



Central Institute For Research On Buffaloes, Sirsa Road, Hisar

Foundation stone laying of Modern animal sheds

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Hon'able Dr S Ayyappan, Secretary, DARE & DG ICAR addressing staff at CIRB Hisar

Dr S Ayyappan, Secretary Department of Agricultural Research and Education and Director-General, ICAR, New Delhi laid the foundation stone of modern animal sheds on 09.12.2010 in the auspicious presence of Dr KML Pathak, Dy. Director General (Animal Sciences), Dr CS Prasad, ADG (AN&P) and Dr RK Singh, Director, NRC on Equines. Dr Ayyappan envisioned that the co-ordinated efforts of entire staff can transform the upcoming venture into one of the best automated animal sheds in India. This automated system besides facilitating clean milk production would ensure that the milking process is consistent with accurate recording and automated feeding as per the requirement of each buffalo calculated by the integrated computerized system.

Dr RK Sethi, Director, CIRB informed that the facility will have provision for housing of 200 buffaloes, 25 heifers, 15 down-calvers, 25 individual pens for young calves and 20 individual calf pens. There will be individual resting cubicles for day resting inside the sheds as well as open paddock for night resting of animals during summers. Each animal will be provided UNI code for identification and recording. Activity meters for heat detection/ behavioural studies of the animals will also form a part of this system. There will be separate sprinkler/washing area, sick line for treatment of animals and two wallowing tanks to accommodate about 50-60 buffaloes in each tank. The building will have insulated ceiling to protect from extreme heat/cold stress. This modern animal shed complex will be completely eco-friendly unit with in-built solar water heating system, bio-gas and solar lighting. This will be the first state of the art animal housing and management facility in the country.

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## Glimpses of the Visit to Institute



Hon'ble DG planting a sapling



Agriculture Farm



Visitors Room



Interaction with scientists at Semen Freezing Lab

## IX Scientist Meet of Network Project of Buffalo Improvement

The IX scientist meet was held at CIRB, HISAR on November 27 – 28, 2010.

The IX Scientist meet was conducted under the Chairmanship of Dr K M L Pathak DDG (AS) ICAR. Dr M L Madan, Former DDG (AS) & Vice Chancellor PDDUVU & CRI, Mathura, Uttar Pradesh participated as expert member nominated by ICAR. Dr C S Prasad, ADG (AN&P), Dr S C Gupta ADG (AP & B) and Dr Vineet Bhasin, Principal Scientist. (AG & B) attended the meet from ICAR Head Quarters.

Dr R K Sethi Director CIRB & PC (B) welcomed the dignitaries and all participants at the outset of the meeting. He presented brief history and achievements during the current year at all the centres of Network Project. Chairman appreciated the overall performance of the project. However, he felt the need of framing performance indicators for monitoring and critical evaluation of the project and emphasized the role of extension in propagating the good quality semen at different centres and promoting surplus male for meat production. He accentuated the need for developing Sire directory of elite germplasm including those of farmers' elite animals.



Dr M L Madan, Former DDG (AS), expert member felicitated



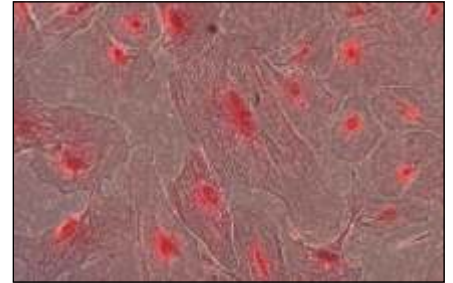
Dr M L Madan emphasized on saving high quality male germplasm by reducing calf mortality in field and application of Biotechnological tools for faster multiplication of superior germplasm using sex sorted semen to produce superior breeding bulls. He stressed the need to expand the sphere of AI in the field covering at least 1000 AI from each bull.

Dr C S Prasad ADG (AN & P) expressed that database on animal performance with respect to the climate change has to be prepared, especially, with respect to its impact on nutrient utilization in buffaloes. Identification of performers and non performers by developing appropriate monitoring system was suggested. Dr S. C Gupta, ADG (AP&B) highlighted the required changes in basic technical program at some of the Network centres.

