

# Mithun Digest

The bi-annual panorama.....

National Research Centre on Mithun



## INSTITUTIONAL ACTIVITIES

### Independence Day Celebration

The Institute staff organized the celebration of the Independence Day of the nation on 15 August, 2011 in a befitting manner with a pledge to work for the benefit of the motherland. The Director unfurled the National Flag in the morning and encouraged all the Scientists and other 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 in colourful attire also took part in different programmes organized for this occasion.



### राष्ट्रभाषा हिंदी सप्ताह का आयोजन एवं विभिन्न कार्यक्रम

राष्ट्रीय मिथुन अनुसंधान केन्द्र झरनापानी नागालैंड में दिनांक 13 सितम्बर 2011 से 19 सितम्बर 2011 तक हिंदी सप्ताह का आयोजन संयुक्त रूप से किया गया। इस शुभ अवसर पर हिंदी सप्ताह का उद्घाटन समारोह रा.मि. अनु. केन्द्र संस्थान के निदेशक डॉ. चंदन राजखोवा महोदय एवं भारतीय कृषि अनुसंधान परिषद उत्तर पूर्वी पर्वतीय क्षेत्र संस्थान के संयुक्त निदेशक डॉ. विद्युत डेका

महोदय इन महानुभूतियों द्वारा दीप प्रज्वलित करके हिन्दी सप्ताह का शुभारम्भ 13 सितम्बर को सुबह 11 (ग्यारह) बजे संस्थान के सम्मेलन कक्ष में किया गया। इस समारोह में रा.मि. अनु. केन्द्र एवं आई.सी. ए. आर. दोनो संस्थानों के सभी अधिकारी एवं कर्मचारीगण उपस्थित थे। इस दौरान संस्थान में हिंदी भाषा के प्रचार एवं प्रसार के लिए विभिन्न प्रतियोगिताओं का आयोजन किया गया। जिसमें परिसर के बालक एवं बालिकाओं के लिए भी कई प्रतियोगिताओं का आयोजन किया गया। वाद-विवाद प्रतियोगिता भारतीय कृषि अनुसंधान परिषद उत्तर पूर्वी पर्वतीय क्षेत्र संस्थान में किया गया। इन सभी प्रतियोगिताओं में न सिर्फ कर्मचारी अपितु अधिकारियों ने भी उत्साह पूर्वक हिस्सा लिया।

इस सप्ताह का समापन समारोह दिनांक 19 सितम्बर 2011 को संस्थान के सम्मेलन कक्ष में निदेशक डॉ. चंदन राजखोवा एवं आई. सी. ए. आर. संस्थान के श्रीमती अनामिका शर्मा की उपस्थिति में किया गया। इस अवसर पर श्रीमती अनामिका शर्मा ने उपस्थित सभी वैज्ञानिकों अधिकारियों एवं कर्मचारियों को राजभाषा प्रयोग की ओर विशेष रूप से प्रोत्साहित करते हुए कहा कि, हिन्दी सप्ताह के सभी कार्यक्रम हिन्दी को बढ़ावा देने के लिए आयोजित किये जाते हैं। इनसे हमें हिन्दी में अधिकाधिक कार्य करने की प्रेरणा



आर.मि.अनु.  
ICAR



आर.मि.अनु.  
ICAR



मिलती है। इस अवसर पर डॉ. चंदन राजखोवा निदेशक महोदय ने कहा की हिन्दी हमारी राष्ट्रभाषा है, अतः हम सभी को राष्ट्रभाषा का सम्मान करना चाहिए और कार्यालय एवं दैनिक कार्यों में प्रयोग करना चाहिए। इस सप्ताह के समापन समारोह में विभिन्न प्रतियोगिताओं के विजेताओं को निदेशक डॉ. चंदन राजखोवा एवं डॉ. आर.के.सिंह द्वारा पुरस्कार प्रदान किया गया। इस दौरान संस्थान के कार्यरत सभी अधिकारी एवं कर्मचारीगण यह संकल्प लिया, कि हिन्दी पढ़ने बोलने एवं लिखने में अपनी निष्ठा एवं सम्मान समझेंगे एवं दैनिक कार्यों में हिन्दी भाषा का प्रयोग का समावेश करेंगे। अंत में संस्थान के निदेशक ने हिन्दी सप्ताह के सफल आयोजन पर सभी को बधाई दी एवं आशा व्यक्त की कि संस्थान में राजभाषा के उपयोग में प्रगति आयेगी।



