

Mithun Digest

The bi-annual panorama.....

National Research Centre on Mithun



INSTITUTIONAL ACTIVITIES

Mega Event – Interface Meeting

An Interface Meeting for "Development of Agriculture and Allied Sectors in Nagaland" in collaboration with the Agriculture and Allied Departments, Govt. of Nagaland was organized on 04 February 2011 under the chairmanship of Dr. S. Ayyappan, Hon'ble Secretary DARE and DG, ICAR.

Sri T. R. Zeliang, Hon'ble Minister for Animal Husbandry, Govt. of Nagaland; Dr. Chumben Murry, Hon'ble Minister for Agriculture, Govt. of Nagaland; Dr.S.Ayyappan, Hon'ble Secretary, DARE and Director General, ICAR along with respected DDG's Dr.K.M.L.Pathak, Animal Science; Dr. A. K. Singh, NRM, Dr. Arvind Kumar, Education; Dr. K. D. Kokate, Extension; Dr. (Mrs.) Meena Kumari, Fishery visited our Institute along with others dignitaries of ICAR Headquarters as well as Vice Chancellors Dr. S.N. Puri of Central Agri. University, Imphal and Dr. K. M. Bujarbaruah of Assam Agri. University, Jorhat and Directors of various ICAR Institutes of North East Region.

The main purpose of this Interface was

- ♦ To showcase the strength of DARE/ICAR as a powerful Institution in evolving solutions for the problems faced by the Indian farmers and livestock keepers.
- ♦ To know the existing practices followed by Nagaland farmers for agriculture and allied sectors and to intervene at the right time in right place for future improvements.
- ♦ To provide scientific interventions to the farmers including Mithun rearers to solve their problems in diverse field of agriculture and allied sectors if ICAR has ready to use such solutions.
- ♦ In case ICAR has no ready-to use solutions for the problems faced by the farmers, then take-up these problems as area of research for devising future solutions on priority basis based on their merit.



Republic Day Celebration

The Institute staff celebrated the Republic Day of the nation on 26 January, 2011 in a befitting manner with a pledge to work for the benefit of the motherland. The Director unfurled the tricolor in the morning and encouraged all the staff to work with a purpose and remain ever vigilant for safeguarding the reputation of the Institute in particular and the nation in general. The children and family members also a vibrant part of this celebration.



Institute Research Council Meeting

The Institute Research Council (IRC) Meeting chaired by the Director was held on 20 January 2011. All the scientists presented their research highlights as well as a couple of new projects were also presented. Dr. B. C. Sarmah, Professor, Veterinary Physiology; Dr. Dilip Kr. Deka, Professor, Veterinary Parasitology and Dr. Abdul Mukit, Professor, Veterinary Pathology of Veterinary College, Khanapara attended the meeting as outside experts.



Research Advisory Committee (RAC) Meeting

The RAC held its 4th meeting in the Institute on 16-17 February 2011 under the chairmanship of Dr.N.Balaraman, former V.C., TANUVAS, Chennai; Dr. R. N. Goswami, Dean, Veterinary College, AAU, Dr. Ramesh Rawal, Vice President, BAIF; Dr. R. Zinyu, former Director, Medical, Govt of Nagaland, Dr. Moses, Director, AH & Veterinary, Govt of Nagaland and Mr., Aru Khate, progressive farmer were also present in the meeting along with all the scientists of the Institute. They reviewed the research work undergoing in the Institute and gave their critical inputs and guidelines for betterment of the ongoing projects. The committee also visited the Porba farm and suggested some points which are taken into consideration.



Institute Management Committee Meeting

The Institute Management Committee (IMC) Meeting chaired by Dr. C. Rajkhowa, Director was held on 15 March 2011. Dr. R.N. Goswami, Dean; Dr. Apurba Chakraborty, Director Research, Veterinary College, Khanapara; Dr. R. Zinyu, former Director, Medical, Govt of Nagaland and Dr. Kevi, on behalf of Director, Dept of Animal Husbandry & Veterinary, Govt of Nagaland; and Dr. J. J. Gupta, PS, ICAR Res. Complex for Eastern Region, Patna attended the meeting. A number of important agenda of the Institute including research, administrative and approval of some scientific equipment were placed for discussion.



RESEARCH HIGHLIGHTS

Morphometric and genetic characterization of Mithun

The coat color patterns of Mithuns belonging to four strains from the Institute herd were studied. The results were

Training Programme

A training programme on Entrepreneurship development was organized in the Institute during 7-13 February, 2011. A large number of progressive farmers of Nagaland and Arunachal Pradesh were participated in this programme.

