	0	0
2737	19	1070	533	452	217	8	129	0	0	0
2759	19	1495	724	644	312	98	111	0	0	0
2767	19	0	0	0	0	0	0	0	0	0
2781	19	0	0	0	0	0	0	0	0	0
5181	19	833	391	334	156	8	84	0	0	0
5232	19	839	410	352	163	5	94	0	0	0
5246	19	885	420	372	179	0	133	0	0	0
5310	19	922	437	367	166	35	78	0	0	0
5320	19	1038	487	409	197	92	43	0	0	0
5333	19	1004	469	381	187	97	46	0	0	0
5374	19	745	363	296	143	35	65	0	0	0
5375	19	0	0	0	0	0	0	0	0	0
7604	19	977	464	383	185	119	0	0	0	0
1454	20	1015	406	73	35	0	0	0	0	0
2793	20	850	139	117	54	6	0	0	0	0
3004	20	168	41	19	10	3	0	0	0	0
5481	20	408	201	79	37	0	0	0	0	0
5427	20	851	404	177	86	45	0	0	0	0
5588	20	713	356	57	28	0	0	0	0	0
7584	20	1059	448	320	157	49	0	0	0	0
7649	20	1012	433	242	122	64	0	0	0	0
2831	20	242	74	0	0	0	0	0	0	0
2838	20	991	87	0	0	0	0	0	0	0
2847	20	125	45	0	0	0	0	0	0	0
2848	20	25	12	0	0	0	0	0	0	0
2850	20	56	29	0	0	0	0	0	0	0
5500	20	810	254	0	0	0	0	0	0	0

Bull No.	Set No.	A.I.	P.D.	Calving		Daughters retained up to			Calving	Complete
				Total	Female	1 year	2 years	3 years		
5505	20	346	161	0	0	0	0	0	0	0
5511	20	136	20	0	0	0	0	0	0	0
5592	20	502	252	0	0	0	0	0	0	0
19M	20	1128	296	0	0	0	0	0	0	0
Total		**124701**	**53042**	**40619**	**19230**	**865**	**1114**	**6083**	**2928**	**2483**

F.16 Performance of FPT Programme since Inception

Duration	A.I.	Pregnancies	CR%	Calvings	Females born	Daughters recorded	Av. AFC (Mo.)	Av. Milk Yield (kg./days)	Daughters available for recording
2001-02	493	184	37.3	-	-	3	56.1	7.9	-
2002-03	1908	723	37.9	229	135	20	49.7	7.8	-
2003-04	1858	629	33.9	472	245	26	51.1	8.0	-
2004-05	2435	726	29.8	466	215	14	46.1	8.0	-
2005-06	2822	967	34.3	699	333	55	49.7	8.0	-
2006-07	3313	1178	35.6	755	357	50	48.0	8.4	-
2007-08	4015	1438	35.8	870	368	82	47.9	8.3	-
2008-09	4147	1622	39.1	1149	491	85	49.7	8.1	-
2009-10	5415	1878	34.7	1140	538	155	49.7	8.2	-
2010-11	6846	2289	33.4	1274	603	183	49.2	8.1	-
2011-12	7298	2814	38.6	1800	853	172	49.0	8.1	7
2012-13	8517	3463	40.7	2497	1155	257	47.5	7.9	30
2013-14	8014	3380	42.2	2831	1303	208	47.1	8.1	192
2014-15	8316	3810	45.8	2958	1447	68	42.5	8.2	606
2015-16	6325	3054	48.3	3013	1383	1	34.9	8.0	591
2016-17	5289	2464	46.6	2236	1049		0	0	480
2017-18	6344	2579	40.7	1933	899		0	0	788
2018-19	7779	3299	42.4	2468	1192		0	0	503
2019-20	8690	4307	49.6	3235	1555		0	0	0
2020-21	7991	4277	53.6	3878	1883	353	0	8.3	1229
2021-22	8543	3815	44.6	3309	1565	381	54.1	8.2	769
2022-23	8343	4146	49.7	3407	1661	370	52.3	8.2	887
Overall	**124701**	**53042**	**42.5**	**40619**	**19230**	**2483**	**48.5**	**8.1**	**6082**

A.I., Conception, Calvings and Daughters Retained –13th Set

Bull No.	2234	2269	2304	3964	4059	5943	Total
AI	5060	3353	6134	131	214	31	**14923**
Pregnancies	2129	1445	2631	52	85	13	**6355**
Daughter Born	749	536	985	25	32	5	**2332**
Daughters Ear tagged	199	102	258	11	13	1	**584**
Daughter Calved	182	95	238	10	11	1	**537**
Complete Recording	173	93	230	10	11	1	**518**
Daughter Available	26	9	28	1	2	0	**66**

A.I., Conception, Calvings and Daughters Retained –14th Set

Bull No.	2357	2369	4093	4100	4196	4439	6014	6044	6136	Total
AI	1640	5454	253	110	143	214	146	166	202	**8328**
Pregnancies	701	2323	109	48	60	87	63	70	89	**3550**
Daughter Born	262	973	42	24	50	35	31	33	42	**1492**
Daughters available	76	179	20	16	6	24	19	14	32	**386**
Daughter Calved	64	150	14	12	6	22	15	10	26	**319**
Complete Recorded	62	146	13	11	6	21	15	9	25	**308**
Daughters to be recorded	14	33	7	5	0	3	4	5	7	**78**

A.I., Conception, Calvings and Daughters Retained –15th Set

Bull No.	**2371**	**2412**	**2417**	**2429**	**2459**	**4324**	**4328**	**4354**	**4363**	**4403**	**4438**	**6007**	**6139**	**6290**	**6405**	Total
AI	854	820	1605	991	917	1121	701	1069	588	624	564	579	407	371	411	**11622**
Pregnancies	378	367	707	430	383	505	314	461	257	272	257	247	183	159	180	**5100**
Daughter Born	137	139	284	171	158	193	125	168	98	97	96	97	71	59	63	**1956**
Daughters available	98	70	163	109	54	67	60	103	58	55	54	29	40	30	35	**1025**
Daughter Calved	56	51	106	52	34	46	37	56	37	29	35	12	24	22	23	**620**
Daughters Complete Recorded	50	50	99	48	32	43	36	51	36	27	33	11	21	20	23	**580**
Daughters to be recorded	48	20	64	61	22	24	24	52	22	28	21	18	19	10	12	**445**

A.I., Conception, Calvings and Daughters Retained –16th Set

Bull No.	**1027**	**1053**	**1064**	**2383**	**2467**	**2501**	**4592**	**4623**	**4705**	**4889**	**6379**	**6409**	**6646**	**6753**	**29M**	**TOTAL**
AI	425	278	0	1069	856	1161	386	0	1074	888	174	260	341	52	489	**7453**
Pregnancies	190	127	0	471	383	520	173	0	476	403	82	117	154	24	222	**3342**
Daughter Born	74	48	0	177	146	199	61	0	188	157	33	42	63	7	82	**1277**
Daughters available	26	18	0	112	72	131	23	0	118	84	11	21	39	0	44	**699**
Daughter Calved	19	14	0	66	53	73	17	0	66	51	8	10	25	0	23	**425**
Daughters Complete Recorded	16	11	0	51	34	44	10	0	34	32	6	7	21	0	15	**281**
Daughters to be recorded	10	7	0	61	38	87	13	0	84	52	5	14	18	0	29	**418**

A.I., Conception, Calvings and Daughters Retained –17th Set

Bull No.	**1148**	**2558**	**2565**	**2594**	**2607**	**4687**	**4715**	**4733**	**4837**	**6942**	**7010**	**51M**	**53M**	**B-1-330**	**Dara**	**Sikander**	**Total**
AI	674	1308	1192	1335	1291	857	741	454	584	381	286	890	362	368	147	207	**11077**
Pregnancies	327	604	545	609	610	392	336	209	237	190	132	411	173	171	78	96	**5120**
Daughter Born	128	237	215	259	252	166	142	86	98	76	56	123	119	69	33	41	**2100**
Daughters available	43	146	116	164	174	129	92	50	67	29	44	103	33	33	17	25	**1265**
Daughter Calved	3	34	39	39	32	42	23	8	12	0	18	23	0	0	0	3	**276**
Daughters Complete Recorded	0	2	3	5	3	7	2	2	2	0	7	12	0	0	0	0	**45**
Daughters to be recorded	43	144	113	159	171	122	90	48	65	29	37	91	33	33	17	25	**1220**

A.I., Conception, Calvings and Daughters Retained –18th Set

Bull No.	**1150**	**1198**	**1208**	**1209**	**1219**	**2645**	**2676**	**2677**	**2689**	**4905**	**4928**	**4995**	**5031**	**7094**	**7147**	**7227**	**7263**	**5147**	**Total**
AI	689	0	761	763	952	1540	1416	685	743	977	0	803	0	582	748	763	563	1051	**13036**
Pregnancies	331	0	382	389	489	762	684	328	370	472	0	415	0	294	382	392	298	541	**6529**
Daughter Born	160	0	148	176	210	305	284	145	151	211	0	188	0	115	163	163	110	208	**2737**
Daughters available	92	0	105	106	152	153	169	81	60	129	0	92	0	70	89	100	61	146	**1605**
Daughter Calved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Complete Recorded	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daughters to be recorded	92	0	105	106	152	153	169	81	60	129	0	92	0	70	89	100	61	146	**1605**

A.I., Conception, Calvings and Daughters Retained –19th Set

Bull No.	**1315**	**2674**	**2737**	**2759**	**2767**	**2781**	**5181**	**5232**	**5246**	**5310**	**5320**	**5333**	**5374**	**5375**	**7604**	**Total**
AI	940	1205	1070	1495	0	0	833	839	885	922	1038	1004	745	0	977	**11953**
Pregnancies	442	580	533	724	0	0	391	410	420	437	487	469	363	0	464	**5720**
Daughter Born	184	247	217	312	0	0	156	163	179	166	197	187	143	0	185	**2336**
Daughters available	126	173	137	209	0	0	92	99	133	113	135	143	100	0	119	**1579**
Daughter Calved																
Complete Recorded																
Daughters to be recorded	126	173	137	209	0	0	92	99	133	113	135	143	100	0	119	**1579**

A.I., Conception, Calvings and Daughters Retained –20th Set

Bull No.	2793	2814	2831	2838	2847	2848	2850	3004	5427	7584	7649	5481	1454	5588	5500	5505	5511	5592	19M	**TOTAL**
AI	850	0	242	991	125	25	56	168	851	1059	1012	408	1015	713	810	346	136	502	**1128**	**10437**
Pregnancies	139	0	74	87	45	12	29	41	404	448	433	201	406	356	254	161	20	252	296	**3658**
Daughter Born	54	0	0	0	0	0	0	10	86	157	122	37	35	28	**0**	**0**	**0**	**0**	**0**	**529**
Daughters available	6	0	0	0	0	0	0	3	45	49	64	0	0	0	**0**	**0**	**0**	**0**	**0**	**167**
Daughter Calved																				
Complete Recorded																				
Daughters to be recorded																				

A.I., Conception, Calvings and Daughters Retained –9th Set (Nominated Mating in field)

Bull No.	1994															**TOTAL**
AI	10															**10**
Pregnancies	3															**3**
Daughter Born																
Daughters available																
Daughter Calved																
Daughters Complete Recorded																
Daughters to be recorded																

Set-wise AI, Conception and daughters retained

Set no.	No. of Bulls used	AI	Preg.	Calving		Daughters Retained			Daughters Recorded	Av. AFC (Mo.)	Av. Milk Yield (kg)	Daughters to be recorded
				Total	Female	Up to 1Year	Up to 2 Year	3 Year & above				
6th	11	2323	943	669	300	0	0	24	24	52.0	7.9	0
7th	9	1755	651	436	206	0	0	20	20	49.4	8.0	0
8th	17	3542	1318	982	461	0	0	34	34	50.3	8.1	0
9th	15	5166	1973	1331	594	0	0	83	83	47.6	8.2	0
10th	11	5396	2094	1542	690	0	0	133	133	48.1	8.3	0
11th	12	9478	3579	2326	1147	0	0	219	219	50.4	8.1	0
12th	8	8212	3110	2280	1073	0	0	238	238	49.4	8.1	0
13th	6	14923	6355	5048	2332	0	0	584	518	75.5	7.6	0
14th	9	8328	3550	3077	1492	0	0	386	308	76.0	7.8	0
15th	15	11622	5100	4215	1956	0	0	1026	580	62.2	8.2	42
16th	15	7453	3342	2724	1277	1	0	698	281	48.8	8.2	189
17th	16	11077	5120	4376	2100	1	4	1260	45	44.4	8.2	656
18th	17	13036	6529	5672	2737	0	227	1378	0	0	0	0
19th	15	11953	5720	4857	2336	696	883	0	0	0	0	0
20th	18	10437	3658	1084	529	167	0	0	0	0	0	0
Total	**194**	**124701**	**53042**	**40619**	**19230**	**865**	**1114**	**6083**	**2483**	**54.5**	**8.1**	**887**

Bull- wise additional daughters completing 1st lactation from 13th set

Bull No.	Daughter No	Date of birth	Date of calving	Age at 1st calving (days)	Lact length	Lact. Yield
2269	5176	5-Jun-15	16-Mar-22	2476	305	2517.35
2304	3515	15-Jun-15	07-May-21	2153	305	2564.7
4059	5516	15-Mar-15	10-Jun-21	2279	305	2277.25

Bull- wise additional daughters completing 1st lactation from 14th Set

Bull No.	Daughter No.	Date of birth	Date of calving	Age at 1st calving	Lact. Length	Milk Yield
2357	5476	30-Jan-15	24-Aug-21	2398	305	2423.05
2357	3531	9-Jul-15	07-Aug-21	2221	305	2643.2
2357	5488	29-Jan-15	07-Oct-21	2443	305	2365.05
2369	3506	21-Mar-15	10-Apr-21	2212	305	2487.5
6136	5470	16-Feb-15	18-Jun-21	2314	305	2361.7

Bull- wise additional daughters completing 1st lactation from 15th Set

Bull No.	Daughter No.	Date of Birth	Date of Calving	Age at 1st Calving	Lact. Lenght	Lactation Yield
2371	6919	15-Sep-16	22-Apr-21	1680	305	2429.7
2371	6267	10-Feb-16	18-May-21	1924	305	2628.7
2371	6998	20-Aug-16	09-May-21	1723	305	2671.3
2371	5634	10-Sep-15	10-May-21	2069	305	2594.6
2371	B6352	7-May-16	17-Aug-21	1928	305	2752.7
2371	B6326	13-Mar-16	05-Aug-21	1971	305	2661.0
2371	6499	20-Aug-16	19-Oct-21	1886	305	2668.7
2371	6920	25-Feb-17	20-Nov-21	1729	305	2235.3
2371	6792	12-Aug-16	03-Jan-22	1970	305	2818.4
2412	6406	27-May-16	05-Apr-21	1774	305	2673.4
2412	6441	14-Aug-16	13-Apr-21	1703	305	2542.2
2412	B5822	20-May-16	10-Jun-21	1847	305	2983.2
2412	B6072	30-Jan-16	18-Jun-21	1966	305	2500.1
2412	B6679	22-Apr-16	26-Jul-21	1921	305	2611.9
2412	6239	15-Dec-15	10-Aug-21	2065	305	2682.3
2412	6742	23-May-17	04-Aug-21	1534	305	2637.4
2412	B6022	4-Jun-16	12-Sep-21	1926	305	2429.5
2412	5960	9-Aug-15	15-Sep-21	2229	305	2603.4
2412	6609	6-Sep-16	12-Nov-21	1893	305	2701.6
2412	B0898	15-Jul-16	10-Dec-21	1974	305	2789.8
2412	B6660	16-Apr-16	19-Jan-22	2104	305	2563.5
2417	6816	5-Dec-16	08-Apr-21	1585	305	2439.8
2417	B6314	20-Feb-16	10-Apr-21	1876	305	2515.5
2417	2460	25-Aug-16	03-May-21	1712	305	2819.9
2417	6813	25-Dec-16	12-May-21	1599	305	2738.8
2417	6440	27-Jul-16	20-May-21	1758	305	2203.1
2417	6851	25-Dec-16	03-Jun-21	1621	305	2715.6
2417	6424	11-Jul-16	13-Jun-21	1798	305	2448.4
2417	B6257	4-Jan-16	20-Jun-21	1994	305	2652.7
2417	6748	10-Nov-16	07-Jul-21	1700	305	2001.2
2417	5650	15-Oct-15	12-Jul-21	2097	305	2511.2
2417	6797	8-Oct-16	22-Aug-21	1779	305	2824.2
2417	6832	25-Nov-16	16-Sep-21	1756	305	2970.5
2417	7151	12-Nov-16	22-Oct-21	1805	305	2865.2
2417	7197	5-Sep-16	22-Oct-21	1873	305	2252.9
2417	6869	22-Nov-16	20-Nov-21	1824	305	2284.0