## Research Notes

### Buffalo Cell culture and Differentiation

Cells cultured from buffalo amniotic fluid, amniotic membrane, umbilical cord matrix and fetal explant were maintained up to 100-185 days. These cells have good freezing behavior which is an essential feature for using these cells for different purposes. These cells inherited positive character of pluripotency as studied through staining and gene expression of stem cells markers like Nanog, Oct-4 and Sox-2. Directed differentiation of these cells has shown positive results using cell type specific protocols for osteogenic, pancreatic and nerve cells. The fetal explant cells differentiation into osteogenic cells is validated using Alizarin red stain. These cells can also be useful in drug screening and toxicity testing used in veterinary and human medicine.



Alizarin red positive osteogenic cells differentiation of fetal fibroblast

### Melatonin treatment during pre-breeding season induces ovarian cyclicity in buffalo heifers

Seasonality of reproduction in buffaloes is attributed commonly to photoperiodism. Melatonin is known to play a central role in resumption of body ovarian cyclicity. Study was conducted to deduce the efficacy of induction of estrus and subsequent follicular dynamics in true anoestrus buffalo heifers following melatonin implant during pre-breeding season i.e. from July to September. Nine heifers received either melatonin implants or remained untreated control before trans-rectal ultra-sonography after 7 days of the treatment to monitor ovarian follicular dynamics. Eight buffaloes with melatonin implants resumed ovarian cyclicity in comparison to none in control. First estrus was noted at  $21.0 \pm 2.0$  to  $42.00 \pm 2.85$  days after insertion of implant. Post-treatment length of the first cycle was  $20 \pm 1.05$  days with inter estrus interval period of  $31.63 \pm 4.14$ . Trans-rectal ultra-sonographic examination confirmed four out of nine animals pregnant. Study indicated that melatonin treatment during pre-breeding season induces ovarian cyclicity, leading to establishment of pregnancy in true anoestrus buffalo heifers.

### Visit of DDG

Deputy General Director, (DDG) Animal Sciences, Dr KML Pathak visited the Institute at Hisar on 21.9.2010. On this occasion, Dr Pathak visited the laboratories and interacted with the scientists. He was chief guest at the closing ceremony of the Farmer's Training on "Bhainse Palan Evum Kritrim Garbadhan" on this day. Certificate of participation was given away to the participants by chief guest. He interacted with all the scientists while visiting the laboratories and other staff of the institute. He evinced keen interest in the research and extension activities of the institute and gave his valuable suggestions for further improvement. Web site of the institute was also launched by the hon'ble DDG (AS) on this day.



DDG (AS) planting 'Triveni' at the institute



Dr KML Pathak, DDG (AS) distributing certificates to the participants



Launching of Institute web-site

## FPT Buffalo Show



Dignitaries on stage during Kisan Goshthi



Dr. R.K. Sethi, Director CIRB discussing FPT Programme



Dignitaries interacting with farmers at Buffalo Show



Farmers honouring the guest

A buffalo show was organized on 27.11.10 in which 52 daughters born in adopted villages under FPT project participated. Competition of animals was held under three categories and prizes in each categories viz. lactating, heifers 1-2½ years and >2½ years were given. More than 100 farmers participated in the show. Dr KML Pathak, DDG (AS), ICAR, chairman and expert member, Dr M L Madan, Ex-Vice chancellor, PDDUVU and CRI, Mathura distributed prizes to the winning farmers in different categories. Show was organized to observe the impact of technology transferred in the field and interest of farmers for rearing quality buffaloes.



Farmers honouring the guest



Farmers honoured at the show





## Vigilance Awareness Week

Vigilance awareness week was observed at the institute during the period 25.1.2010 to 1.11.2010. Observance of the vigilance awareness commenced with the pledge administered to the officers of the institute on 25.1.2010 with the main focus on "Generalization of awareness and publicity against corruption". Conclusive function was held on 1.11.2010. Shri Balbir Singh Malik, IAS Commissioner, Hisar graced the occasion as chief guest and emphasized that neither corrupt route nor shortcuts headway towards the success. Shri Hanif Qureshi, IPS, SP, Hisar was the guest of honour. He highlighted ways and means to check corruption in the society. Debate, declamation and other contests were also held on the occasion in which employees of the Central Government organizations participated.