Institute Animal Ethics Committee Meeting

The Institute Animal Ethics Committee (IAEC) held its meeting on 11 March 2011 to review the research projects having animal components and discussed with the scientists. Dr. Amrit Sagar Dehingia, member of CPCSEA was the main nominee of IAEC and he took keen interests about the animal components of the research programme and discussed with the scientists to ensure well-beings of the animals involved.

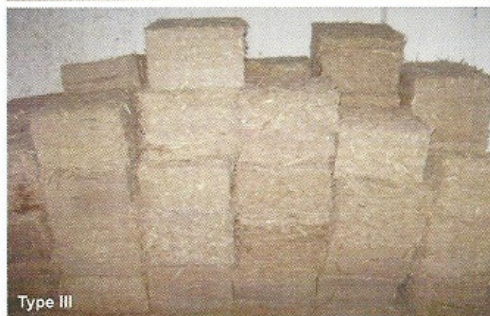
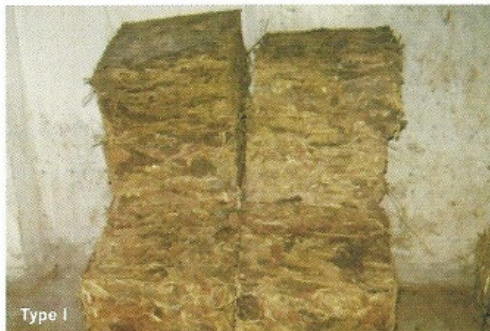


presented in tabular form. Further study was in progress.

Strain	Nagaland		Arunachal		Manipur		Mizoram	
	F	M	F	M	F	M	F	M
Body coat color (in %)								
Black	65.39	70.38	28.57	28.57	22.22	50	66.67	83.33
Pie-bald	34.61	29.62	71.43	71.53	77.78	50	33.33	16.67
Tail switch (in %)								
Black	73.07	77.77	35.71	14.28	44.44	60	73.33	83.33
White	23.07	22.22	57.14	85.71	55.55	40	20.00	16.66
Pie-bald	03.85	-	07.14	-	-	-	06.60	-
Muzzle (in %)								
Black	65.38	70.38	64.28	100	100	100	100	100
Pinkish	34.62	25.92	35.72	-	-	-	-	-
Black & Pinkish	-	03.70	-	-	-	-	-	-
Hoof (in %)								
Black	96.15	96.29	92.85	100	100	100	93.33	100
Grayish black	03.85	03.70	07.15	-	-	-	06.66	-
Fore leg (in %)								
White stocking	84.61	84.21	92.85	71.42	75.00	77.77	100	66.66
Black & mixed	15.39	15.78	07.15	28.58	25.00	22.22	-	33.33
Hind leg (in %)								
White stocking	84.61	84.21	100	85.71	75.00	100	100	66.66
Black & mixed	15.39	15.78	-	14.29	25.00	-	-	33.33

Feeding strategy of Mithun using unconventional feed resources

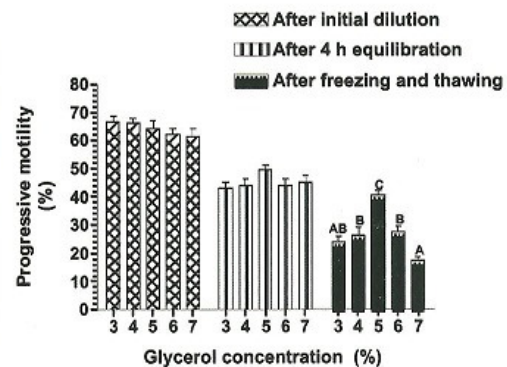
Three types of feed blocks have been prepared using different combination of paddy straw, leaves and twigs of *Schima wallichii* and spent grain (a breweries factory by-product having moisture content of about 75%). The composition of the feed blocks on dry matter basis was as follows: Type I: Paddy straw 33.3%, leaves and twigs of *Schima wallichii* 33.3%, spent grain 30.4%, mineral mixture 2% and common salt 1%; Type II: Paddy straw 70.6%, spent grain 26.4%, mineral mixture 2% and common salt 1%; and Type III: Paddy straw 37.4% and spent grain 59.6%, mineral mixture 2% and common salt 1%. Type I and Type II are for maintenance and Type III is for fulfilling growth requirements of Mithun.