2417	6655	21-Sep-16	25-Nov-21	1891	305	2687.5
2417	B6288	14-Apr-16	20-Nov-21	2046	305	2716.9
2417	6301	25-Apr-16	18-Dec-21	2063	305	2611.2
2417	6876	10-Oct-16	18-Dec-21	1895	305	2294.6
2417	6943	25-Mar-17	18-Jan-22	1760	305	2271.4
2417	6815	5-Nov-16	20-Feb-22	1933	305	2456.5
2417	6829	12-Oct-16	10-Feb-22	1947	305	2636.3
2417	6835	18-Oct-16	12-Mar-22	1971	305	2209.6
2429	B6445	23-Mar-16	13-May-21	1877	305	2758.4
2429	5592	30-Nov-15	26-May-21	2004	305	2580.6
2429	B6087	15-May-16	04-Jun-21	1846	305	2136.8
2429	7016	25-Oct-16	11-Jun-21	1690	305	2488.9
2429	6452	25-May-16	02-Jul-21	1864	305	2812.6
2429	7230	5-Nov-16	05-Jul-21	1703	305	2894.6
2429	6883	27-Oct-16	19-Jul-21	1726	305	2665.2
2429	B6675	28-Apr-16	14-Feb-22	2118	305	2611.0
2429	5618	24-Mar-16	11-Feb-22	2234	305	1762.5
2459	B6586	11-Jul-16	24-Apr-21	1748	305	2486.9
2459	6851	10-Dec-16	05-May-21	1607	305	2509.7
2459	B6268	11-Jun-16	08-Feb-22	2068	305	2295.3
2459	7251	15-Jun-17	15-Feb-22	1706	305	3072.1
4324	B6078	10-May-16	10-Apr-21	1796	305	2522.8
4324	5565	18-Sep-15	14-Apr-21	2035	305	2549.4
4324	2650	12-Jan-16	18-May-21	1953	305	1300.8
4324	B6370	7-May-16	07-May-21	1826	305	2579.7
4324	6054	25-Aug-16	21-May-21	1730	305	2602.4
4324	B6415	28-Mar-16	05-Jun-21	1895	305	2711.2
4324	B6030	10-Jul-16	23-Oct-21	1931	305	2592.1
4324	B6316	31-Jul-16	14-Nov-21	1932	305	2299.3
4324	3408	20-Jun-15	15-Dec-21	2370	305	2601.1
4324	B6036	10-Jun-16	15-Mar-22	2104	305	2947.5
4328	5584	15-Jan-16	09-Nov-21	2125	305	2322.0
4354	B5456	20-Oct-15	10-Jun-21	2060	305	2522.0
4354	B5711	27-Aug-15	21-Jul-21	2155	305	2962.2
4354	6157	15-Jan-16	05-Jul-21	1998	305	2488.5
4354	6468	28-May-16	11-Sep-21	1932	305	2641.8
4354	6484	30-Jul-16	04-Nov-21	1923	305	2855.8
4354	B6282	4-May-16	18-Jan-22	2085	305	1844.2
4363	7409	22-May-17	22-Apr-21	1431	305	2499.8
4363	6212	8-Nov-17	15-Aug-21	2129	305	2468.7
4363	2614	22-Jan-16	25-Apr-21	1920	305	2461.5
4403	B6688	31-May-16	12-Apr-21	1777	305	2594.5
4403	3447	12-Jul-15	13-Apr-21	2102	305	2457.8
4403	5687	10-Dec-15	04-Jul-21	2033	305	2522.4
4403	5698	25-Jan-16	18-Oct-21	2093	305	2331.0
6007	B6350	5-Apr-16	22-Dec-21	2087	305	2464.1
6139	6610	30-Sep-16	15-Apr-21	1658	305	2808.3
6139	7163	10-Oct-16	09-Sep-21	1795	305	2915.1
6139	B6315	19-Feb-16	12-Jan-22	2154	305	2174.1
6290	B6337	29-Mar-16	05-Sep-21	1986	305	2386.4
6290	B6074	15-Jun-16	18-Nov-21	1982	305	2349.4
6405	6004	3-Mar-16	18-May-21	1902	305	2650.6
6405	B6342	23-Apr-16	13-Oct-21	1999	305	2692.5
6405	5813	25-Mar-16	16-Mar-22	2182	305	2855.3

Bull- wise additional daughters completing 1st lactation from 16th

Bull No.	Daughter No	Date of birth	Date of calving	Age at 1st calving (days)	Lact length	Lactation Yield
1027	7327	14-Nov-17	01-Jul-21	1325	305	2755.3
1027	7449	14-Nov-17	14-Jul-21	1338	305	2359.0
1027	7472	7-Nov-17	29-Jul-21	1360	305	2476.0
1027	7502	14-Nov-17	13-Sep-21	1399	305	2501.4
1027	7216	12-May-17	09-Sep-21	1581	305	2593.5
1027	7569	3-Nov-17	11-Oct-21	1438	305	2837.1
1027	7471	15-Nov-17	15-Oct-21	1430	305	2241.9
1027	6735	24-May-17	05-Oct-21	1595	305	2710.1
1027	6744	25-May-17	20-Nov-21	1640	305	2552.2
1027	7473	4-Nov-17	13-Nov-21	1470	305	2317.7
1027	7209	4-Jun-17	12-Dec-21	1652	305	2397.7
1027	7448	16-Nov-17	23-Dec-21	1498	305	2692.9
1027	7611	12-Dec-17	04-Jan-22	1484	305	2691.8
1027	7194	4-Jun-17	29-Mar-22	1759	305	2381.7
1053	7076	12-Aug-17	23-Apr-21	1350	305	2515.8
1053	7075	14-Aug-17	19-Apr-21	1344	305	2504.4
1053	6740	28-May-17	01-Jun-21	1465	305	2827.5
1053	7223	28-Jul-17	15-Jul-21	1448	305	2541.6
1053	7109	10-Aug-17	18-Aug-21	1469	305	2286.3
1053	7172	10-Jun-17	15-Sep-21	1558	305	2527.9
1053	7311	3-Aug-17	15-Oct-21	1534	305	2614.9
1053	7295	7-Aug-17	13-Nov-21	1559	305	2671.3
1053	7053	12-Jul-17	20-Nov-21	1592	305	2591.3
1053	7168	7-May-17	07-Jan-22	1706	305	2833.9
1053	7093	10-Sep-17	15-Feb-22	1619	305	2405.3
2383	7368	27-Jan-17	10-May-21	1564	305	2328.0
2383	7317	7-Oct-17	11-Jun-21	1343	305	2654.9
2383	7562	20-Jan-18	18-Jul-21	1275	305	2290.6
2383	7340	6-Oct-17	15-Jul-21	1378	305	2725.1
2383	7554	29-Dec-17	02-Aug-21	1312	305	2479.8
2383	7413	20-Dec-17	01-Aug-21	1320	305	2795.1
2383	6594	22-Mar-17	09-Aug-21	1601	305	2712.5
2383	7111	5-Oct-17	14-Aug-21	1409	305	2489.1
2383	7629	13-Jan-18	17-Sep-21	1343	305	2779.2
2383	7560	20-Jan-18	15-Sep-21	1334	305	2926.0
2383	7646	24-Jan-18	22-Sep-21	1337	305	2709.5
2383	7444	11-Feb-18	20-Sep-21	1317	305	2571.1
2383	7557	18-Jan-18	15-Sep-21	1336	305	2645.4
2383	7270	26-Jan-18	10-Sep-21	1323	305	2618.0
2383	7345	30-Sep-17	15-Sep-21	1446	305	2768.4
2383	7187	13-Oct-17	16-Sep-21	1434	305	2541.2
2383	7470	5-Jan-18	10-Sep-21	1344	305	2421.2
2383	7337	1-Oct-17	17-Oct-21	1477	305	2578.5
2383	7240	28-Feb-17	18-Oct-21	1693	305	2589.6
2383	7604	12-Feb-18	14-Oct-21	1340	305	2265.2
2383	7346	5-Oct-17	04-Oct-21	1460	305	2776.6
2383	7325	6-Oct-17	11-Oct-21	1466	305	2777.1
2383	7155	12-Oct-17	22-Oct-21	1471	305	2313.1
2383	7555	6-Mar-18	02-Nov-21	1337	305	2624.0
2383	7386	19-Jan-17	25-Nov-21	1771	305	2496.8
2383	6785	30-Mar-17	20-Nov-21	1696	305	2711.7
2383	7722	10-Mar-18	11-Nov-21	1342	305	2592.7
2383	6922	10-Oct-16	15-Dec-21	1892	305	2382.7
2383	7609	3-Feb-17	15-Dec-21	1776	305	2751.4
2383	6442	5-Mar-17	07-Dec-21	1738	305	2595.4

2383	7165	8-Mar-17	12-Dec-21	1740	305	2487.9
2383	7354	30-May-17	18-Dec-21	1663	305	2261.9
2383	7551	1-Oct-17	14-Dec-21	1535	305	2705.7
2383	7434	26-Nov-17	17-Dec-21	1482	305	2617.6
2383	7513	31-Jan-18	14-Dec-21	1413	305	2356.4
2383	7275	3-Feb-18	07-Dec-21	1403	305	2743.0
2383	7558	4-Mar-18	08-Dec-21	1375	305	2703.9
2383	7738	9-Mar-18	09-Dec-21	1371	305	2739.2
2383	7320	29-Mar-18	03-Dec-21	1345	305	2743.5
2383	7191	2-Jun-17	14-Jan-22	1687	305	2263.6
2383	7406	18-Dec-17	18-Jan-22	1492	305	2267.3
2383	7447	21-Dec-17	27-Jan-22	1498	305	2467.2
2383	7162	4-Mar-17	19-Feb-22	1813	305	2670.1
2383	7718	10-Mar-18	10-Mar-22	1461	305	3038.5
2383	7736	15-Mar-18	20-Mar-22	1466	305	3094.6
2467	7258	5-Aug-17	02-Apr-21	1336	305	2803.6
2467	7007	4-Mar-17	10-Apr-21	1498	305	2068.0
2467	7001	28-May-17	25-May-21	1458	305	2524.3
2467	7208	25-Apr-17	26-Jul-21	1553	305	2543.6
2467	7074	11-Oct-17	17-Jul-21	1375	305	2512.2
2467	7453	12-Nov-17	04-Jul-21	1330	305	2537.7
2467	7511	20-Dec-17	21-Aug-21	1340	305	2441.8
2467	7508	25-Dec-17	18-Aug-21	1332	305	2581.5
2467	7509	26-Nov-17	04-Aug-21	1347	305	2429.2
2467	7495	27-Nov-17	09-Aug-21	1351	305	2379.2
2467	7597	25-Nov-17	20-Sep-21	1395	305	2082.2
2467	7016	25-Mar-17	16-Sep-21	1636	305	2059.3
2467	7054	5-Oct-17	14-Sep-21	1440	305	2481.2
2467	7452	13-Dec-17	14-Sep-21	1371	305	2600.7
2467	7281	15-Sep-17	07-Oct-21	1483	305	2517.1
2467	6752	25-May-17	02-Oct-21	1591	305	2265.9
2467	7489	25-Nov-17	23-Oct-21	1428	305	2244.6
2467	7457	20-Nov-17	15-Oct-21	1425	305	2646.2
2467	7605	17-Nov-17	10-Nov-21	1454	305	2754.2
2467	7265	13-Sep-17	04-Nov-21	1513	305	2704.9
2467	7468	4-Nov-17	20-Nov-21	1477	305	2525.0
2467	7451	9-Nov-17	15-Nov-21	1467	305	2342.5
2467	7095	12-Sep-17	17-Dec-21	1557	305	1771.0
2467	7525	21-Dec-17	07-Dec-21	1447	305	2324.8
2467	7183	30-Mar-17	15-Jan-22	1752	305	1875.5
2467	6739	10-Apr-17	20-Jan-22	1746	305	2893.6
2467	7532	20-Dec-17	22-Jan-22	1494	305	2495.8
2467	7462	2-Nov-17	11-Feb-22	1562	305	2645.2
2467	7487	20-Nov-17	13-Feb-22	1546	305	2614.4
2467	7414	9-Nov-17	07-Mar-22	1579	305	2545.3
2467	7356	13-Dec-17	30-Mar-22	1568	305	2290.2
2501	6550	16-Feb-17	05-Apr-21	1509	305	2747.4
2501	6833	12-Feb-17	11-May-21	1549	305	2845.4
2501	6724	16-Mar-17	08-Jun-21	1545	305	2931.5
2501	6716	14-Jan-17	14-Jun-21	1612	305	2682.1
2501	7082	20-Oct-17	15-Jun-21	1334	305	2399.6
2501	7108	14-Sep-17	18-Jun-21	1373	305	2366.5
2501	7312	2-Nov-17	11-Jul-21	1347	305	2764.1
2501	7301	4-Nov-17	15-Jul-21	1349	305	2593.5
2501	7372	7-Dec-17	20-Aug-21	1352	305	2196.1
2501	7107	16-Oct-17	02-Sep-21	1417	305	2464.4
2501	6528	20-Mar-17	21-Sep-21	1646	305	2675.6

2501	7593	11-Mar-18	05-Nov-21	1335	305	2786.8
2501	7594	20-Mar-18	08-Nov-21	1329	305	2793.1
2501	7580	22-Mar-18	20-Nov-21	1339	305	2505.7
2501	7732	20-Mar-18	02-Nov-21	1323	305	2570.5
2501	7098	29-Oct-17	10-Nov-21	1473	305	2662.5
2501	7164	5-Mar-17	15-Dec-21	1746	305	2822.7
2501	6783	27-Mar-17	15-Dec-21	1724	305	2360.7
2501	7248	10-Apr-17	12-Dec-21	1707	305	2940.1
2501	7086	29-Sep-17	12-Dec-21	1535	305	2101.0
2501	7908	20-Mar-18	10-Dec-21	1361	305	2408.2
2501	8100	20-Mar-18	22-Dec-21	1373	305	2218.2
2501	7783	10-Apr-18	10-Dec-21	1340	305	2254.8
2501	7428	15-Oct-17	15-Jan-22	1553	305	2482.3
2501	7381	30-Oct-17	17-Jan-22	1540	305	2216.1
2501	7288	9-Nov-17	17-Jan-22	1530	305	2902.9
2501	7801	15-Apr-18	16-Jan-22	1372	305	2832.3
2501	7137	25-Sep-17	10-Feb-22	1599	305	2707.6
2501	7866	8-Apr-18	20-Feb-22	1414	305	2453.2
2501	6921	15-Nov-17	12-Mar-22	1578	305	2632.9
2501	7908	20-Mar-18	10-Dec-21	1361	305	2408.2
2501	8100	20-Mar-18	22-Dec-21	1373	305	2218.2
4363	2614	22-Jan-16	25-Apr-21	1920	305	2461.5
4592	7198	10-Apr-17	19-Jun-21	1531	305	2487.6
4592	6579	14-Mar-17	05-Jul-21	1574	305	3029.4
4592	6722	7-May-17	15-Dec-21	1683	305	2760.5
4592	7640	10-Mar-18	05-Mar-22	1456	305	2895.3
4592	7916	10-Mar-18	27-Mar-22	1478	305	2452.8
4705	6713	30-Dec-16	26-Sep-21	1731	305	2692.9
4705	B0686	11-Feb-17	14-Nov-21	1737	305	2824.8
4705	7417	20-May-17	24-Nov-21	1649	305	2317.4
4705	6791	4-Jan-17	15-Nov-21	1776	305	2678.0
4705	6946	25-Feb-17	20-Dec-21	1759	305	2455.7
4705	7787	4-Apr-18	04-Dec-21	1340	305	2650.0
4705	7716	24-Apr-18	01-Dec-21	1317	305	2876.0
4705	7182	10-Jan-17	20-Jan-22	1836	305	2515.8
4705	7852	10-Apr-18	20-Jan-22	1381	305	2499.3
4705	7709	25-Apr-18	12-Jan-22	1358	305	2337.0
4705	8017	10-May-18	18-Jan-22	1349	305	2359.8
4705	8093	15-May-18	10-Jan-22	1336	305	1973.0
4705	8266	22-May-18	01-Jan-22	1320	305	2418.9
4705	8239	25-May-18	18-Jan-22	1334	305	2600.2
4705	8020	30-May-18	17-Jan-22	1328	305	2429.5
4705	7769	23-Jan-17	17-Feb-22	1851	305	2477.3
4705	7909	10-May-18	10-Feb-22	1372	305	2486.3
4705	7660	5-Jun-18	12-Feb-22	1348	305	2875.6
4705	8253	25-May-18	15-Mar-22	1390	305	2470.7
4705	8012	18-May-18	10-Mar-22	1392	305	2557.4
4705	7922	6-Apr-18	22-Mar-22	1446	305	2237.8
4705	8211	30-Apr-18	11-Mar-22	1411	305	2558.8
4889	6721	12-Dec-16	07-Apr-21	1577	305	2667.2
4889	7598	25-Feb-18	16-Jul-21	1237	305	2266.1
4889	7101	5-Aug-17	17-Jul-21	1442	305	2419.2
4889	6916	10-Nov-16	12-Aug-21	1736	305	2502.5
4889	6730	5-Dec-16	10-Aug-21	1709	305	2661.4
4889	6932	31-Aug-16	11-Sep-21	1837	305	2528.5
4889	7175	18-Jun-17	14-Sep-21	1549	305	2247.1
4889	6888	9-Nov-16	21-Sep-21	1777	305	2587.9