Vigilance Awareness Week Celebration at CIRB



Shri Balbir S Malik IAS Commissioner & Shri H Qureshi, IPS, SP, Hisar at CIRB

## Herd Performance (July to Dec. 2010)

Traits	Murrah Herd, Hisar	Nili-Ravi Herd, Nabha
Wet average	6.87 Kg	6.84 Kg
Herd average	4.10 Kg	4.55 kg
Semen doses		
i) Frozen	34245	3168
ii) Supplied/sold	33742	780
iii) Balance doses in stock	315000	24,178



Murrah Calf

Nili Ravi Calf

## Field Progeny Testing Programme (FPT)

A total of 2117 artificial inseminations were done in adopted villages with the semen of 12 bulls of 12th set during July to December 2010. The conception rate in the field was worked out to be 51.33%. During the period 883 calvings were recorded, out of which 447 were female calves. In this period 28 daughters of 9th set and 5 daughters of 10th set also calved at various field unit centres and the monthly test day milk recordings are in progress.

## Agriculture Farm

Produce (Qtl.)	CIRB Hisar	CIRB Nabha
Green Fodder produced & fed	21648	21442
Green Fodder for Silage	1921	3944
Green Fodder for Hay	Nil	700
Grain produced (Paddy)	56.0 Bajra grain and 37.0 Kadabi	656

## Distinguished Visitors

Dignitary	Designation	Date
Dr KML Pathak	DDG, AS, ICAR	21.9.10
Dr SC Gupta	ADG (AP&M)	21.9.10
Dr Randhir Dalal	Member Secretary, Haryana Kisan Aayog	29.9.10
Shri R.N. Meshram	Director, TTC	9. 9. 10
Dr KS Dangi	DG, (AH)Haryana, Chandigarh	8.10.10
Shri Hanif Qureshi	IPS &SP Hisar	1.11.10
Shri BS Malik	IAS & Commissioner Hisar	1.11.10
Richard Pursley	Prof. Department of Animal Science, Michigan State University	11.11.10
Saskatchewan Research Council	Canadian Delegation	20.11.10
Dr S. Ayyappan	Sec. DARE & DG, ICAR, New Delhi	9.12.10
Dr KML Pathak	DDG, (AS), ICAR	9.12.10
Dr CS Prasad	ADG (AN&P)	9.12.10

### Canadian Delegation

A six member delegation visited the institute sub-campus on 20.11.10 with a purpose to have collaboration with India in different aspects of buffaloes. Members of delegation visited animal farm, Feed Unit, semen cryo-preservation facilities and other labs and interacted with the scientists of the institute along with scientists of NDRI Karnal. The delegation visited the Animal Farm, the labs at the main campus and interacted with the scientists. They took keen interests in the activities of the Institute. Dr. R.K. Sethi also apprised the delegation with the ongoing network programme of buffalo improvement in the country.



Richard Pursley, Prof. Animal Science, Michigan State University at CIRB sub- campus Nabha

### Farmers Training Organized on Buffalo Husbandry and Artificial Insemination

Increasing awareness of breed improvement scope and availability of quality frozen semen, farmers are convincingly adopting AI in fields. Institute's programme for training of layman inseminators from amongst the educated unemployed rural youths is proving to be complimentary to this phenomenon.

Training for educated unemployed rural youths in 'Buffalo Husbandry and Artificial Insemination' was organized from 13th to 22nd September, 2010 in the Physiology and Reproduction Division. Fourteen participants from the states of U.P., Rajasthan, Bihar and Haryana attended this training. These youths were given theoretical background behind the process of reproduction, semen cryo-preservation and AI technology. Their skills were developed in the AI technology through practical hand-on training. Additionally, the training embraced all the key elements of



Dr. R.K. Sethi, Director CIRB welcoming Dr. KML Pathak, DDG (AS)



Dr. KML Pathak, DDG (AS) addressing the farmers at institute

buffalo husbandry i.e. breed characteristics, nutritional aspects, general health, reproductive attributes and semen collection, processing and insemination. Course Coordinators for the training were Dr. RK Sharma and Dr. SK Phulia. The participants were distributed certificated on completion of the programme by Dr. K.M.L. Pathak, DDG (AS), ICAR who lauded the efforts of the institute in organizing such programmes having the potential to open up avenues for self-employment of educated rural youths. Such trainings are boost to the propagation of AI through good quality semen, purchased from the institute, thereby obtaining pregnancy rates in the range of 50-70 percent. These efforts are promising way to breed improvement and also improvement in economic status of the farmers adopting the AI technology.