Cryopreservation of mithun semen using Tris-Egg yolk-citrate extender with different concentrations of glycerol

In order to cryopreserve the semen, the samples were collected from mithun bulls and preserved into liquid nitrogen using Tris-egg yolk-glycerol (different concentrations) extender and then evaluated (progressive motility, live and dead, acrosomal integrity and sperm abnormalities) in fresh semen samples, in diluted samples after cooling (at 5° C for 4h) and in cryopreserved samples. Different concentrations of glycerol viz., 3, 4, 5, 6 and 7% in Tris-Egg yolk-citrate extender were tried to obtain the optimum glycerol level required for mithun semen cryopreservation. It was observed that although after 4 h equilibration progressive motility did not differ between the groups, but it was significantly (P<0.01) higher after freezing and thawing when preserved with 5 % glycerol. It was observed that after freezing and thawing, proportion of live spermatozoa with intact acrosome were significantly (P<0.01) higher in 5 % than 3, 4, 6 and 7% glycerol added groups. The morphological abnormalities were found to be significantly lower after cryopreservation in 5 % than other groups. It was found that addition of glycerol at the rate of 5% in tris-egg yolk-citrate buffer produced better results.

Variations (Mean ± SE) in progressive motility during different stages of freezing. Semen samples were cryopreserved with 3, 4, 5, 6 or 7% glycerol. A,B on error bar indicates a significant difference (P<0.01)



Animal Health Study

Studies on health aspects of Mithun including evaluation of crude herbal drugs as acaricide against *Boophilus microplus* infestation in mithuns, screening of Mithuns against tuberculosis and screening of vaginal swab for aerobic micro-organism are in progress.



Tick infestation of Mithun

PERSONALIA**Promotion**

- ◆ Ms. Aloli Rengma promoted from UDC to Assistant on 31.03.2011, through Limited Departmental Competitive Examination (LDCE).

Transferred

- ◆ Mr. Manish Nagi, Stenographer Gr. III to CS&WCR&TI, Dheradun on 13.01.2011.
- ◆ Dr. Anjumoni Mech, Scientist (LPM) to NIANP, Bangalore on 30.04.2011.
- ◆ Dr. Bhukya Prakash, Scientist (AN) to PDP, Hyderabad on 22.06.2011.

Honours and Awards

Dr. Chandan Rajkhowa, Director received "Prani Mitra" Award conferred by the Blue Cross Society of Assam for outstanding contribution to the livestock sector of North Eastern Region on 30 April, 2011, the day when 'World Veterinary Day' was celebrated in this country.

**VISITING DIGNITARIES**

- Col Shukla, Commandant, 20 Assam Rifles on 18 February, 2011



- Sri. Ashok K. Das, Reg. Manager, SBI, Regional Office, Dimapur, Nagaland, on 19 February, 2011
- Dr. Apurba Chakraborty, Director Research (V), Assam Agricultural University, Khanapara, Guwahati, Assam on 15 March, 2011.



- Brig. P. S. Narwal, Commanding Officer, RVS, Eastern command on 23 March 2011



- Major General N. George, Chief of Staff HQ 3 Corps on 30 March 2011.



- Sri Khekiho Zhimomi, Hon'ble M.P., Nagaland on 12 April, 2011



- Dr. M. Rajashekhar, Advisor, ILRI and Founder Project Director (Retd), PD-ADMAS, Hebbal, Bangalore on 13 June 2011
- Sri Sanat K Chakraborty, Editor, Grassroot Options, Lower Lachumiere, Shillong on 30 June 2011.
- Dr. Jonali Devi, HOD, Dept. of Anthropologies, Cotton Collage, Guwahati on 30 June 2011.

MISCELLANY

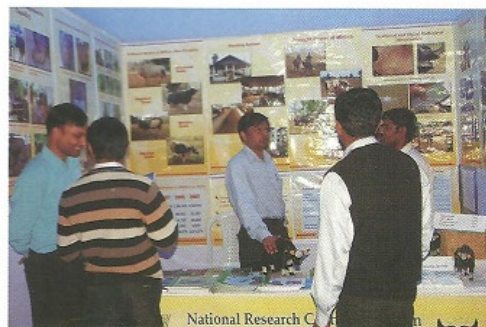
Technology Injection Programme

Six vaccination camps were organized in different villages of Nagaland viz. Porba, Khonoma, Molvon etc as a technology injection programme for carrying out health check up and vaccination against infectious diseases of mithun and other livestock. During the camps, farmers-scientist interactions were held and information has been disseminated on various aspects including scientific animal husbandry practices, breeding, nutrition, benefits of AI, taking proper veterinary care of mithun through discussion, supply of leaflet and folders to the Mithun owners and herdsman.



Vaccination of Mithuns in progress

- ♦ Institute participated in Agri-Fair-2010-2011 at ICAR Research Complex for NEH Region, Umiam, Barapani, Meghalaya from 28 February to 02 March, 2011 and showcased the technology developed for the benefits of Mithun farmers.