4889	7094	3-Aug-17	12-Sep-21	1501	305	2103.4
4889	7631	23-Feb-18	11-Oct-21	1326	305	2855.8
4889	7516	26-Feb-18	13-Oct-21	1325	305	2417.3
4889	7482	2-Feb-18	18-Oct-21	1354	305	2352.6
4889	7613	25-Mar-18	27-Nov-21	1343	305	2636.7
4889	7724	16-Mar-18	15-Nov-21	1340	305	2574.5
4889	8232	23-Mar-18	07-Nov-21	1325	305	2302.2
4889	7390	8-Feb-18	20-Dec-21	1411	305	2344.3
4889	6793	27-Dec-16	19-Jan-22	1849	305	2215.8
4889	7395	2-Mar-18	26-Jan-22	1426	305	2569.0
4889	7647	22-May-18	06-Jan-22	1325	305	2976.6
4889	7623	30-May-18	14-Jan-22	1325	305	2797.3
4889	7574	16-Feb-18	17-Feb-22	1462	305	2934.4
4889	7625	8-Feb-18	17-Mar-22	1498	305	2955.5
4889	8098	8-Mar-18	20-Mar-22	1473	305	2093.1
6379	7052	5-Aug-17	13-Oct-21	1530	305	2645.0
6379	7257	13-Jul-17	02-Nov-21	1573	305	2653.1
6379	7110	2-Jul-17	04-Nov-21	1586	305	2578.4
6379	7268	25-Jun-17	05-Jan-22	1655	305	2775.8
6379	7264	12-Aug-17	12-Jan-22	1614	305	2826.0
6379	6986	10-Jul-17	28-Mar-22	1722	305	2206.4
6409	7150	7-Aug-17	15-Apr-21	1347	305	2550.6
6409	7441	3-Sep-17	23-May-21	1358	305	2328.5
6409	7148	20-Sep-17	12-Jun-21	1361	305	2706.4
6409	7355	10-Aug-17	25-Nov-21	1568	305	2145.1
6409	7172	7-Aug-17	25-Dec-21	1601	305	2433.6
6409	7142	10-Aug-17	25-Mar-22	1688	305	2479.2
6646	7314	30-Jul-17	27-Apr-21	1367	305	2579.3
6646	7323	18-Aug-17	20-Apr-21	1341	305	2670.0
6646	7249	28-Aug-17	15-Jun-21	1387	305	2595.1
6646	7106	7-Sep-17	12-Jun-21	1374	305	2540.7
6646	6989	25-Jul-17	02-Aug-21	1469	305	2313.1
6646	6824	27-Jul-17	19-Aug-21	1484	305	2352.6
6646	7344	22-Aug-17	01-Sep-21	1471	305	2854.7
6646	7087	15-Sep-17	15-Oct-21	1491	305	2350.8
6646	7121	10-Oct-17	20-Oct-21	1471	305	2286.9
6646	7153	25-Aug-17	14-Nov-21	1542	305	2397.5
6646	7105	4-Sep-17	24-Nov-21	1542	305	2395.4
6646	7238	10-Aug-17	07-Dec-21	1580	305	2662.3
6646	7328	25-Sep-17	08-Dec-21	1535	305	2638.6
6646	7333	20-Aug-17	10-Jan-22	1604	305	2812.9
6646	7182	7-Sep-17	01-Jan-22	1577	305	2749.6
6646	7132	28-Sep-17	13-Feb-22	1599	305	2696.1
6646	7243	10-Aug-17	05-Feb-22	1640	305	2530.9
6646	7134	3-Oct-17	01-Feb-22	1582	305	2612.7
6646	7225	25-Aug-17	13-Mar-22	1661	305	2588.3
6646	7167	26-Aug-17	26-Mar-22	1673	305	2495.6
M29	7138	22-Aug-17	23-May-21	1370	305	2676.3
M29	7078	23-Oct-17	25-Jun-21	1341	305	2765.7
M29	7084	15-Oct-17	25-Jun-21	1349	305	2506.7
M29	7176	8-Aug-17	09-Aug-21	1462	305	2675.0
M29	6987	25-Jun-17	09-Sep-21	1537	305	2336.7
M29	7798	10-Nov-17	06-Sep-21	1396	305	2468.0
M29	7424	27-Nov-17	15-Sep-21	1388	305	2682.9
M29	7433	20-Oct-17	05-Oct-21	1446	305	2961.7
M29	7381	28-Oct-17	08-Oct-21	1441	305	3014.1
M29	7149	5-Sep-17	19-Nov-21	1536	305	2613.3

M29	7419	8-Oct-17	09-Nov-21	1493	305	2656.2
M29	7092	22-Oct-17	14-Feb-22	1576	305	3045.4
M29	7009	25-Jun-17	10-Feb-22	1691	305	2543.4
M29	7375	29-Aug-17	27-Mar-22	1671	305	2412.2
M29	7426	15-Oct-17	22-Mar-22	1619	305	2423.3

Bull- wise additional daughters completing 1st lactation from 17th Set

Bull No.	Daughter No	Date of birth	Date of calving	Age at 1st calving (days)	Lact length	Lact. Yield
2558	7819	15-Jul-18	13-Nov-21	1217	305	2305.5
2558	8327	20-Nov-18	17-Jan-22	1154	305	2450.1
2565	7848	15-Sep-18	15-Aug-21	1065	305	2457.6
2565	8249	12-Mar-18	15-Nov-21	1344	305	2474.4
2565	7743	30-Jun-18	14-Feb-22	1325	305	2176.5
2594	9341	19-Feb-18	17-Oct-21	1336	305	2658.4
2594	7763	15-Jun-18	22-Feb-22	1348	305	2730.8
2594	8056	19-Jun-18	15-Feb-22	1337	305	2590.4
2594	7654	5-Jul-18	10-Mar-22	1344	305	2968.3
2594	7700	27-Jul-18	05-Mar-22	1317	305	3097.8
2607	7876	21-Jul-18	15-Mar-22	1333	305	2136.4
2607	7914	24-Jul-18	04-Mar-22	1319	305	2617.9
4687	8248	20-May-18	15-Feb-22	1367	305	2501.7
4687	7734	20-May-18	15-Feb-22	1367	305	2630.8
4687	7730	13-Jun-18	17-Feb-22	1345	305	2137.4
4687	7592	4-Jun-18	20-Feb-22	1357	305	2736.3
4687	7843	16-Apr-18	19-Mar-22	1433	305	2735.7
4687	8085	12-Jun-18	06-Mar-22	1363	305	2566.0
4687	7915	12-Jun-18	06-Mar-22	1363	305	2476.6
4715	8547	16-May-18	14-Jan-22	1339	305	2816.3
4715	8224	18-Jul-18	13-Mar-22	1334	305	2550.0
4733	8188	5-May-19	26-Jan-22	997	305	2276.8
4837	8216	4-Oct-18	10-Sep-21	1072	305	2424.8
4837	8698	17-Mar-18	23-Feb-22	1439	305	2568.0
7010	8700	10-Feb-18	04-Jan-22	1424	305	2124.2
7010	8687	12-Feb-18	05-Jan-22	1423	305	2377.9
7010	8693	27-Mar-18	16-Jan-22	1391	305	2496.3
7010	8676	28-Feb-18	12-Feb-22	1445	305	2543.5
7010	8696	9-Mar-18	13-Feb-22	1437	305	2514.3
7010	8686	7-Mar-18	05-Feb-22	1431	305	2437.8
7010	8689	13-Mar-18	04-Mar-22	1452	305	2669.8
M51	7336	7-Sep-17	04-May-21	1335	305	2999.3
M51	7236	14-Sep-17	13-May-21	1337	305	2545.3
M51	7152	15-Sep-17	17-Jun-21	1371	305	2739.2
M51	7195	16-Sep-17	15-Jul-21	1398	305	2617.8
M51	7256	16-Aug-17	06-Aug-21	1451	305	2954.8
M51	7635	25-May-18	25-Nov-21	1280	305	2314.5
M51	7341	21-Sep-17	07-Dec-21	1538	305	2824.5
M51	7389	25-Aug-17	12-Jan-22	1601	305	2290.1
M51	7300	25-Aug-17	25-Jan-22	1614	305	3053.9
M51	7778	15-Jun-18	13-Mar-22	1367	305	2747.6

Project Co-ordinator's observations on Field Unit performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned as per R E 2022-23		Released ICAR Share as per R E	Expenditure as per AUC		Balance (ICAR Share)
Total	ICAR Share		ICAR Share	State Share	
20.00	15.00	15.00	15.00	5.00	0.00

- Total 8343 AI's were performed and 4146 buffalos conceived using bulls from 19th and 20th set during report period. The conception rate reported 49.69 %.
- 3407 calving reported during the period out of which 1746 male and 1661 were female.
- At various centers 8064 female progenies of different age groups are standing for future recording
- During the year 375 daughters calved and 370 daughters recorded for lactation.

Recommendations:

- Semen doses of selected test bulls should be used uniformly.
- Organize calf rallies of female progenies, milk competition and other awareness programme in the villages of participating farmers.

FIELD UNIT: ICAR-NDRI, KARNAL

a. Research Evaluation Performa

1. Name of Center and year of initiation : ICAR-NDRI, Karnal (2001-02)
2. Name of project In-charge : Dr. Vikas Vohra, Principal Scientist, AG&B
3. Activities assigned and targets fixed: : As per technical programme of the FPT Murrah
4. Activities carried out during the period : AI, Milk recording, Deworming, Vaccination, Camps, Calf Rally, Farmer Visit.
5. Selection of Bull Set wise : Bulls selected for 20th Set
6. Progeny test evaluation- set wise : As Specified
7. Technology developed / patent : Nil
8. Bulls for elite mating : As Specified
9. Feeding, Reproduction, Management study, if any: No
10. Gaps / Constraints / Shortfalls
    - A large movement of buffaloes due to sale-purchase in the villages.
    - The animals in the project, when tagged, fetch higher prices in the village hence frequently sold, leading to less number of daughters for recording.
    - Shortage of adequate funds to improve the coverage of AI and data recording the field
11. Further programme, activities, target : Enclosed

b. Financial Statement/ administrative evaluation Performa

1.	No. of Sanction posts and designation	Nil
2.	No. of posts filled	NA
3.	No. of posts vacant (vacant since when)	NA
4.	Funds released during the year	Rs. 15,00,000.0
5.	Previous balance (refunded)	Rs. 0,5008.0 (Refund to Co-Unit)
6.	Funds Utilised	Rs. 14,97,637.0 (99.86% utilized)
7.	Closing Balance	Rs. 2,363.0

Research Achievements

A total of 4844 AI were performed in Murrah Buffaloes under field conditions during 2022-23 and as a result an overall conception rate of 48.14% was obtained. The highest conception rate was achieved in the month of August 2022 (49.86%) and the lowest was found for the month of December 2022 (45.28%), when recorded till January 2023. Across the villages, the highest conception rate was observed in Kherimann Singh (52.15%) village and lowest in Kamalpur (41.66%), when recorded village till January 2023. A total of 1866 (1063 Male and 803 Female) Murrah buffalo calves were born in the farmers' herds and performance data on milk recording of 86 daughters have been recorded for evaluation of bulls under field conditions. The average lactation yield in the field was recorded as 2282.20±36.99 kg daily milk yield in the recorded daughter were 7.76 kg/day. The total herd strength of registered females and the breedable females at different centers was 6302 and 5004 respectively. As many as 16 breeding bulls of belonging to the 20th Set were used for AI during the year 2022-23.

Action Taken Report (19th ARM)

Recommendations	ATR
Total 4874 Ais in 2020- 21 and 5126 Ais in 2021- 22 were performed in adopted villages. A total of 640 and 772 female progenies were born and 85 and 91 daughters were recorded during the year 2020-21 and 2021-22,	Efforts were made on accurate and timely test day recording among the daughters of test sires. A total of 803 female progenies were born during the period, and a total of 96 daughter calved out of which 86

respectively. Lesser number of daughters were recorded which need to be improved. Incentive may be given to farmers for complete recording of daughters	daughters could complete the lactation, at farmers herd, during the year 2022-23.

Research Target: 4500 AI in the villages **Target Achieved :** 4844 AI (107.6%)

Other Activities

The AG&B Division, NDRI, has collaborated an event "Support to the Dairy Farmers" under the Network Project on Buffalo Improvement. Under this program the general-purpose medicines, spray and calcium supplement were distributed as support to about 55 dairy farmers belonging to the SC community from Kamalpur Village, district Karnal. The dairy farmers were also upraised about the scientific breeding and management practices of dairy buffaloes, with special emphasis on the role of calcium supplementation in buffaloes.

F 1. Herd Strength of Registered females under field unit as on 31-03- 2023

Name of Centre	OB	Addition	Deduction		
		New Reg. (Birth/ Purchase)	Sold	Death	CB
Darar	1935	125	205	5	1850
Kheriman Singh	1415	83	198	3	1297
Rindal	1088	87	120	6	1049
Sheikhpura	1250	119	162	2	1205
Kamalpur	841	123	57	6	901
Total	**6529**	**537**	**742**	**22**	**6302**

F2. Status of Breedable females under field unit as on 31-03- 2023

Name of Village	Heifers >3 years		Buffalo (NP)		Buffalo Pregnant	
	Total	Pregnant	In milk	Dry	In milk	Dry
Darar	268	146	354	62	153	56
Kheriman Singh	285	191	287	64	124	73
Rindal	219	154	168	47	186	49
Sheikhpura	384	191	203	69	276	71
Kamalpur	315	167	196	68	134	44
Total	**1471**	**849**	**1208**	**310**	**873**	**293**

Project activities

Visit of Dr.T.K. Datta, Project Coordinator cum Director ICAR-CIRB to the field units of FPT (Murrah) under ICAR-NDRI, Karnal


Dr. Dheer Singh, Joint Director Research, ICAR-NDRI to the field units of FPT (Murrah) under ICAR-NDRI and Progressive Farmers Felicitation at Kheriman Singh Village

F 3. Monthly AI under Field Unit during 01-04-2022 to 31-03-2023

Month	Centre / Village					Total
	Darar	**Kheriman Singh**	**Rindal**	**Shekhpura**	**Kamalpur**	
April 22	69	48	84	79	60	340
May	55	38	90	80	54	317
June	78	54	74	74	70	350
July	61	74	71	80	75	361
Aug.	63	78	74	78	72	365
Sept.	76	96	92	75	87	426
Oct.	66	94	88	80	70	398
Nov.	151	98	96	86	94	525
Dec.	99	105	97	80	96	477
Jan. 23	70	107	88	90	95	450
Feb.	79	90	77	75	85	406
March.	65	104	90	80	90	429
Total	**932**	**986**	**1021**	**957**	**948**	**4844**

F 4 Bullwise AI at Different Field Unit Centers during the Period 1-4-2022 to 31-03-2023

Set No	Bull No	April	May	June	July	Aug	Sept	Oct.	Nov.	Dec	Jan	Feb	March	Total
20	1454			160	104	114	26	235	112					**751**
20	2793		55	26										**81**
20	2814				26	23			25					**74**
20	2831		20	40	16				14	123	98	77	10	**398**
20	2838											73	91	**164**
20	2848	24	65					117						**206**
20	2850				16	16			260	37	147			**476**
20	3004								44	126		92		**262**
20	5427	44	50	124	69	62	122							**471**
20	5500				11	74	269			87	15	12	56	**524**
20	5511									54	130	4		**188**
20	5588				71	76	9	46						**202**
20	5592				48									**48**
20	7584	84	35						44		60	33		**256**
20	7649	188	92						26	50		75		**431**
20	M-19											40	272	**312**
Total		**340**	**317**	**350**	**361**	**365**	**426**	**398**	**525**	**477**	**450**	**406**	**429**	**4844**

F 5: Month – wise Conception at Different Field Units during the period 01-4-22 to 31/03/23

Month	Village / Centre							CR %
	Darar	Kherimann Singh	Rindal	Sheik hpura	Kamalpur	Total Conce.	Total AI	
April 22	33	22	40	37	27	159	340	**46.76**
May	27	17	43	38	24	149	317	**47.00**
June	41	29	36	39	29	174	350	**49.71**
July	30	43	34	37	32	176	361	**48.75**
Aug.	32	41	39	39	31	182	365	**49.86**
Sept.	38	59	44	34	37	212	426	**49.77**
Oct.	33	48	43	40	27	191	398	**47.99**
Nov.	87	49	43	39	41	259	525	**49.33**
Dec	40	51	44	41	40	216	477	**45.28**
Jan. 23	36	54	43	45	34	212	450	**47.11**
Feb.								
March								
Total	**397**	**413**	**409**	**389**	**322**	**1930**	**4009**	**48.14**
AI	**788**	**792**	**854**	**802**	**773**	**CR= 2267/4694*100=48.30%**		
CR%	**50.38**	**52.15**	**47.89**	**48.50**	**41.66**			

This Table No. 5 will be Updated in July-2023

F 6: Monthwise Calvings at Different Field Unit Centers During the Period 01-04-2022 to 3-2023

Month	Darar		Rindal		Kherimann Singh		Sheikhpura		Kamalpur		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Apr 22	20	11	15	12	17	12	20	13	24	14	**96**	**62**
May	17	13	20	13	15	12	21	12	19	14	**92**	**64**
June	19	17	22	18	15	12	18	14	21	13	**95**	**74**
July	18	14	24	21	15	10	20	13	22	13	**99**	**71**
Aug.	19	16	23	22	16	11	17	11	24	15	**99**	**75**
Sept.	13	11	19	19	13	11	21	11	23	15	**89**	**67**
Oct.	15	15	22	30	14	11	14	9	24	15	**89**	**80**
Nov.	18	16	21	21	15	13	19	14	24	14	**97**	**78**
Dec.	14	11	20	18	16	13	15	10	19	13	**84**	**65**
Jan 22	14	13	18	22	11	10	19	13	25	14	**87**	**72**
Feb	16	13	9	11	13	10	19	13	14	9	**71**	**56**
Mar	14	9	8	6	15	10	15	8	13	6	**65**	**39**
Total	**197**	**159**	**221**	**213**	**175**	**135**	**218**	**141**	**252**	**155**	**1063**	**803**

M = Male: 1063 *F = Female: 803* *Total = 1866*

F 7. Bull wise Conception at different Field Unit Centers during 1-4-2022 to 31-03-2023

Set No	Bull No	April 22	May-22	Jun-22	Jul-22	Aug. 22	Sept. 22	Oct. 22	Nov. 22	Dec. 22	Jan. 2023	Feb. 23	Mar-23	Total
20	1454			80	33	56	12	113	52					346
20	2793		28	14										42
20	2814				12	11			13					36
20	2831		10	22	7				7	55	43			144
20	2848	12	30					55						97
20	2850				8	9			117	17	75			226
20	3004								21	57				78
20	5427	19	22	58	53	30	58							240
20	5500				6	39	139			42	6			232
20	5511									26	58			84
20	5588				35	37	3							75
20	5592				22			23						45
20	7584	39	18						23		30			110
20	7649	89	41						26	19				175
20	2838													
20	M-19													
	Total	**159**	**149**	**174**	**176**	**182**	**212**	**191**	**259**	**216**	**212**			**1930**

This table will be updated in July-2023

F8. Bullwise Calving at Different Field Unit Centers during 1-4-2022 to 31-3-2023