Farmers interacting with in-charge Animal Farm

## Visit of farmers at Institute

During the period of July to December this year 184 farmers and students visited institute who showed their keen interest in buffalo management practices at farm. It included 38 women farmers who actually are the buffalo keepers at Haryana.

## Personalia

### Joinings



Dr. K.P. Singh  
Principal Scientist  
w.e.f. 6.7.2010



Dr S.S Paul,  
Principal Scientist  
w.e.f. 21.09.2010



Dr. P.S. Oberoi  
Office In-charge  
Sub campus

### Promotion



Shri Rajesh Parkash,  
T-4 to T-5  
w.e.f. 23.6.1999



Shri Joginder Singh,  
Steno to Pvt. Secretary  
w.e.f. 12.10.2010



Shri Daljit Singh,  
T-3 to T-4  
w.e.f. 1.1.2010



Shri Balvinder Singh,  
T-3 to T-4  
w.e.f. 12.2.2010

Shri J. Ramani, AAO to Admn. Officer on 25.11.2010

### Retirement

Shri Jagdish Lal (T-4) retired on 31.10.2011.

Shri J. Ramani, Admn. Officer retired on 30.11.2011.

Dr T P Singh (T-6) acquired Ph.D. from Ch. Charan Singh University, Meerut on 14.12.2010

## Forthcoming events

- Farmers, Scientists, entrepreneurship meet will be organised in Feb and March 2010
- Celebration of the World Vet. Year 2011 at institute holding activities as National Seminar on Biodiversity - to discuss buffalo diversity and conservation, Honouring and decorating senior veterinarians, special guest lectures on Controlling zoonosis, Protecting environment & Promoting food security, quality and safety activities
- Holding Livestock show/ Buffalo Mela / Calf rallies
- Seminars on Use of media in disseminating knowledge for benefit of animal owners

### Transfer

Shri Virendera Singh, T-9 selected as Additional Commissioner (NRM) in Deptt. of Agril. and Cooperation, Krishi Bhavan, New Delhi w.e.f.20.9.2010

Shri Sandeep Kumar, Jr. Clerk selected as Hindi Translator in NRFMT&TI, Hisar on deputation on 20.7.2010

Dr. J.K. Singh, Sr. Scientist from CIRB, Hisar to Sub-Campus, Nabha on 16.12.2010

Dr. Ashwani Saini, T-5 from CIRB, Hisar to sub-campus Nabha on 1st July, 2010

Dr. S.M. Deb, Pr. Scientist selected as Head, Regional Research Station CAZRI, Pali, (Raj.) w.e.f.8.11.2010

## Sectoral News

	Buffalo Population	Production (in MT)	
		Buffalo Milk	Buffalo Meat
India	106630000	59.000	1.427
Asia	182793123	87.47	3.040
World	188306103	90.33	3.308

Source : FAOSTAT 2009



### Director's column

It is a pleasure to put forward this issue of newsletter for the esteemed readers to provide them insight into the forthcoming activities at the institute. Scientists at the institute are committed to adopt and implement modern and improved practices and tools for overall improvement in production through managerial of interventions. Construction of automated modern sheds for animals is a milestone in the history of this institute which surely will boost the interest of nation's youth in the upcoming buffalo industry.

As far as germplasm improvement is concerned institute has recognized the need of embryo transfer technology as a potential tool for faster multiplication of superior male germplasm, which is the necessity of the nation to meet the breeding requirements of large breed-able population. For this, institute has taken initiative of multiplication through integrated SOET /MOET and cloning of elite bulls.

We, at CIRB, are committed to undertake research on various aspects of buffalo production, development of technologies, validation and dissemination to the end-users for overall improvement of production and productivity of buffaloes in the field. Scientific and technical manpower at institute is engaged in testing and demonstration of technologies in the field by involving farmers in the scientific programmes of the institute, especially, under the field progeny testing project in adopted villages.

A constant and valuable support and guidance from the council for research is a tremendous source of inspiration to focus our scientific pursuits and their execution in right perspective. Our efforts will always take a forward stride to develop communication with buffalo keepers for improvement of the species for higher productivity.

RK Sethi