A PRA study of Mithun owners was undertaken for data collection on Mithun including population survey, patterns of bull usage in the Mithun herds and other related information in two villages of Nagaland, Khonoma and Thevopisu on 13 February and 16 May, 2011, respectively. One similar study was also undertaken in Mutchi village of Chandal District, Manipur on 8 June, 2011 to create awareness of scientific animal husbandry practices among the Mithun owners of this area under Manipur in collaboration with ICAR Res. Complex for Manipur Centre, Imphal.



PRA study in Khonoma village



PRA study in Thevopisu village



Awareness programme and Animal Health Camp in Mutchi village, Manipur

Sports

The Institute sports team participated in the ICAR Zonal Sports Meet at IVRI, Izatnagar during 7-10 April, 2011 and won the volleyball (smashing) Gold medal for men event. This is something away from routine research activities of the Institute and yet something important for overall staff welfare.



Obituary

The Institute is bereaved with the sad and untimely demise of Prof. Bijoy Kumar Sahoo, former Dean, OUAT, Orissa and former Member, RAC of the Institute on 25 December, 2010. This Institute had a very useful relationship with Prof. Sahoo and fondly remembers him, the man with a cheerful and unassuming personality. We pray for his departed soul and condole with the bereaved family.



The last bouquet

न जायते प्रियते वा कदाचि-
नायं भूत्वा भविता वा न भूयः।
अजो नित्यः शाश्वतोऽयं पुराणो-
न हन्यते हन्यमाने शरीरे ॥ २० ॥

From the Director's Desk

It's my proud privilege to present this volume of Mithun Digest for the period January to June 2011. Mithun Digests highlights different activities of the Institute and contains valuable information on scientific Mithun husbandry. This is the reason this document has become quite popular among those who are engaged in Mithun rearing. I must congratulate the editor for his efforts in this endeavour.

During this period of time, this Institute hosted one very important Interface Meeting for "Development of Agriculture and Allied Sectors in Nagaland" in collaboration with the Agriculture and Allied Departments, Govt. of Nagaland. This Interface between the Agriculture and Animal Husbandry Departments, Govt. of Nagaland and ICAR was an ideal platform to review the ongoing agricultural and allied sector scenario. A number of meaningful strategies came out for conservation and utilization of indigenous flora and fauna including valuable livestock, poultry and fish germplasm. It was a matter of great satisfaction for us. The visit of honourable DG Dr. S. Ayyappan and respected DDGs Dr. K.M.L. Pathak, Dr. Aravind Kumar, Dr. K.D. Kokate, Dr. A.K. Singh, Dr. B. Meenakumari, and other dignitaries from the head quarter has been able to give all of us an inspiration and also given us an opportunity to relook to our approach for refining our programme.

On the other hands, the Scientists generated some useful information in regard to various aspects of Mithun husbandry. Studies on coat color patterns as part of morphometric characterization of Mithuns, use of non-conventional feed resources for low-cost feeding strategy, cryopreservation of



mithun semen using tris-egg yolk-citrate extender with different concentrations of glycerol and taking up health cares of Mithun were some of the ongoing research work of Institute which is note-worthy.

Apart from research programme, this Institute has different staff-welfare activities where family members also participate

enthusiastically. Celebration of Nationally important days, taking part in cultural programmes and participation in ICAR sports and games are the ways of life for breaking the daily monotony.

Our Institute show-cased the technologies developed for the benefits of Mithun farmers including value added products from milk, meat and leather during Agri-Fairs and Technology Injection Programmes.

We have received very good responses from different quarters and a number of high-profile dignitaries visited this Institute to show their keen interests on this Institute and the developmental work undertaken for the benefits of tribal Mithun owners.

It is our solemn mission to spread awareness among the Mithun owners about scientific animal husbandry practices and at the same time, keeping their traditional Mithun rearing system to continue.

Lastly, I pray to His lotus feet to shower His blessings, so that we can apply our wisdom and strength in a positive way for engaging ourselves for betterment of this magnificent animal.

(C. Rajkhowa)
Director

The editorial escapade



The New Year 2011 started with lots of hope and aspirations for millions on this earth – our Institute family also joined in that occasion – small and beautiful in this Mithun country. February 2011 came with the organizing of mega event in this Institute where the best agricultural managers of our country reviewed the research scenario, discussed the relevant issues concerning the farmers of the North Eastern Hills – both agricultural and animal-based and pondered over these aspects whole day to devise solutions for

the ultimate stake-holders – the farmers! We the lesser mortals try to put words for those activities, carry out the responsibilities given to us with a human touch, and our whole endeavour dedicated for the meek animals yet unique in their own native of existence. Our efforts are for betterment of these unique animals through applying better genetics, management, nutrition, health care to carry out their normal physiology and to continue their remote mountaneous existence in years to come under their tribals masters to preserve their own culture. We, at this Mithun country, exactly doing this and involved in this great endeavour with all humility.



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