Month		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb	Mrch	**Total**
1315/19	M		27	25	19	26	16	3						**116**
	F		18	22	16	17	12	9						**94**
2674/19	M	11		19	3	5	11	10						**59**
	F	8		14	2	3	9	11						**47**
2737/19	M	16	24	3			6		9					**58**
	F	11	18	1			6		6					**42**
2759/19	M	27			8	9	10	5						**59**
	F	13			6	6	6	6						**37**
5246/19	M						7	12						**19**
	F						6	8						**14**
5310/19	M	18			35	7		14						**74**
	F	14			23	5		11						**53**
5320/19	M		23	7	16	14	18	20	3					**101**
	F		16	5	12	14	15	12	2					**76**
5333/19	M	10	6	22	12	16	6	2	6					**80**
	F	6	4	18	7	11	3	1	6					**56**
5374/19	M	14	12	19	6	15	15	9						**90**
	F	10	8	14	5	14	10	7						**68**
7604/19	M					7								**7**
	F					5								**5**
2793/20	M												11	**11**
	F												8	**8**
2831/20	M												6	**6**
	F												3	**3**
2848/20	M							3	14		17	6	11	**51**
	F							2	12		11	4	6	**35**
5427/20	M							11	16	16	47	5	7	**102**
	F							13	16	12	36	4	5	**86**
7548/20	M								37	37		19	9	**102**
	F								25	30		15	5	**75**
7649/20	M								2	16	23	41	21	**103**
	F								3	11	25	33	12	**84**
3004/20	M								10	15				**25**
	F								8	12				**20**
Total		**158**	**156**	**169**	**170**	**174**	**156**	**169**	**175**	**149**	**159**	**127**	**104**	**1866**

M = Male: 1063 F = Female: 803 Total = 1866

F. 9 Bull wise female progeny at different Field Unit Centers (0-12 months) as on 31/3/23

Bull No	Darar	Kheriman Singh	Rindal	Sheikhpura	Kamalpur	Total
1315/19	21	27	12	19	15	**94**
2674/19		11	13	10	13	**47**
2737/19	15	8	6	6	7	**42**
2759/19	14		6	6	11	**37**
5246/19			6	8		**14**
5310/19		10	19	5	19	**53**
5320/19	23	28		6	19	**76**
5333/19	5	19	17	9	6	**56**
5374/19	9	22	6	20	11	**68**
7604/19	5					**5**
2793/20	3		5			**8**
2831/20		3				**3**
2848/20	8	10	5	6	6	**35**
5427/20	16	30	9	19	12	**86**
7584/20	16	10	20	8	21	**75**
7649/20	23	24	11	11	15	**84**
3004/20	4	8		8		**20**
Total	**162**	**210**	**135**	**141**	**155**	**803**

F. 10. Bull wise Live Female Progeny at different Field Unit s (1-2 yrs) as on 31/3/ 2023

Bull No	Darar	Kheriman Singh	Rindal	Sheikhpura	Kamalpur	Total
1208/18				8		**8**
2677/18	11			7		**18**
4995/18	5	9				**14**
1150/18		5				**5**
5147/18		7				**7**
2645/18			8			**8**
7227/18	16		6	3		**25**
4905/18			5		15	**20**
2676/18				7	12	**19**
7147/18		21				**21**
7263/18		14			15	**29**
5181/19	15	17	20	14	8	**74**
2674/19	5	13	3		10	**31**
5320/19			15	5		**20**
5232/19	4	10	14	9	20	**57**
2737/19	7	8		6	7	**28**
5374/19			3		1	**4**
2759/19	4	25	4	6		**39**
5246/19	20	22	10		18	**70**
7604/19	5	15	16	31	22	**89**
5310/19	15	7		3		**25**
5333/19					10	**10**
Total	**107**	**173**	**104**	**99**	**138**	**621**

F. 11. Bull wise Live Female Progeny at different Field Unit s (2-3 yrs) as on 31/3/ 2023

Bull No	Darar	Kheriman Singh	Rindal	Sheikhpura	Kamalpur	Total
1209/18			9			**9**
2676/18	5	21	10	8	8	**52**
2689/18	15	16	7	12	20	**70**
2645/18	4	20	4	12	33	**73**
1150/18	13	5	6		12	**36**
2677/18	3	6	1	8	3	**21**
1208/18	8	12	7	7	6	**40**
7147/18	7		7			**14**
1219/18				1	11	**12**
7227/18				5	14	**19**
5147/18	25	6	4	6	4	**45**
7263/18	9		1			**10**
4995/19	10	1	4	12	3	**30**
4905/19		12		6		**18**
Total	**99**	**99**	**60**	**77**	**114**	**449**

F. 12. Bull wise Live Female Progeny at different Field Unit Centers (>3 Years) as on 31/3/2023

Bull No	Darar	Kheriman Singh	Rindal	Sheikhpura	Kamalpur	Total
29-M/16		3			2	**5**
51-M/17	10					**10**
53-M/17	5		6			**11**
2558/17		1		8		**9**
2607/17	8	2		3		**13**
6942/17	3		4			**7**
4715/17		1			8	**9**
2565/17					7	**7**
Dara/17	4					**4**
4837/17		13	4	2		**19**
7010/17		9				**9**

2594/17				5		**5**
4687/17		16			10	**26**
B-1-330/17			7	3	5	**15**
7094/18	15		7	8	10	**40**
7227/18			4			**4**
1150/18				6		**6**
7147/18	8		6	9	11	**34**
Total	**53**	**45**	**38**	**44**	**53**	**233**

F 13. Bull wise daughters calved at different field unit centers during2022-23

Bull No/Set No.	Darar	Kheriman Singh	Rindal	Sheikhpura	Kamalpur	Total
4324/15				1		**1**
1027/16	1	1				**2**
1053/16			2	1		**3**
2383/16			5			**5**
2467/16			6			**6**
2501/16	1		3			**4**
4592/16	2	1		1		**4**
4705/16	4			1		**5**
6379/16			3	1		**4**
6409/16			4			**4**
6646/16	1					**1**
6753/16	3		1			**4**
2558/17		1				**1**
2565/17					1	**1**
2594/17	3			1		**4**
4687/17	2	3	1		4	**10**
4715/17		2		2	1	**5**
4733/17	2					**2**
4837/17		2		4		**6**
6942/17		2		2		**4**
7010/17		2	2	2		**6**
B-1 330/17					5	**5**
Dara/17				2		**2**
Sikander/17				1		**1**
M-51/17		4	1	1		**6**
Total	**19**	**18**	**28**	**20**	**11**	**96**

F. 14. Bull wise daughters recorded at different field units during2022-23

Bull No/Set No.	Darar	Kheriman Singh	Rindal	Sheikhpura	Total
2412/15			1		**1**
2417/15			2		**2**
4324/15		1	1		**2**
4328/15			2		**2**
4363/15		1	1		**2**
4438/15		1			**1**
6405/15		1			**1**
1027/16	3	2			**5**
1053/16			1	1	**2**
2383/16			4		**4**
2467/16			1		**1**
2501/16	4		1		**5**
4592/16	2	6		3	**11**
4623/16	1	2			**3**
4705/16	2			1	**3**
4889/16	1	2			**3**
6379/16	2		2	3	**7**
6409/16		1	4		**5**
6753/16	2				**2**

M-29/16		3	5	2	**10**
2558/17		1			**1**
2594/17	1			1	**2**
4687/17		2			**2**
7010/17		1		1	**2**
Dara/17				1	**1**
M-51/17				1	**1**
Total	**19**	**25**	**25**	**17**	**86**

F 15.Bull-wise AI, conception, calving and daughters retained till completion of milk recording as on 31/03/2023

Sr. no.	Set No	Bull No.	AI	Conceptions	Calvings		Daughters retained upto				Complete Recording
					Total	Female	1 Year	2 Year	3 Year	Calving	
1	6	1836	28	15	6	3				0	0
2	6	4506	282	117	57	30				18	9
3	6	4523	317	158	127	62				12	10
4	6	4619	183	74	37	20				14	14
5	6	4637	156	60	50	15				6	6
6	6	4640	190	76	48	14				12	8
7	7	1419	241	86	40	25				10	10
8	7	1727	103	40	29	5				6	6
9	7	1746	112	57	48	19				9	9
10	7	1749	63	39	28	12				5	5
11	7	1796	95	53	24	10				4	4
12	7	2121	62	29	18	10				--	--
13	7	2133	282	171	94	49				13	14
14	7	2184	384	178	109	46				19	26
15	7	2331	270	92	70	32				12	10
16	7	2363	216	85	52	26				8	6
17	7	4807	82	42	17	14				8	7
18	7	4915	389	152	63	33				14	14
19	8	1492	146	46	17	8				4	4
20	8	1509	37	20	12	6				5	3
21	8	1867	27	15	5	2				1	1
22	8	1868	46	13	8	4				4	4
23	8	1875	101	48	27	16				8	7
24	8	1893	224	127	55	25				8	6
25	8	2250	217	99	79	34				18	6
26	8	2308	118	58	38	23				8	7
27	8	2422	163	63	38	19				5	5
28	8	2479	150	42	28	10				7	7
29	8	2522	71	25	8	7				1	1
30	8	4813	255	107	61	29				23	14
31	8	4865	325	109	55	25				12	10
32	8	5049	120	49	41	17				10	8
33	8	5054	435	200	107	45				21	20
34	9	1575	291	105	58	29				20	18
35	9	1903	82	34	17	9				3	5
36	9	1913	127	35	25	11				3	6
37	9	1940	101	50	37	23				12	11
38	9	1964	127	66	61	29				14	14
39	9	1994	57	24	19	11				3	3
40	9	2582	394	147	88	47				20	16
41	9	2592	301	124	86	38				19	25
42	9	2720	342	154	114	63				39	10
43	9	2910	202	79	46	25				22	8
44	9	5112	706	292	181	82				56	30

45	9	5197	176	89	72	42				33	11
46	9	5218	765	370	246	137				42	29
47	9	5312	64	23	16	6				1	--
48	10	ND-1	207	100	62	34				29	25
49	10	ND-2	105	50	36	15				7	7
50	10	ND-6	305	146	104	43				1	--
51	10	ND-8	217	94	92	48				18	13
52	10	507	187	86	45	23				14	10
53	10	1693	215	98	59	29				21	18
54	10	2045	221	81	52	19				2	4
55	10	2062	82	34	24	9				2	2
56	10	2073	310	132	128	57				42	25
57	10	2074	185	68	40	21				8	9
58	10	2083	184	74	36	13				3	8
59	10	2990	188	102	80	33				14	11
60	10	3103	309	135	94	44				31	17
61	10	3631	218	101	56	27				16	13
62	10	5396	200	93	73	33				26	14
63	11	H-10	190	100	88	41				21	10
64	11	H-12	482	230	192	95				24	16
65	11	2154	90	49	38	21				6	4
66	11	3226	553	211	140	60				19	18
67	11	3255	540	270	188	108				27	25
68	11	3267	497	243	164	93				16	11
69	11	3591	540	261	242	114				34	30
70	11	5414	515	176	173	96				54	48
71	11	5489	1313	598	483	215				73	60
72	11	5496	736	348	301	140				32	31
73	11	5516	966	429	314	162				38	29
74	12	R-10	34	19	11	7				2	--
75	12	R-11	36	17	8	6				1	1
76	12	5604	61	32	25	13				1	1
77	12	5710	746	364	338	170				21	14
78	12	5720	1057	567	417	212				72	55
79	13	851	301	154	139	69				11	10
80	13	858	223	122	90	37				16	14
81	13	2234	74	40	28	12				4	2
82	13	2269	139	73	58	27				7	9
83	13	2304	183	85	62	29				3	3
84	13	3964	512	289	208	103				22	15
85	13	4059	266	108	87	42				10	7
86	13	5943	563	244	193	84				24	12
87	14	2357	72	40	38	16				--	--
88	14	2369	108	64	59	29				7	8
89	14	4093	648	300	217	107				15	17
90	14	4100	417	208	171	87				6	7
91	14	4439	670	355	300	109				16	19
92	14	6014	1598	705	598	293				34	35
93	14	6044	791	344	302	139				32	22
94	14	6066	67	25	16	10				--	--
95	14	6136	1559	873	756	382				40	34
96	15	2371	640	221	50	24				22	17
97	15	2412	469	222	120	58				10	9
98	15	2417	435	239	129	53				19	16
99	15	2429	83	51	33	15				2	2
100	15	2459	50	36	35	18				--	--
101	15	4324	804	355	178	79				16	14

102	15	4328	582	263	171	83				19	19
103	15	4354	934	418	124	58				21	19
104	15	4363	551	122	102	49				13	23
105	15	4403	73	43	32	16				2	3
106	15	4438	450	200	116	53				10	10
107	15	6007	397	227	71	36				2	4
108	15	6139	742	386	144	71				24	18
109	15	6200	74	43	41	20				--	--
110	15	6290	246	93	76	37				5	6
111	15	6405	406	125	31	15				7	8
112	16	M-29	652	422	212	98			6	10	12
113	16	1027	456	248	166	86				4	7
114	16	2383	148	88	64	29				5	4
115	16	2467	222	117	60	27				7	2
116	16	2501	388	183	105	48				11	8
117	16	4592	661	386	295	134				20	20
118	16	4623	229	104	89	38				5	7
119	16	4705	451	249	161	69				12	9
120	16	4889	370	173	143	59				7	8
121	16	6379	372	179	124	60				12	11
122	16	6409	440	212	141	60				15	8
123	16	1053	112	60	31	15				4	2
124	16	6646	275	150	83	37				1	--
125	16	6753	161	87	49	20				4	--
126	17	2565	147	68	60	27			9	1	--
127	17	2594	324	126	92	40			5	4	2
128	17	2607	245	114	76	35			15	--	--
129	17	4687	479	208	181	82			30	10	2
130	17	4715	555	228	194	85			13	2	2
131	17	4733	202	100	93	38				2	2
132	17	4837	459	153	111	49			22	6	1
133	17	7010	447	201	176	78			11	6	2
134	17	Daara	253	86	73	29			5	1	1
135	17	M-51	407	187	158	62			13	6	1
136	17	6942	372	177	123	54			9	4	--
137	17	Sikander	235	105	78	34			2	1	--
138	17	M-53	345	163	95	41			13	--	--
139	17	2558	280	138	87	38			12	1	1
140	17	B 1 330	311	145	92	41			20	5	--
141	18	7094	757	356	273	115			50		
142	18	7147	983	410	304	132	25	39	58		
143	18	7227	569	282	212	93	31	50	25		
144	18	4905	498	219	191	76	22	45	18		
145	18	1150	424	199	163	70	5	48	44		
146	18	7263	479	207	166	66	33	44	10		
147	18	1208	394	191	150	63	10	55	40		
148	18	1209	138	62	35	14		11	9		
149	18	1219	110	51	17	6		15	12		
150	18	2645	720	281	254	106	9	91	73		
151	18	2676	619	278	222	95	23	76	52		
152	18	2677	450	215	135	53	25	42	21		
153	18	2689	637	257	243	102		78	70		
154	18	4995	449	207	152	60	17	50	30		
155	18	5147	443	223	162	71	9	57	45		
156	19	5181	674	324	197	85	85	74			
157	19	5232	554	258	178	74	74	57			
158	19	5246	601	294	232	100	100	70			

159	19	7604	753	174	295	124	124	89			
160	19	2674	495	235	199	89	89	31			
161	19	2737	464	212	175	75	75	28			
162	19	2759	526	165	201	83	83	39			
163	19	5310	619	243	204	87	87	25			
164	19	5320	618	290	236	101	101	20			
165	19	5333	515	235	169	69	69	10			
166	19	5374	451	212	173	74	74	4			
167	19	1315	537	258	210	94	94				
168	20	2848	379	142	86	35	35				
169	20	5427	915	352	188	86	86				
170	20	7584	609	281	177	75	75				
171	20	7649	674	220	187	84	84				
172	20	3004	378	112	45	20	20				
173	20	2793	81	42	19	8	8				
174	20	2831	398	101	9	3	3				
175	20	1454	751	346							
176	20	2814	74	36							
177	20	2838	164								
178	20	2850	476	226							
179	20	5500	524	232							
180	20	5511	188	84							
181	20	5588	202	75							
182	20	5592	48	45							
183	20	M-19	312								
Total			**66889**	**29967**	**20635**	**9472**	**1575**	**1148**	**742**	**1831**	**1470**

*as on 31.03.2023

F 16. Performance of FPT Programme on Farmer's Buffaloes NDRI unit as on 31.03.2022

Duration	AI	Pregnancies	CR%	Calvings	Females Born	Daughters Recorded	Av. AFC (months)	Av. Milk Yield (kg/day)	Daughters Available for Recording
2004-05	2223	993	41.97	710	333	34	41.40	7.55	
2005-06	2224	994	42.97	875	400	45	45.40	6.11	
2006-07	2193	976	33.5	918	440	65	46.70	6.87	
2007-08	2594	1212	46.72	1140	517	109	46.80	7.29	
2008-09	2529	1190	47.05	1086	503	138	45.30	7.36	
2009-10	2739	1377	50.27	1159	569	211	45.30	7.08	
2010-11	2747	1399	50.92	1225	560	183	44.20	7.68	21
2011-12	2995	1600	53.42	1260	605	133	45.20	7.82	78
2012-13	2905	1422	48.95	1159	569	138	42.90	7.29	109
2013-14	4419	2242	51.27	1225	560	119	42.60	7.37	168
2014-15	3941	2033	51.58	1860	905	83	41.58	8.60	298
2015-16	3905	1994	51.06	1648	768	87	43.02	7.69	58
2016-17	3916	1975	50.43	1524	722	85	48.56	8.07	125
2017-18	3241	1605	49.52	1397	640	91	48.27	8.05	485
2018-19	4315	1995	46.23	1030	456	86	49.60	7.76	529
2019-20	4571	1999	46.96	1532	647				289
2020-21	4874	1928	47.68	1559	640				286
2021-22	5126	2467	48.13	1793	772				296
2022-23*	4844	1930	48.14	1866	803				201
Overall	**66301**	**31331**	**47.73%**	**24966**	**11409**	**1607**	**45.12**	**7.50**	

Conception of March. 2023 will be added in July 2023

PROPOSED ACTION PLAN FOR 2023-24

- Thrust will be to bring more number of buffaloes under the AI coverage and to retain most of the female progeny up to the completion of their first lactation, more farms in the vicinity of project area having relatively large herd size (10-15 breedable buffaloes) will be identified and included in the project.
- Efforts will be made to improve the conception rate by balanced feeding through supplementation of mineral mixture offered to farmers as an incentive and by timely heat detection and proper time AI.
- The work of identification of progeny born in the field by ear tagging will continue so that and the progenies born will be are properly identified.
- Organization for Infertility and Veterinary aid campaigns, deworming and tick control programmes on mass level, awareness programme for balanced feeding and mastitis control program will be a regular practice in various adopted village through Kisan Sangosthees and Scientific panel discussion with various buffalo breeder groups.
- Calf rallies will be given more emphasis to encourage the farmers for up-gradation of breeds and rearing progeny with improved dairy husbandry practices.
- Schedule for determining genetic improvement and enhancement in productivity at farmers' herd shall be developed to document the impact of the project. It will also cover animal health management as being undertaken a regular process while performing the breeding and sire evaluation activities.
- The performance recording in terms of monthly recording of milk yield of the daughters and their dams will continue. Finally, the data generated on AI's, conception rate, milk production and performance traits will be supplied to coordinating unit for analysis as per ICAR Test Day recording schedule.
- Elite buffaloes will be identified in the field and mated with proven bulls for production of young bulls.
- There is need to develop modalities for procuring such superior young male calves for future breeding and providing necessary funds for procuring males.