### Observance of Vigilance Awareness Week

The Vigilance Awareness Week was observed at National Research on Mithun (ICAR), Jharnapani, Medziphema, Nagaland from 31st October to 5th November, 2011, Nagaland. All the staff members had participated in the programme. At the very outset the importance of observance of vigilance week were briefed out by Dr. Chanadan Rajkhowa, Director, NRC on Mithun. Awareness about effective preventive measures undertaken through system improvements and use of information technology like e-payments to vendors, suppliers etc., publishing complete details of tenders on websites and providing information of status of applications to citizens/ public etc were also highlighted. The programme started with taking a pledge by the staff followed by group discussion, elocution competitions, essay writing competitions as well as cartoon competition on vigilance awareness were



also organized among the staff members of the institute. Competitions on cartoon and story telling with moral values were also organized among the school children in order to make them aware about the importance of maintaining integrity for developing themselves as a good citizen. Prizes were distributed to the winners of the different competitions.

### Training Programme Organized

A training programme was held in the Institute for the field veterinarians of Veterinary and A. H. Dept of Nagaland to impart specialized training on Mithun Husbandry practices and Health Care management during 9-18 August, 2011. A number of field veterinarians participated in this training programme and got hands-on training in various aspects of Mithun Husbandry practices.





### Interface for XII Plan Preparation

An interface with the stakeholders was organized in the Institute on 16 November, 2011 as per the direction of ICAR HQ for prioritization of research programme for XII Plan under the chairmanship of Dr. Chandan Rajkhowa, Director. This interface was attended by Dr. Thepfulao Linyu, Director, Vety. and A. H., Dept, Nagaland; Dr. H. Tabin, Director, Vety. and A. H., Dept, Arunachal Pradesh; Dr. Pudaite, Deputy Director, Dept of Vety. and A. H., Mizoram; Dr. Kevi Chakhesang, MD, Nagaland Livestock Development Board, Nagaland; Dr.G.Mukherjee, Asso. Prof., College of Leather technology, West Bengal; All the Scientists of NRC on Mithun (ICAR) and PCs and SMSs of KVKs of NE Region. Various issues on Mithuns were discussed in this meeting and a number of major programmes were chalked out as relevant during present time for inclusion in the XII EFC document of the Institute.



### RESEARCH HIGHLIGHTS

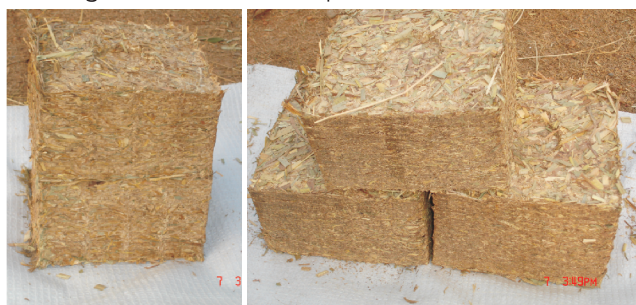
#### Characterization of *Cyt b* gene of Mithun

The complete *cytochrome b* gene (*Cyt b*) of Mithun with around 1.24 kb sequence from mitochondrial DNA was amplified successfully using a set of reported primers. This is an effort towards understanding the phylogenetic significance of this species in relation with other bovines. Further work in this regard in progress.