Project Co-ordinator's observations on field performance

Financial Statement for the year 2022-23 (Rs in Lakhs)

Sanctioned R E 2022-23		Released ICAR	Expenditure as per AUC		Balance
Total	ICAR Share	Share as per R E	ICAR Share	State Share	
15.00	15.00	15.00	14.97637	--	(+) 0.02363

- A total of 4844 AI was performed in adopted villages with the semen of bulls of 20th set for test mating during 2022-23. The conception rate was 48.14 %.
- Total 1866 calving (1063 male and 803 female) recorded in the field.
- During the report period 96 daughters calved and 86 daughters recorded for first lactation milk yield.
- As on 31st March 2023: total 2106 daughters of various age groups (0-12 months: 803, 1-2 years: 621, 2-3 years: 449 and > 3 year: 233) are standing in field for future recording.

Recommendations:

- Action to be taken to record maximum daughters first lactation milk yield. The number of daughters completed the recording are less.
- Meeting and interface with field workers-farmers-scientist to be organized frequently in field and at Institute.

SUMMARY OF RESEARCH ACHIEVEMENTS AND PROGRESS OF THE PROJECT

Selection and use of Breeding Bulls for Murrah breed

From July 93 till date test mating from 19 sets of Murrah breeding test bulls have been completed and test mating of 20th set is continuing from January 2022 and complete in June 2023. Brief summary of the duration, the number of bulls, average of the dam's best yield and highest dam's yield in each set is shown below.

Twenty sets of bulls used under Network Project on Buffalo since July 1993.

Set No.	Duration	Centrewise No. of bulls						Total Bull	Av. Of 305 day or less dams best yield (kg)	Highest dam 305 day yield (kg)	305 day or less herd Average (kg)/N
		CIRB	NDRI	GADVAU	LUVAS	NDUAT	IVRI				
1	July, 1993 to Dec., 1994	2	9	0				11	3050	4114	1820/501
2	Jan., 1995 to June, 1996	4	5	6				15	3002	3898	1920/487
3	July, 1996 to Dec., 1997	8	5	2				15	2876	3275	2053/476
4	Jan., 1998 to June, 1999	5	4	5				14	2999	3401	1973/457
5	July, 1999 to Dec., 2000	6	5	4				15	3120	3898	1943/551
6	Jan., 2001 to June 2002	5	5	4	2			16	3055	3898	1972/562
7	July 2002 to Dec., 2003	5	2	4	1			12	2928	3544	2017/505
8	Jan., 2004 to June 2005	5	5	4	2			16	2928	3690	2056/511
9	July 2005 to Dec. 2006	4	5	5	1			15	2923	3336	2008/458
10	Jan., 2007 to June 2008	3	1	5	1	3	1	14	2829	3369	2130/509
11	July 2008 to Dec., 2009	4	4	3	1	1	1*	14	2792	3051	2046/483
12	Jan., 2010 to June 2011	1	3	3	1		3**	11	3362	5192	2115/384
13	July 2011 to Dec., 2012	2	1	3			2	8	3205	3805	2199/380
14	Jan., 2013 to June 2014	4	4	3			1	12	3451	4636	2356/288
15	July, 2014 to Dec., 2015	6	5	4				15	3350	4636	2361/335
16	Jan., 2016 to June 2017	5	4	3	3			15	3762	4636	2349/280
17	July, 2017 to Dec., 2018	10	2	4				16	3526	4668	2449/315
18	Jan., 2019 to June 2020	3	4	4	4			15	3284	3867	2586/333
19	July, 2020 to Dec., 2021	7	1	3	1	-	-	12	3435	4069	2607/374
20	Jan., 2022 to June 2023	7	2	7	2	-	-	14	3658	4814	2625/367
21	July, 2023 to Dec., 2024	8	2	4	3	-	1	15	3811	5170	2721/401

* bulls from Deedwadi ** Two from Redhu Farm

List of Murrah bulls selected for 20th set (Jan 2022-June 2023)

Sr. no.	Bull no.	Location	**D.O.B.**	**Dam no.**	**Sire no./Set no.**	**Dam's All Lact 305 or less days Milk Yield kg**	**Highest Yield/ Best Peak Yield**
1.	5427	CIRB	10/11/18	3633	2594/Set XVII	2726/ 2300/ 3241/ **3371**/ 3025/ 3211/ 3014	3371/15.3
2.	5481	CIRB	29/03/19	4621	4733/Set XVII	2002/ 1455/ **3332**	3332/16.6
3.	5500	CIRB	15/07/19	4934	1148/Set XVII	2888/ 3171/ **3271**	3271/16.5
4.	5505	CIRB	22/07/19	4251	Dara/Set XVII	2407/ 3184/ **4138**/ 3784/ 2913	4138/22.0
5.	5511	CIRB	27/07/19	4800	1148/Set XVII	2612/ **3356**/ 3262	3356/17.4
6.	1454	LUVAS	19/06/18	976	M-51/Set XVII	2965/ 3288/ 3085/ **3355**	3355/17.4
7.	19	LUVAS	29/10/18	777	M-51/Set XVII	2641/ 3242/ **3695**/ 3663	3695/21.6
8.	2793	GADVASU	06/07/18	2788	2467/Set XVI	2971/ **3339**	3339/21.5
9.	2831	GADVASU	11/10/18	2897	Virat/Field	1577/ 3049/ 4025/ **4814**	4814/28.7
10.	2838	GADVASU	02/11/18	2502	1354 PT/Set III	1834/ 3192/ **3340**/ 3288/ 2850/ 3257/ 2107	3340/20.7
11.	2850	GADVASU	25/01/19	2973	2594/Set XVII	2623/ **3683**	3683/20.6
12.	3004	GADVASU	13/10/16	Laado	Rustam/Field	4716	4716/26.2
13.	7584	NDRI	30/03/18	6147	6253/Non-Set	2435/ **3600**	3600/16.5
14.	7649	NDRI	15/10/18	6735	2558/Set XVII	**3203**/ 2755	3203/13.5

Note: From each bull 8,000 semen doses are to be frozen.

List of preleminary selected Murrah test bulls for 21st set (July 2023-Dec 2024)

Sr. no.	Bull no.	Location	D.O.B.	Dam No.	Sire No./ set No	Dam's All Lact Milk Yield (kg) (305 or less days)	Highest Yield/ Best Peak
1.	109	LUVAS	17/09/19	1068	M-53/ XVII	3128/3660/3432/3206	3660/16.3
2.	112	LUVAS	29/09/19	943	6942/ XVII	2735/3276/2919/4390/ 3720/2619	4390/17.2
3.	297	IVRI	08/08/17	869	4705/ XVI	2385/2922/2806/3234/ 3407	3407/17.5
4.	2979	GADVASU	26/11/20	3083	2689/ XVIII	2411/3440	3440/21.6
5.	2990	GADVASU	24/12/20	2741 P	1219/ XVIII	2104/3416/3723/2180	3723/21.2
6.	2991	GADVASU	02/01/21	2542	1994PT/ IX	2957/3429/3413/3014/ 2839/2494/2278	3429/20.7
7.	3014	GADVASU	06/10/20	Dhano	Birla/ Field	4420 (Estimated on PY)	PY: 24.56
8.	5414	CIRB	03/10/18	4593	4998/ Non-Set	2708/3321/3025/3177/ 3183/3294	3321/21.0
9.	5626	CIRB	23/01/20	4622	1150/ XVIII	2328/3791/3417/3462	3791/20.0
10.							
11.	5629	CIRB	29/01/20	4613	2645/ XVIII	2475/3501/4043/4180	4180/20.2
12.	5638	CIRB	24/02/20	5223	2234PT/ XIII	3364/3691	3691/19.5
13.	5690	CIRB	02/08/20	5021	4905/ XVIII	3573/4029	4029/21.0
14.	5723	CIRB	07/10/20	5179	7227/ XVIII	4073/5170	5170/26.8
15.	5730	CIRB	12/10/20	E186	2676/ XVIII	3018/3643	3643/17.7
16.	5764	CIRB	22/11/20	4989	4905/ XVIII	2708/3616/2675/3644	3644/17.5
17.	7630	NDRI	05/09/18	6852	M-51/ XVII	3343/2147/2217/2341	3343/15.5
18.	7768	NDRI	04/02/19	6922	2607/ XVII	2862/3251/3323/2125	3323/16.5
19.	7990	NDRI	19/08/20	6626	183PT/ XII	3394/3991/3090/3109/ 3033	3991/18.0

Health Evaluation and Semen Quality Testing: During the period under report, apparently healthy buffalo breeding bulls of different centres (CIRB Hisar, NDRI Karnal, GADVASU Ludhiana and LUVAS Hisar) all of Murrah breed and proposed for XX set for semen collection under Network Project on Buffalo were screened for TB, JD and Brucellasis etc.

Progeny Test Evaluation of Bulls: Data of 834 daughters born from the 15th set of bulls which completed 1st lactation was compiled and progeny test evaluated. Bull no. 4354 from CIRB Hisar, 6007 from NDRI, Karnal and 2459 from GADVASU, Ludhiana ranked 1st, 2nd and 3rd with breeding value 2589 kg, 2588 kg and 2587 kg respectively.

Progeny Test evaluation of 15th set bulls (Murrah July 2014 to Dec 2015)

Sire ID	Total no of daughters/ Sire	Average Daughter FLMY	Daughter Max FLMY	Breeding Value	Rank	% superiority
4354 / CIRB	77	2645	3573	2589	1	1.67
6007 / NDRI	38	2683	3404	2588	2	1.61
2459 / GADVASU	44	2611	3404	2587	3	1.58
4328 / CIRB	65	2600	3635	2584	4	1.48
2429 / GADVASU	48	2601	3962	2568	5	0.86
4363 / CIRB	48	2608	3217	2560	6	0.51
4403 / CIRB	39	2576	3540	2552	7	0.22
4324 / CIRB	60	2564	4004	2546	8	-0.04
4438 / CIRB	57	2527	3289	2536	9	-0.42
6405 / NDRI	55	2501	3740	2533	10	-0.55
6139 / NDRI	54	2515	3811	2531	11	-0.60
2371 / GADVASU	64	2528	3522	2524	12	-0.90
2412 / GADVASU	61	2476	4406	2511	13	-1.41
2417 / GADVASU	84	2456	3138	2503	14	-1.72
6290 / NDRI	40	2418	3069	2489	15	-2.27

Herd Average = 2546.67 kg; Total Daughter record analysed = 834; Average daughter / sire = 56

Progeny Tested bulls used under Network Project

The top ranking 25 % progeny tested bulls (2 to 3 bulls from each set) used for elite/ nominated matings from set I to set XV as selected from the centres are listed below. The pedigree detail, sire index and availability of frozen semen doses from each bull are under.

List of Progeny Tested Bulls 1st to 15th Set (Murrah breed)

Sr No.	Bull No.	Location	Date of Birth	Dam No.	Sire No.	Dam's best lact. 305-day yield (kg)	% superiority	Rank
Set - I								
1.	392	CIRB	06.04.89	238	PQ1	2594	22.8	I
2.	3567	NDRI	07.09.89	2408	2304	2877	6.4	II
3.	896	CIRB	27.07.87	911	644	3003	5.5	III
Set – II								
1.	761	CIRB	20-11-90	474	366	2878	9.37	I
2.	93	CIRB	03-11-90	-	PQ-1	22.0*	3.96	II
3.	829	CIRB	04-07-91	597	766	2626	3.53	III
Set – III								
1.	1354	PAU	12-12-92	762	989	3088	13.11	I
2.	1153	CIRB	13-08-93	701	896 PT	2540	12.27	II
3.	1061	CIRB	24-09-92	769	896 PT	2846	9.50	III
Set – IV								
1.	1506	PAU	25-04-95	-	988	3018	18.81	I
2.	1451	PAU	10-08-94	-	3567 PT	3401	10.44	II
3.	1437	PAU	04-04-94	797	636	3127	8.11	III

Set – V								
1.	4393	NDRI	10-12-95	2762	1908	3898	22.29	I
2.	4371	NDRI	23-10-95	2984	988	3258	14.90	II
Set –VI								
1.	1153	HAU	29-09-96	618	759	2675	13.31	I
2.	4506	NDRI	31-10-96	3527	3551	3512	9.29	II
3.	1933	CIRB	01-10-97	208	988	2650	6.92	III
Set – VII								
1	4915	NDRI	28-10-99	3521	2921	3437	17.26	I
2	1796	PAU	10-02-00	1386	1506 PT	3170	15.81	II
Set – VIII								
1.	1875	GADVASU	20-08-01	1669	558	2714	24.89	I
2.	4813	NDRI	17-01-99	3818	3966	3016	12.59	II
3.	2422	CIRB	19-08-00	1194	4371 PT	3369	9.41	III
Set – IX								
1	1994	GADVASU	16-06-03	1884	392 PT	2938	11.73	I
2	5258	NDRI	01-08-02	4066	1706	3305	10.52	II
Set -X*								
1.	1693	LUVAS	27-10-03	1050	392 PT	3194	1.23	1
2.	2045	GADVASU	24-02-04	1835	3567 PT	3369	1.23	II
Set -XI*								
1.	3267	CIRB	27-09-04	2263	1419	2489	0.20	I
2.	3591	CIRB	29-05-06 (P)	3590		2598	0.14	II
3.	2133	GADVASU	09-11-05	2041	1354 PT	2844	0.09	III
Set -XII*								
1.	2185	GADVASU	23-11-06	1898	1354 PT	3423	0.94	I
2.	183	CCS HAU	03-06-07	1374	1354 PT	2824	0.75	II
Set -XIII								
1.	2234	GADVASU	06-03-08	2138	5396	3114	14.80	I
2.	2269	GADVASU	17-12-08	2295	3631	3617	13.86	II
Set -XIV*								
1.	2357	GADVASU	24-07-10	P2488	1933 PT	3559	2.78	I
2.	6044	NDRI	15-01-09	430	4371 PT	3567	2.43	II
3.	4196	CIRB	10-05-10	3586	1153 PT	3304	2.27	III
Set -XV*								
1.	4354	CIRB	05-09-11	4353 Pur	UK (P)	3528	1.67	I
2.	6007	NDRI	15-09-08	5231	5396	3260	1.61	II
3.	2459	GADVASU	22-12-11	2489	1796 PT	4636	1.58	III

* BLUP Model used for evaluation

Semen freezing and balance stock for bulls under test

Centre wise test bulls semen of Murrah breed as on 31-03-2023 at various centres

CIRB			NDRI			GADVASU		
Bull No.	**Set No**	**No of semen doses**	**Bull No.**	**Set No**	**Semen doses CIRB+NDRI**	**Bull No.**	**Set No**	**Semen doses NDRI+CIRB +GAD**
M 29	XVI	7250	**6379**	XVI	2257+3289	**2383**	XVI	1981+2840
4592	XVI	5875	**6409**	XVI	2207+11854	**2467**	XVI	2026+5815
4705	XVI	6199	**6646**	XVI	2023+6245	**2501**	XVI	2638+2840
4889	XVI	7860	**6753**	XVI	2508+3002	**2565**	XVII	439+3631
1027	XVI	6926	**7010**	XVII	2200+7784	**2558**	XVII	1194+14587
1053	XVI	6622	**6942**	XVII	2625+11871	**2607**	XVII	370+4916
1064	XVI	5816	**7094**	XVIII	1948+7275	**2594**	XVII	849+8799
M 51	XVII	8390	**7147**	XVIII	2248+8394	**2645**	XVIII	1794+ 7446
4715	XVII	6003	**7227**	XVIII	498+1630	**2676**	XVIII	2370+7210
4733	XVII	6330	**7263**	XVIII	2080+4948	**2677**	XVIII	2375+2104

4687	XVII	3942	**7604**	XIX	1345+4778	**2689**	XVIII	737+5069
4837	XVII	7378	**7584**	XX	1960+1040	**2674**	XIX	2612+1092
M 53	XVII	7950	**7649**	XX	2330+4950	**2737**	XIX	1060+4918
Sikander	XVII	3823				**2759**	XIX	2605+2851
Dara	XVII	1635				**2814**	XX	0+1240
B-1-330	XVII	7853				**2848**	XX	5+475+2720
1148	XVII	7989				**2850**	XX	50+1080+1340
4905	XVIII	8000				**3004**	XX	245+970+58
4995	XVIII	8000				**2793**	XX	545+1610
5147	XVIII	8000				**2831**	XX	355+1830+2721
1150	XVIII	8000						
1208	XVIII	8000						
1209	XVIII	7485						
1219	XVIII	4230						
5232	XIX	9635						
5181	XIX	8875						
5246	XIX	9240						
5310	XIX	9140						
5320	XIX	7961						
5333	XIX	8213						
5374	XIX	8203						
1315	XIX	5907						
19 (LUV)	XX	3110						
1454 (LUV)	XX	6585						
5427	XX	340+7940						
5500	XX	120+3350						
5505	XX	1795						
5511	XX	10+30						
4354	PT XV	235+5872						
2459	PT XV	400+1862						
6007	PT XV	2506+1301						
		(3611+258575)			(26229+77060)			(1200+27950+ 83807)
Sub Total		**262186**			**103289**			**112957**
Grand Total								**478432**

Germplasm dissemination for breeding purpose (Murrah breed)

Superior germplasm disseminated from various centers is presented below.

Year	CIRB		GADVASU		NDRI	
	Bulls	**Semen**	**Bulls**	**Semen**	**Bulls**	**Semen**
1998-99	32	50	10	6000	15	1740
1999-00	26	100	22	5847	11	1320
2000-01	16	70	33	3449	9	2230
2001-02	18	21648	18	8579	8	5030
2002-03	18	2270	8	3205	9	2655
2003-04	53	3300	17	3977	15	15614
2004-05	15	1534	10	19675	8	4579
2005-06	4	372	15	1763	17	4123
2006-07	18	04	8	2227	9	574
2007-08	5	140	6	1777	5	433
2008-09	2	6375	7	4053	3	1232
2009-10	0	63974	5	8181	0	9404
2010-11	0	59546	5	22383	0	22405
2011-12	0	129099	4	53131	16	18129

2012-13	4	80081	2	41276	9	23751
2013-14	6	68635	28	24784	5	62054
2014-15	38	57761	21	13510	9	11966
2015-16	57	41866	37	24529	22	12792
2016-17	64	54077	21	18909	3	14805
2017-18	52	76704	11	25398	20	14554
2018-19	49	97657	4	55758	4	11700
2019-20	37	138906	3	52268	0	15949
2020-21	19	94320	37	3808	30	5400
2021-22	42	131968	22	57730	10	7625
2022-23	48	101787	20	73976	11	14436
Total	**623**	**1232244**	**366**	**536193**	**248**	**284500**

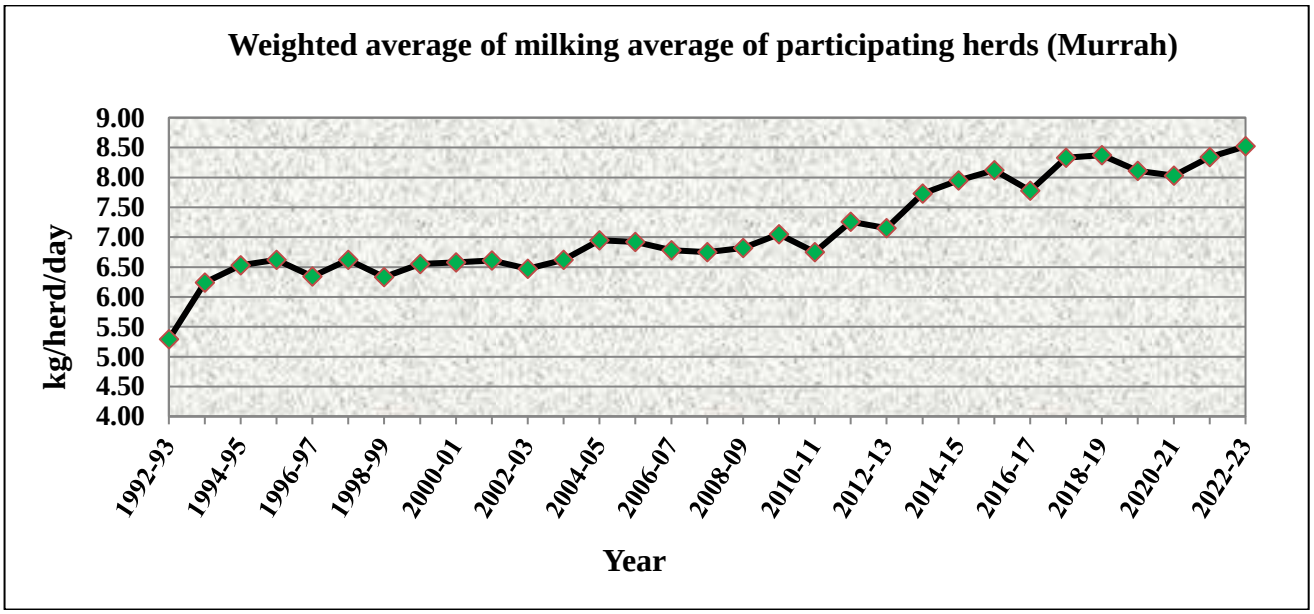
Performance Characteristics

Herd performance with respect to various production and reproduction traits at different participating centers has been compiled and presented as under.

Milking average per buffalo at various participating herds since 1992-93.

Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1992-93	4.80 (165)	5.54 (149)			4.31 (22)	6.3 (65)		5.29 (403)
1993-94	5.65 (153)	6.20 (115)	7.80 (115)	6.3 (42)	4.62 (380	5.8 (62)		6.24 (525)
1994-95	6.09 (181)	6.09 (116)	8.39 (114)	7.2 (49)	3.90 (39)	6.3 (48)		6.53 (547)
1995-96	6.43 (1.53)	6.43 (123)	8.03 (109)	7.3 (54)	3.63 (29)	6.0 (82)		6.62 (550)
1996-97	5.62 (122)	6.17 (112)	7.90 (103)	7.0 (76)	3.63 (29)	5.7 (67)		6.34 (508)
1997-98	6.12 (121)	6.53 (116)	7.40 (119)	6.5 (68)	4.19 (28)	7.2 (58)		6.62 (509)
1998-99	6.77 (133)	6.26 (119)	5.93 (100)	6.2 (71)	5.79 (20)	6.5 (72)		6.33 (515)
1999-00	6.85 (137)	6.26 (109)	6.60 (90)	5.2 (60)	5.77 (23)	7.4 (98)		6.55 (521)
2000-01	6.68 (148)	6.70 (105)	6.65 (104)	6.7 (55)	5.42 (30)	6.5 (84)		6.58 (523)
2001-02	6.59 (147)	7.09 (94)	6.26 (90)	7.47 (48)	5.82 (32)	6.3 (81)		6.61 (492)
2002-03	6.27 (143)	7.22 (109)	6.23 (73)	7.5 (47)	4.94 (30)	5.9 (68)		6.47 (470)
2003-04	6.49 (151)	7.01 (108)	6.36 (80)	7.30 (68)	5.94 (37)	6.2 (57)		6.62 (501)
2004-05	6.39 (154)	7.33 (91)	7.39 (111)	7.70 (66)	5.99 (38)	6.70 (47)		6.95 (509)
2005-06	6.57 (151)	7.36 (74)	7.05 (107)	7.70 (63)	6.14 (46)	6.7 (39)		6.92 (479)
2006-07	6.45 (137)	7.03 (81)	6.70 (100)	7.8 (65)	6.15 (41)	6.8 (48)	6.52 (29)	6.78 (501)
2007-08	6.64 (146)	6.90 (70)	6.80 (104)	7.60 (66)	5.98 (62)		6.92 (22)	6.75 (470)
2008-09	6.50 (133)	7.07 (78)	7.09 (64)	7.10 (62)	6.69 (53)	6.4 (59)	6.66 (22)	6.82 (412)
2009-10	7.01 (106)	7.62 (83)	7.32 (91)	6.8 (69)	6.68 (45)		5.39 (27)	7.05 (421)
2010-11	7.45 (109)	7.21 (88)	5.83 (96)	7.3 (64)	5.88 (47)		5.60 (21)	6.75 (425)
2011-12	7.83 (110)	7.56 (88)	6.79 (66)		5.82 (41)	**KVASU**	**LRS Mamnoor**	7.26 (305)

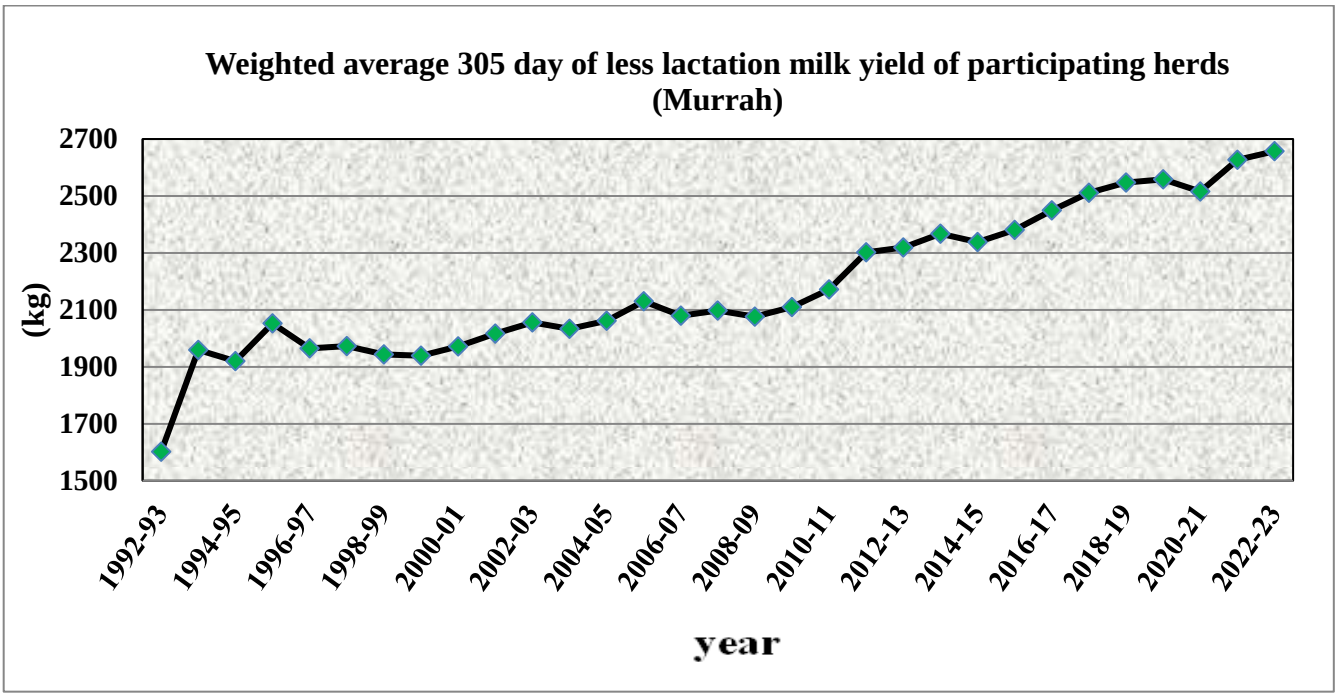
2012-13	7.74 (109)	7.74 (78)	7.35 (90)		5.66 (39)	4.82 (13)	4.70 (17)	7.15 (346)
2013-14	8.01 (105)	7.98 (61)	7.80 (101)	9.40 (62)	5.85 (45)	5.54 (19)	5.25 (11)	7.73 (404)
2014-15	8.25 (110)	7.97 (54)	8.05 (115)	8.70 (64)	6.80 (43)	**RCER Patna**	5.90 (22)	7.95 (408)
2015-16	8.04 (114)	8.04 (54)	8.43 (132)	9.90 (72)	6.48 (44)	7.45 (14)	5.81 (32)	8.12 (462)
2016-17	8.08 (133)	7.92 (53)	8.39 (85)	9.7 (60)	6.00 (55)	6.39 (19)	5.67 (43)	7.78 (448)
2017-18	8.71 (115)	8.03 (49)	8.23 (99)	10.3 (81)	5.77 (51)	4.30 (12)	--	8.33 (407)
2018-19	8.92 (101)	8.40 (68)	7.40 (112)	11.0 (76)	6.43 (50)	4.85 (15)	--	8.37 (422)
2019-20	9.66 (124)	8.31 (67)	6.67 (115)	10.4 (78)	5.95 (64)	5.12 (27)	--	8.11 (475)
2020-21	9.91 (130)	8.22 (66)	6.6 (86)	9.6 (73)	5.84 (68)	4.42 (27)	--	8.03 (450)
2021-22	10.07 (132)	8.42 (72)	7.7 (85)	9.25 (82)	5.86 (72)	5.44 (26)	--	8.34 (469)
2022-23	**10.20 (129)**	**8.45 (54)**	**7.8 (87)**	**9.4 (85)**	**5.99 (71)**	**6.77 (27)**	--	**8.52 (453)**



Average 305 day or less milk yield at various participating herds since 1992 – 93

Year	CIRB	GADV ASU	NDRI	LUVAS	IVRI	CCBF/ KVASU	NDUAT/ Mamnoor	Weighted average
1992-93	1508±34 (137)	1730 (138)			1458±48 (34)	1899.1		1602 (309)
1993-94	1686±46 (148)	1948 (144)	2351.8 (137)	1818.8	1537±49 (28)	1746.0		1959 (457)
1994-95	1787±0 (206)	1877 (121)	2270.1 (128)	1912.7	1536±40 (32)	1896.7		1920 (487)
1995-96	1855±42 (147)	2008 (126)	2576.1 (106)	1987.5	1457±51 (27)	1950.4		2053 (476)
1996-97	1775±45 (173)	1948 (125)	2423.1 (105)	1880.8	1629±76 (20)	1714.1		1965 (498)
1997-98	1688±37 (123)	1995 (98)	2191.2 (128)	2103.7	1715±95 (23)	2006.8		1973 (455)

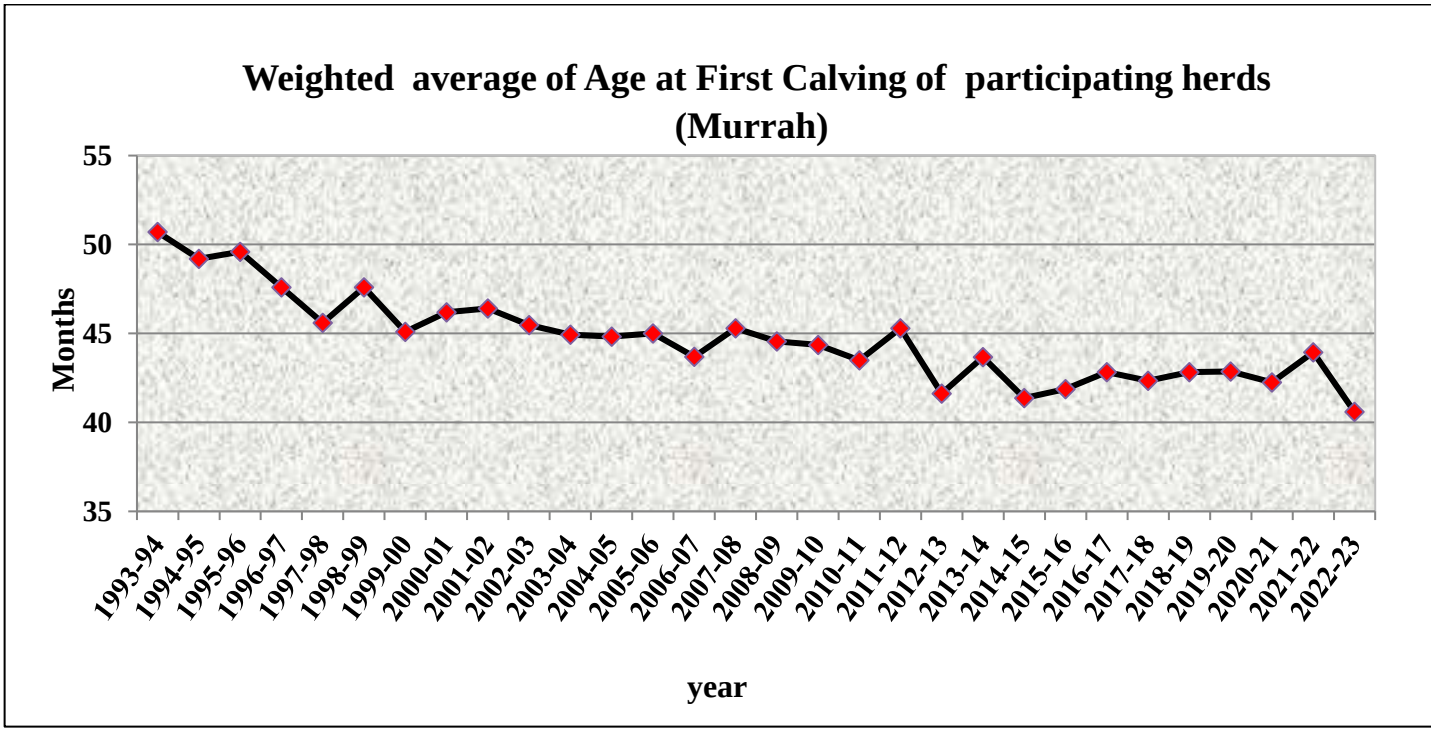
1998-99	1702±33 (153)	2101 (125)	2032.7 (112)	1964.7	1980±97 (22)	2179.7		1943 (551)
1999-00	2042±31 (141)	2041 (114)	1822.4 (102)	1688.7	2026±98 (18)	2134.9		1939 (439)
2000-01	1914±36 (173)	2032 (103)	2019 (126)	2183.1	1898±147 (20)	1875.0		1972 (562)
2001-02	1898±35 (152)	2175 (112)	1963±61 (91)	2119±46 (50)	2102±75 (19)	2000.0 (81)		2017 (505)
2002-03	1902±32 (148)	2144 (105)	2000.6 (81)	2522±13 (46)	2362.5 (55)	1789.1 (76)		2056 (511)
2003-04	1837±31 (148)	2233 (111)	1897 (29)	2162±42 (75)	2103±118 (26)	1881.9 (6)		2033 (395)
2004-05	1886±33 (167)	2270 (106)	2025 (98)	2134±44 (61)	2369±128 (10)	2114 (26)		2062 (494)
2005-06	1921±38 (149)	2327 (78)	2159 (142)	2252±47 (77)	2218±89 (32)	2085 (32)		2130 (509)
2006-07	1882±32 (170)	2235 (91)	2054 (111)	2261±44 (75)	2412±89 (27)	2139 (54)	1941±77 (27)	2079 (555)
2007-08	1891±34 (127)	2176±60 (67)	2094 (127)	2130±44 (80)	2525±109 (28)	--	1988±83 (24)	2097 (453)
2008-09	1926 (138)	2141±48 (88)	2256 (86)	2041±48 (76)	2209±106 (16)	1822 (57)	2078±89(22)	2076 (426)
2009-10	1995 (102)	2271±53 (67)	2222 (84)	1858±33 (84)	2570±92 (26)		2153±107 (20)	2110 (383)
2010-11	2247 (113)	2470±68 (81)	2015 (130)	2042±48 (66)	2136±63 (56)		2092±54 (22)	2172 (468)
2011-12	2374 (116)	2306±72 (87)	2192 (67)		2277±83 (49)	KVASU	LRS Mamnoor	2302 (319)
2012-13	2335±45.71 (110)	2528±55 (75)	2256 (83)		2242±108 (20)	1698±219 (11)	1560 (5)	2319 (304)
2013-14	2291±58.25 (98)	2509±67 (55)	2431 (82)	2808±43 (65)	2038±62 (47)	1728±158 (17)	1753 (13)	2367 (377)
2014-15	2355±47.55 (110)	2674±82 (46)	2224 (124)	2584±49 (62)	2136±52 (53)	**RCER Patna**	1626 (11)	2338 (406)
2015-16	2336±33.36 (152)	2640±73 (45)	2523 (118)	2577±57 (78)	2302±65 (51)	1866±37 (18)	1843±31 (44)	2381 (506)
2016-17	2457±39.61 (133)	2561 (53)	2536 (87)	2967±64 (60)	2194±73 (55)	1736±21 (19)	2028±51 (43)	2449 (450)
2017-18	2424±48.86 (140)	2707 (54)	2387±44.8 (96)	3050±72.7 (69)	2129±56.25 (45)	1997±122.6 (12)	--	2511 (416)
2018-19	2567±49.21 (123)	2771 (62)	2319 (123)	3067±84.1 (66)	2205±68 (40)	1985±135 (16)	--	2547 (430)
2019-20	2648±52.53 (128)	2841 (73)	2184 (106)	3090±54.1 (60)	2307±51 (60)	2088±19.16 (20)	--	2558 (447)
2020-21	2730±41.52 (148)	2614 (50)	2199±41.48 (90)	2976±52.4 (65)	2224±37.11 (57)	1824±63.04 (31)	--	2516 (441)
2021-22	2852±48.96 (153)	2672±57 (62)	2436±58.10 (85)	2793±49.91 (101)	2273±44.35 (59)	1944±78.37 (25)	--	2627 (485)
2022-23	2861±52.78 (146)	**2564±72 (31)**	**2454±55.86 (70)**	**2957±49.4 (92)**	**2221±41.52 (80)**	**2374±88.54 (19)**	--	**2657 (438)**



Average Age at first calving at various participating herds

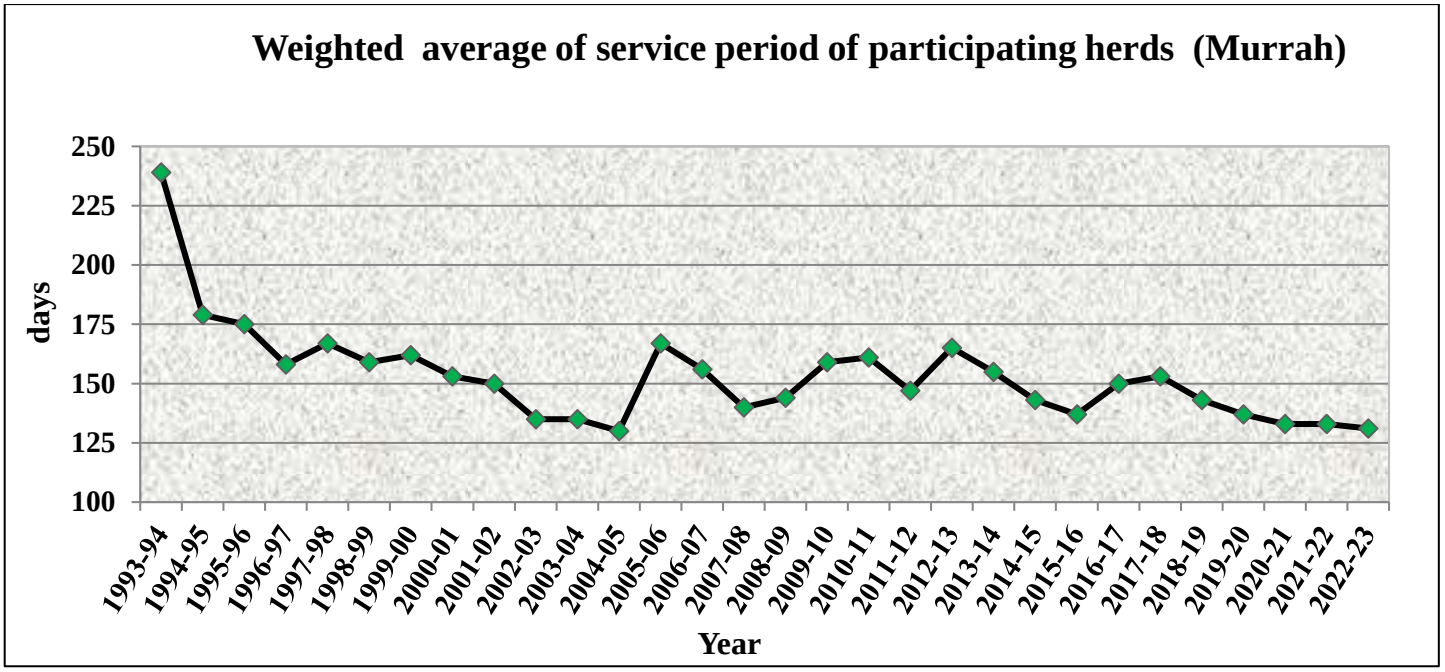
Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1993-94	59.1±1.6 (48)	46.7 (24)	45.5 (44)	51.6	39.4±3.0 (7)	43.0		50.7 (123)
1994-95	55.3±1.3 (48)	47.5 (37)	46.0 (37)	51.3	38.3±1.7 (10)	48.0		49.2 (132)
1995-96	55.3±1.5 (22)	49.4 (43)	46.8 (27)	51.9 (26)	42.1±3.4 (14)	51.0		49.6 (132)
1996-97	47.6±1.6 (23)	49.4 (34)	46.8 (27)	47.3 (44)	42.1±3.4 (4)	51.0		47.6 (132)
1997-98	45.5±0.5 (49)	45.0 (45)	44.8 (34)	48.7 (28)	40.1±3.4 (6)	51.0		45.6 (162)
1998-99	50.0±0.01 (57)	47.0 (34)	46.2 (54)	47.3 (22)	43.4±2.3 (8)	54.0		47.6 (178)
1999-00	46.2±1.0 (54)	42.0 (54)	42.6 (29)	49.4 (15)	48.8±7.0 (6)	55.0 (10)		45.1 (168)
2000-01	46.2±1.2 (45)	44.4 (27)	42.4±0.7 (42)	50.6±2.0 (17)	42.4±2.8 (4)	60.5 (11)		46.2 (146)
2001-02	49.8±0.8 (51)	44.7±1.4 (32)	44.0±1.0 (34)	46.7±4.9 (14)	44.4±2.6 (11)	45.0 (12)		46.4 (154)
2002-03	47.83±0.5 (61)	40.2±1.1 (39)	44.0±1.5 (20)	47.0±41.2 (27)	41.2±2.9 (4)	50 (15)		45.47 (166)
2003-04	50.52±0.8 (77)	36.8±1.0 (23)	43.87 (62)	40.37±12.4 (40)	41.82±3.2 (8)	48 (11)		44.94 (221)
2004-05	48.18±0.8 (76)	41.7±1.7 (27)	43.40±0.9 (47)	40.0±3.6 (26)	42.5±1.7 (8)	46 (16)		44.83 (200)
2005-06	47.89±0.7 (76)	43.7±1.0 (35)	39.9±1.0 (36)	41.03±1.1 (31)	42.1 (10)	54 (18)		45.0 (206)
2006-07	46.9±1.06 (43)	43.3±1.2 (20)	41.4±1.5 (50)	41.8±1.8 (15)	41.9±2.3 (10)	45 (19)	47.2±0.4 (3)	43.7 (160)
2007-08	48.3±0.6 (77)	42.7±1.0 (30)	41.8±1.5 (42)	44.4±1.1 (30)	45.8±0.9 (28)		46.4±0.7 (10)	45.3 (217)
2008-09	47.7±0.97 (44)	42.5±0.7 (43)	40.7±1.8 (31)	48.4±1.1 (40)	39.7±1.8 (16)	54.0 (17)	43.8±0.97 (7)	44.56 (181)

2009-10	49.2±0.75 (51)	39.3±1.2 (29)	41.1±1.4 (25)	45.7±1.1 (27)	41.3±4.7 (15)		43.6±0.14 (14)	44.35 (161)
2010-11	49.9±1.0 (35)	39.1±1.4 (21)	41.26 (50)	45.8±1.8 (33)	39.6±1.2 (25)		43.7±0.44 (9)	43.49 (173)
2011-12	51.9 (37)	37.4 (22)	42.13 (24)		45.6±3.2 (20)			45.30 (103)
2012-13	44.5±1.4 (37)	38.9±3.5 (34)	41.6±5.7 (29)		39.7±2.8 (7)	**KVASU**	**LRS Mamnoor**	41.62 (107)
2013-14	45.6±0.8 (37)	42.3±1.6 (12)	41.8±3.8 (36)	46.6±1.4 (33)	38.2±2.2 (18)	59.2±7.4 (7)	--	43.68 (143)
2014-15	42.8±0.8 (61)	38.6±0.6 (23)	40.4±1.2 (35)	45.9±1.7 (17)	37.64±1.3 (18)	RC ER Patna	--	41.37 (154)
2015-16	44.96±1.2 (24)	40.2±0.7 (24)	39.3±1.3 (24)	41.7±1.28 (27)	40.2±2.6 (9)	--	54.0±1.19 (4)	41.88 (112)
2016-17	44.91±0.81 (38)	41.50 (27)	43.21 (29)	42.0±7.08 (34)	38.99±1.2 (19)	--	58.50±3.4 (3)	42.83 (150)
2017-18	43.58±0.67 (67)	41.28±1.19 (25)	42.29 (35)	42.2±0.87 (27)	38.64±1.16 (14)	--	--	42.34 (168)
2018-19	45.76±0.80 (31)	40.74±1.43 (39)	44.39 (41)	42.5±0.83 (21)	38.62±1.05 (16)	--	--	42.82 (148)
2019-20	43.62±0.80 (71)	40.42±1.05 (23)	44.52 (37)	43.5±0.49 (22)	39.24±2.11 (20)	--	--	42.87 (173)
2020-21	42.48±0.73 (71)	40.56±0.70 (34)	45.10 (26)	43.1±0.8 (27)	39.03±0.84 (23)	48.34±5.26 (3)	--	42.25 (184)
2021-22	38.61±0.82 (67)	40.93±0.56 (53)	58.7 (35)	46.5±0.8 (33)	39.38±1.30 (23)	51.35±12.4 (3)	--	43.95 (214)
2022-23	**37.72±0.72 (60)**	**39.28±0.82 (31)**	**42.2 (40)**	**44.8±0.9 (40)**	**39.15±1.23 (23)**	**54.00 (1)**	--	**40.59 (195)**



Average Service period at various participating herds

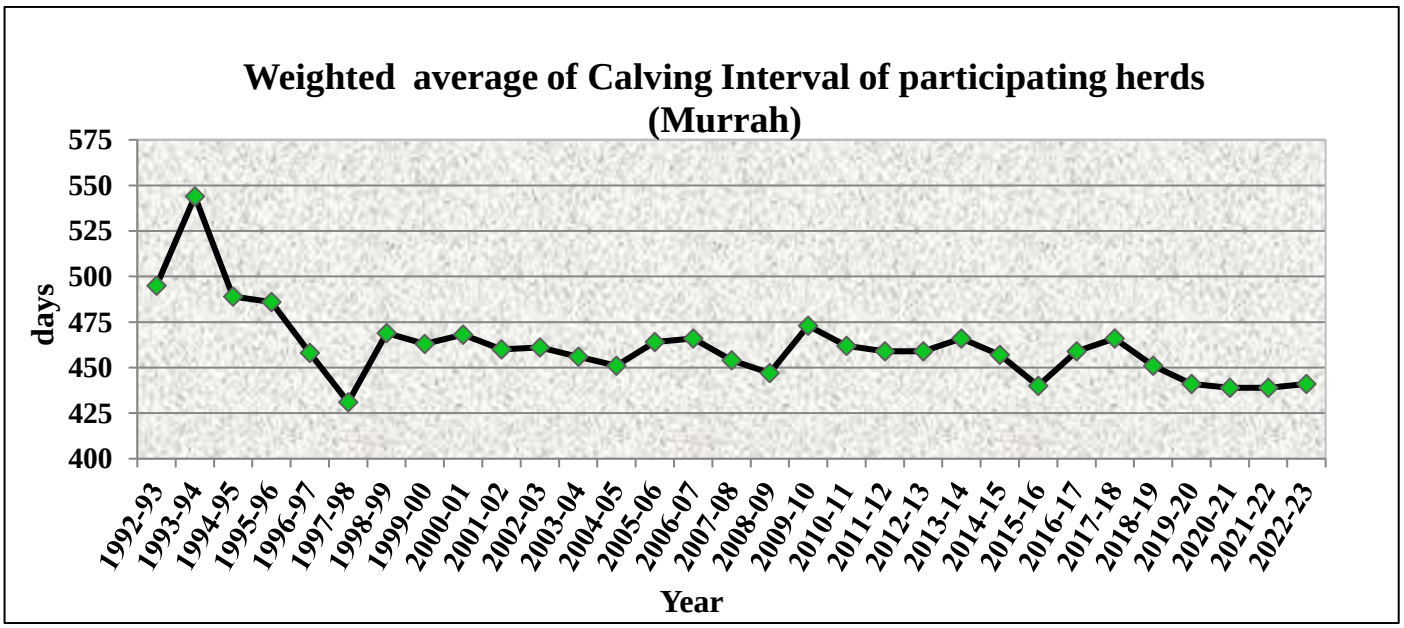
Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1992-93	304±15 (96)	207 (100)			120±33 (8)	115		249 (204)
1993-94	312±158 (158)	228 (105)	148(97)	107.5	101±16 (10)	165		239 (370)
1994-95	202±15 (105)	206 (96)	119(70)	163.1	77±5 (9)	159		179 (280)
1995-96	193±10 (149)	218 (105)	115(72)	135.0	100±12 (12)	132		175 (391)
1996-97	182±10 (149)	196 (76)	114(66)	107.0	125±11 (7)	204		158 (361)
1997-98	175±14 (106)	248 (94)	97(59)	107.7	83±06 (11)	175		167 (325)
1998-99	137±09 (121)	232 (81)	118(63)	108.7	153±25 (11)	186		159 (323)
1999-00	138±09 (104)	213 (59)	159(82)	148.3	190±28 (16)	187		162 (310)
2000-01	146±09 (151)	197 (81)	107±14 (53)	146.0	165±22 (17)	163		153 (370)
2001-02	146±11 (125)	202±14 (83)	123±9 (77)	147±14 (31)	134±25 (12)	126 (69)		150 (397)
2002-03	133±9 (126)	133±9 (95)	141±12 (59)	165±11 (47)	405±96 (5)	102 (76)		135 (408)
2003-04	151±10 (142)	160 (107)	131.65 (117)	87.6±8.4 (42)	108±15.5 (19)	48(11)		135 (432)
2004-05	111±7 (100)	140 (80)	126±10 (93)	96±6.0 (52)	150±16 (30)	160 (87)		130 (442)
2005-06	184±12 (112)	143 (65)	149±12 (68)	148±8.5 (128)	180±28 (54)	253 (32)		167 (459)
2006-07	183±11 (113)	166±15 (69)	131±10 (80)	165±12 (60)	139±15 (40)	151 (37)	99±12.7 (22)	156 (421)
2007-08	159±11 (113)	147±12 (53)	119±11 (84)	165±16 (57)	115±7.5 (62)		109±15.6 (22)	140 (391)
2008-09	171±12 (80)	142±9 (90)	131±22 (61)	139±13 (54)	152±12 (48)	191 (63)	91±17.5 (22)	144 (355)
2009-10	212±17 (77)	151±10 (76)	146±22 (62)	157±12 (68)	122±11 (59)		130±14.6 (17)	159 (359)
2010-11	186±14 (80)	154±12 (94)	145 (76)	155±12 (38)	175±16 (35)		140±3.9 (15)	161 (338)
2011-12	181 (80)	136 (65)	121 (87)		153±216 (29)	**KVASU**	**LRS Mamnoor**	147 (261)
2012-13	174±12 (72)	151±13 (53)	124±27 (69)		213±26 (30)	298±42 (11)	172 (9)	165 (244)
2013-14	190±11 (86)	159±11 (67)	128±11 (73)	118±9 (39)	140±13 (39)	322±115 (6)	143±11 (14)	155 (324)
2014-15	168±8 (88)	160±18 (40)	135±19 (71)	117±11 (52)	124±12 (55)	**RCER Patna**	141±17 (34)	143 (340)
2015-16	138±7 (111)	162±12 (26)	134±23 (92)	127±10 (58)	142±15 (51)	140±5 (12)	128±15 (27)	137 (377)
2016-17	148±9 (93)	184 (26)	132 (54)	129±9.6 (43)	146±10 (52)	183±6 (14)	184±18 (22)	150 (304)
2017-18	167±10 (101)	152±10 (41)	138±10 (49)	135±12 (46)	141±15 (35)	195±8 (12)	--	153 (284)
2018-19	136±7 (97)	136±10 (104)	139 (77)	145±11 (60)	169±16 (46)	157±9 (18)	--	143 (402)
2019-20	143±8 (90)	125±10 (82)	134 (60)	123±8 (64)	173±20 (47)	131±13 (20)	--	137 (363)
2020-21	127±7 (100)	138±12 (95)	140 (39)	127±9 (67)	137±11 (50)	130±11 (31)	--	133 (382)
2021-22	131±8 (99)	147±13 (55)	143 (27)	118±12 (68)	141±11 (46)	123±12 (25)	--	133 (320)
2022-23	**126±6 (122)**	**128±9 (66)**	**119 (28)**	**145±9 (64)**	**140±10 (46)**	**132±15 (25)**	--	**131 (351)**



Average calving interval at various participating herds

Year	CIRB	GADVASU	NDRI	LUVAS	IVRI	CCBF	NDUAT	Weighted average
1992-93	489±16 (42)	510 (100)			404±22 (8)	498		495 (250)
1993-94	625±10 (161)	532 (106)	428 (98)		406±17 (3)	480		544 (368)
1994-95	527±10 (116)	512 (96)	428 (70)	459	377±08 (20)	523		489 (302)
1995-96	501±09 (152)	526 (105)	423 (72)	456 (40)	401±16 (7)	539		486 (376)
1996-97	473±09 (152)	510 (76)	423 (66)	408 (76)	424±23 (7)	510		458 (377)
1997-98	491±10 (118)	553 (94)	395 (60)	389 (55)	392±13 (11)	574		431 (338)
1998-99	455±10 (126)	553 (87)	424 (62)	417 (46)	438±15 (10)	522		469 (331)
1999-00	451±08 (120)	518 (63)	435 (52)	459±34 (49)	422±21 (11)	513		463 (295)
2000-01	454±09 (154)	511 (82)	408±21 (56)	479±33 (25)	411±13 (9)	491		468 (427)
2001-02	456±11 (135)	496±15 (84)	428±13 (43)	457±14 (31)	440±24 (12)	445 (69)		460 (374)
2002-03	440±9 (130)	463±13 (95)	406±16 (31)	472±11 (47)	585±69 (4)	501 (76)		461 (383)
2003-04	458±10 (151)	455 (93)	438 (17)	396.3±8.6 (42)	553±36 (29)	441 (10)		456 (342)
2004-05	426±7 (101)	478±13 (80)	428±20 (35)	402±6.2 (52)	481±28 (37)	480 (87)		451 (392)
2005-06	499±12 (112)	433±14.7 (60)	413±36 (54)	455±8.5 (126)	477 (37)	510 (32)		464 (421)
2006-07	495±11 (116)	437±12 (61)	419±11 (50)	473±12 (60)	452±21 (30)	502 (37)	444±4.6 (21)	466 (375)

2007-08	482±12 (117)	419±7 (58)	441±20 (55)	469±16 (57)	443±21 (43)		408±13 (21)	454 (351)
2008-09	469±12 (85)	438±8 (52)	424±14 (21)	444±13.4 (54)	452±11 (48)	503 (63)	402±17 (22)	447 (282)
2009-10	520±16 (77)	492±17 (72)	413±25 (30)	459±21.4 (68)	445±13 (63)		440±14 (17)	473 (327)
2010-11	492±14 (83)	457±105 (76)	442 (44)	462±12.2 (38)	449±16 (60)		426±6.7 (15)	462 (316)
2011-12	485 (81)	473 (85)	428 (56)		461±18 (39)	**KVASU**	**LRS Mamnoor**	459 (261)
2012-13	481±12 (73)	453±12 (59)	402±24 (55)		479±23 (31)	654±47 (6)	464±18 (22)	459 (246)
2013-14	495±12 (87)	471±11 (64)	424±24 (48)	423±29 (39)	471±14 (39)	599±48 (12)	398±5 (14)	466 (303)
2014-15	473±8 (88)	513±124 (41)	421±18 (40)	425±11 (52)	439±16 (44)	**RCER Patna**	462±21 (34)	457 (299)
2015-16	449±7 (111)	458±17 (25)	430±23 (92)	434±11 (58)	447±16 (49)	425±1.4 (12)	426±16 (27)	440 (374)
2016-17	458±9 (93)	472 (26)	428±12 (27)	434±10.1 (43)	457±15 (40)	481±7 (12)	530±27 (22)	459 (263)
2017-18	478±10 (101)	459±12 (41)	432±11 (33)	445±12 (46)	483±20 (35)	515±7 (12)	-	466 (268)
2018-19	446±7 (97)	441±10 (104)	446 (77)	454±11 (60)	496 ±19 (36)	463±22 (18)	-	451 (392)
2019-20	451±8 (90)	436±11 (82)	444 (60)	431±8 (64)	449±13 (47)	426±40 (20)	-	441 (363)
2020-21	437±7 (100)	434±11 (95)	440 (39)	437±9 (67)	434±12 (50)	468±24 (31)	-	439 (382)
2021-22	438±8 (99)	454±15 (55)	452 (27)	420±9 (68)	443±9 (46)	446±24 (25)	-	439 (320)
2022-23	**435±6 (122)**	**437±9 (66)**	**427 (28)**	**454±9 (64)**	**456±12 (46)**	**438±24 (25)**	-	**441 (351)**



Average Fat % during the years

Murrah	CIRB	GADVASU	NDRI	LUVAS	IVRI	NDUAT	SVVU	KVASU	Overall
2006-07	7.01 (130)	7.57 (82)	8.07 (99)	7.6 (37)	7.55 (71)	8.17 (27)			7.55 (446)
2007-08	7.03 (136)	7.31 (71)	7.92 (101)	7.70 (30)	7.99 (111)	8.02 (24)			7.58 (473)
2008-09	7.82 (1436)	7.80 (78)	7.98 (787)	7.3 (652)	8.19 (1244)	7.96			7.88 (4197)
2009-10	7.70 (85)	7.54 (79)	8.11 (1083)	6.8 (65)	7.97 (1008)	7.92 (20)			7.98 (2340)
2010-11	7.81 (1257)	8.17 (87)	8.03 (1107)	6.9 (783)	8.01 (1080)	7.99	7.18 (546)		7.69 (4860)
2011-12	7.66 (1257)	7.99 (88)	8.19 (750)		8.08 (924)		**LRS Mamnoor**		7.93 (3019)
2012-13	7.66 (1240)	8.27 (83)	8.15 (1010)		7.88 (872)		7.56 (196)	8.95 (12)	7.88 (3413)
2013-14	8.44 (1194)	8.59 (61)	7.90 (101)	6.80 (61)	7.89 (82)		8.20 (133)	7.80 (2423)	8.00 (4055)
2014-15	8.46 (1168)	8.33 (61)	8.30 (116)	7.20 (64)	7.87 (363)	**RC ER Patna**	8.15 (268)	--	8.26 (2040)
2015-16	--	7.97 (54)	8.28 (1648)	7.4 (78)	7.91 (996)	7.35 (84)	8.00 (380)	--	8.08 (3240)
2016-17	--	7.46 (49)	7.99 (1240)	7.3 (84)	7.95 (970)	--	8.05 (380)	--	7.95 (2723)
2017-18	--	7.32 (49)	7.89 (1150)	7.3 (81)	7.96 (994)	7.42 (12)	--	--	7.89 (2286)
2018-19	--	7.35 (68)	7.69 (106)	7.1 (76)	7.76 (292)	--	--	--	7.60 (542)
2019-20	--	7.34 (67)	7.54 (111)	7.1 (78)	7.35 (364)	--	--	--	7.35 (620)
2020-21	--	7.42 (64)	7.97 (79)	6.8 (72)	7.03 (395)	--			
2021-22	7.92 (783)	7.64 (72)	8.19 (81)	6.97 (81)	7.14 (404)	7.48 (440)			7.61 (1861)
2022-23	**8.00 (948)**	**7.53 (54)**	**8.46 (79)**	**6.78 (85)**	**6.69 (399)**	**7.39 (300)**			**7.57 (1865)**
Between breeds	**Murrah**	**Nili-Ravi**	**Bhadawari**	**Jaffarabadi**	**Pandharpuri**	**Surti**	**Godavari**	**Swamp**	
2006-07	7.55 (446)	6.8 (118)	7.65 (34)	8.21 (34)	8.01 (25)	7.12 (34)	7.38 (47)	8.38 (12)	
2007-08	7.58 (473)	6.70 (122)	8.09 (106)	8.25 (29)	8.03 (15)	7.25 (34)	7.00 (47)	7.67 (21)	
2008-09	7.88 (4197)	6.9 (108)	8.09 (604)	8.61 (260)	8.04 (180)	7.33 (446)		7.73 (16)	
2009-10	7.98 (2340)	6.9 (146)	8.02 (375)	8.02 (446)	8.04 (257)	7.5 (301)	7.64 (44)	8.52 (20)	
2010-11	7.69 (4860)	6.8 (98)	8.20 (309)	8.01 (364)	8.03 (203)	8.06 (267)		8.91 (159)	
2011-12	7.93 (3019)	7.3 (81)	8.03 (195)	8.03 (27)	8.03 (630)	7.93 (229)		9.23 (115)	
2012-13	7.88 (3413)	7.62 (123)	8.16 (242)	8.24 (1632)	8.01 (545)	7.96 (240)		8.04 (155)	
2013-14	8.00 (4055)	8.20 (109)	8.65 (309)	8.06 (34)	7.85 (187)	7.89 (226)		10.16 (184)	
2014-15	8.265 (2040)	7.86 (115)	8.12 (340)	8.46 (386)	8.02 (289)	7.58 (364)		8.45 (62)	
2015-16	8.08 (3240)	7.38 (110)	8.26 (28)	8.38 (403)	8.09 (137)	7.43 (187)		8.35 (82)	

2016-17	7.95 (2723)	7.23 (111)	--	8.38 (42)	8.03 (120)	7.18 (21)	**Nili-Ravi (GADVASU)**	8.62 (82)	
2017-18	7.89 (2286)	7.40 (108)	8.17 (294)	8.32 (495)	8.04 (83)	8.11 (248)	7.54 (33)	7.65 (80)	
2018-19	7.60 (542)	7.61 (113)	8.23 (187)	8.12 (781)	Center Closed	6.64 (288)	7.99 (33)	Center Closed	
2019-20	7.35 (620)	7.41 (N)	8.23 (309)	7.91 (773)	--	6.94 (270)	8.01 (34)	--	
2020-21		7.21 (115)	8.31 (462)	7.88 (721)	--	6.37 (186)	7.97 (37)	--	
2021-22	**7.61 (1861)**	**7.1 (102)**	**8.38 (339)**	**7.9 (58)**	--	**6.43 (171)**	**7.70 (28)**	--	
2022-23	**7.57 (1865)**	**7.6 (106)**	--	**8.1 (70)**	--	**7.05 (145)**	**7.36 (26)**	--	

Total AI, Calving, PD, Conception and daughter's milk recording in Field Units

Murrah Breed	**AI**	**Pregnancy**	**Total calving**	**Daughters Born**	**Daughters Recorded**
GADVASU, Ludhiana					
2001-02	493	184	-	-	3
2002-03	1908	723	229	135	20
2003-04	1858	629	472	245	26
2004-05	2435	726	466	215	14
2005-06	2822	967	699	333	55
2006-07	3313	1178	755	357	50
2007-08	4015	1438	870	368	82
2008-09	4147	1622	1149	491	85
2009-10	5415	1878	1140	538	155
2010-11	6846	2289	1274	603	183
2011-12	7298	2814	1800	853	172
2012-13	8517	3463	2497	1155	257
2013-14	8014	3380	2831	1303	208
2014-15	8316	3810	2958	1447	68
2015-16	6325	3054	3013	1383	1
2016-17	5289	2464	2236	1049	
2017-18	6344	2579	1933	899	
2018-19	7779	3299	2468	1192	
2019-20	8690	4307	3235	1555	
2020-21	7991	4277	3878	1883	353
2021-22	8543	3815	3309	1565	381
2022-23	8343	4146	3407	1661	370
Sub Total	**124701**	**53042**	**40619**	**19230**	**2483**
CIRB, Hisar					
2001-02	139	25	17	6	-
2002-03	540	236	14	3	-
2003-04	1001	356	147	73	-
2004-05	1298	566	243	133	-
2005-06	1999	1009	382	179	1
2006-07	2102	1139	756	352	5
2007-08	2132	1104	772	311	7
2008-09	2176	1086	716	358	27
2009-10	2803	1450	971	481	14

2010-11	3433	1743	1279	634	36
2011-12	3308	1756	732	348	47
2012-13	4204	2104	1159	574	54
2013-14	3962	1903	1230	552	50
2014-15	4129	2218	1093	528	70
2015-16	4434	2326	1718	818	78
2016-17	3807	2063	1661	797	139
2017-18	4093	2248	1593	799	126
2018-19	3977	2214	1710	830	144
2019-20	3957	2140	1754	801	123
2020-21	3480	1901	1430	663	139
2021-22	3167	1815	1434	746	172
2022-23	3766	1986	1502	720	187
Sub Total	**63907**	**33388**	**22313**	**10706**	**1419**
NDRI, Karnal					
2004-05	2223	993	710	333	34
2005-06	2224	994	875	400	45
2006-07	2193	976	918	440	65
2007-08	2594	1212	1140	517	109
2008-09	2529	1190	1086	503	138
2009-10	2739	1377	1159	569	211
2010-11	2747	1399	1225	560	183
2011-12	2995	1600	1260	605	133
2012-13	2905	1422	1159	569	138
2013-14	4419	2242	1225	560	119
2014-15	3941	2033	1860	905	83
2015-16	3905	1994	1648	768	87
2016-17	3916	1975	1524	722	85
2017-18	3241	1605	1397	640	91
2018-19	4315	1995	1030	456	86
2019-20	4571	1999	1532	647	--
2020-21	4874	1928	1559	640	
2021-22	5126	2467	1793	772	
2022-23	4844	1930	1866	803	
Sub Total	**66301**	**31331**	**24966**	**11409**	**1607**
Grand Total	**254909**	**117761**	**87898**	**41345**	**5509**

NDUAT Faizabad					
2006-07	482	57	222	103	-
2007-08	372	122	143	61	-
2008-09	-	-	-	-	-
2009-10	1178	416	275	122	-
2010-11	3695	427	328	164	Centre closed
Total	**5727**	**1022**	**968**	**450**	**-**
SVVU Venkataramangudam					
2010-11	**282**	**67**	**21**	**8**	Centre closed

OTHER BREEDS

	AI	Pregnancy	Total Calving	Daughters Born	Daughters Recorded
Jaffarabadi (KU, Junagadh)					
2005-06	15				-
2006-07	966				-
2007-08	2169	1196 (1907)	468	223	-
2008-09	2961	1141 (2065)	944	455	-
2009-10	3070	1563 (2676)	1429	694	-
2010-11	3457	1613 (2651)	1333	666	-
2011-12	3738	1603 (2918)	1538	729	-
2012-13	4067	1776 (3627)	1684	810	-
2013-14	4121	1957 (4021)	1688	801	-
2014-15	4781	2150 (4271)	1564	731	1
2015-16	3375	1719 (3691)	1892	867	15
2016-17	2971	1228 (3041)	1256	537	74
2017-18	2462	1032 (2436)	815	365	72
2018-19	2013	840 (1971)	803	347	89
2019-20	1962	776 (1894)	712	308	86
2020-21	2139	928 (1273)	800	374	76
2021-22	1931	842 (1910)	766	344	99
2022-23	1805	840 (1893)	784	422	104
Total	**48003**	**21204 (42245)**	**18476**	**8673**	**616**
Surti (LRS, Vallabhnagar)					
2001-02	2256	477	393	165	53
2002-03	1850	472	362	159	49
2003-04	1980	471	352	167	51
2004-05	1861	551	445	186	29
2005-06	1717	536	446	170	33
2006-07	1637	506	411	162	38
2007-08	1811	542	420	184	22
2008-09	1804	604	502	218	15
2009-10	1975	671	529	224	18
2010-11	2038	681	458	203	18
2011-12	2023	520	475	226	20
2012-13	1897	583	497	198	23
2013-14	1591	555	410	158	45
2014-15	1534	455	409	156	58
2015-16	1986	556	345	145	72
2016-17	1979	622	467	179	40
2017-18	1478	506	453	188	1
2018-19	1719	485	397	173	0
2019-20	1538	539	409	183	0
2020-21	1678	456	409	177	0
2021-22	1480	540	402	185	0
2022-23	1237	425	394	187	0
Total	**39069**	**11753**	**9385**	**3993**	**585**

Pandharpuri (MPKV, Kolhapur)					
2006-07	3969	1530	770	382	40
2007-08	5299	2001	1254	544	42
2008-09	9349	4402	1314	660	70
2009-10	25006	9622	4273	1902	80
2010-11	22602	10337	6093	2086	108
2011-12	21047	9263	5906	2619	105
2012-13	4081	2183	3520	1523	43
2013-14	3766	2202	2800	1301	152
2014-15	4329	2104	1165	514	61
2015-16	4607	2212	2039	949	-
2016-17	3642	1226	939	392	
2017-18	4286	1976	1438	635	Centre closed
Total	**111983**	**49058**	**31511**	**13507**	**701**
Godavari, SVVU, Venkataramanngudem					
2006-07	2167	530	271	124	
2007-08	1436	619	428	202	
2008-09					
2009-10	196	32	86	40	Centre closed
Total	**3799**	**1181**	**785**	**366**	
Grand Total	**202854**	**83196**	**60157**	**26539**	**1902**