### Feed blocks for Mithuns

Two types of feed blocks have been prepared using different combinations of paddy straw, napier and spent grain having moisture content of 10.81, 80.35 and 74.67%, respectively. The composition of feed blocks on dry matter basis was as follows: Type I: Paddy straw 72.16%, napier 24.84%, mineral mixture 2.00% and common salt 1.00% and Type II: Paddy straw 55.78%, napier 19.42%, spent grain 21.80%, mineral mixture 2.00% and common salt 1.00%. Both the types are for fulfilling the maintenance requirements for mithun.

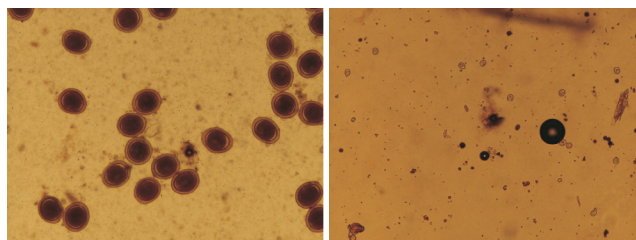


Feed block Type – I

Feed block Type - II

### Studies on gastrointestinal parasites of mithun calves

An intensive study was carried out for checking the prevalence of gastrointestinal parasites of Mithuns in semi-intensive rearing system of management in the Institute farm. The total of 36 mithun calves aged between 1-6 months were examined as per standard parasitological technique. Out of which, 31 nos of animal was found to be positive for various gastrointestinal parasites in subclinical form. Faecal samples found to be positive for strongyle group of parasites were subjected to coproculture for recovery of infective third stage larvae ( $L_3$ ) as per the method described by Roberts and O'Sullivan (1949). Larvae were identified following the standard key of HMSO (1979). The recorded incidence of gastrointestinal helminths were *Toxocara vitulorum* (16.66%), *Strongyloid papillosus* (25.0%), *Haemonchus sp.* (25.0%), *Trichostrongylus sp.* (16.66%), *Oesophagostomum sp.* (18.33%) and *Cooperia sp.* (11.11%) etc. In the category of tapeworm infestation, *Moniezia expansa* (19.4%) and *Moniezia benedeni* (22.22%) were recorded. However, incidence of mixed infection was also noted in 44.44% in mithun calves. In tissue, protozoa incidence was recorded (5.55%) for coccidian infection.



*Toxocara vitulorum*

*Eimeria spp.*



**PERSONALIA****Joining/Appointment/Transferred**

- Miss Vikhobeinuo Kiso - Appointed to the post of Stenographer Gr.III w.e.f. 05.08.2011
- Dr. Perumal P, Scientist, Animal Reproduction & Gynaecology)- Joined on 02.09.2011
- Shri Shatrughan Verma - Appointed to the post of Skilled Support Staff w.e.f.. 02.11.2011
- Shri Safal Chetri - Appointed to the post of Assistant Finance & Accounts Officer w.e.f. 01.12.2011
- Dr. K.C. Das, Senior Scientist (Animal Nutrition) - transferred to CIFA, Bhubaneshwar, Orissa w.e.f. 31.12.2011 (A/N)

**VISITING DIGNITARIES**

- Dr. V. Venkatasubramanian, ADG, (Agri. Extension) ICAR, New Delhi, 29.07.2011
- Dr. P.G. Chengappa, Former Vice Chancellor and National Professor of ICAR, University of Agricultural, G.K.V.K. Bangalore, 06.08.2011
- Dr. Y.D.S. Dabar, Director Extension Education, G.B. Pant University of Agriculture & Technology, Pantnagar, 06.08.2011
- Dr. Kipfelie Angami, Jt. Director (Administration) Vety. & A.H. Nagaland, 08.08.2011
- Humberto Gonzalez, School of Forest Science, UANL, Monteney M. Mexico, 19.08.2011



- Shri B. Thawan, Hon'ble Secretary, Veterinary & A. H., Govt of Nagaland, 25.10.2011



- Prof. B.K. Konwar, Vice Chancellor, Nagaland University, Nagaland, 28.10.11



- Shri. Justice B.P Katakey, Judge, Gauhati High Court, 25.11.2011



**MISCELLANY**

Farewell to Prof. Kannan, Vice Chancellor of Nagaland University and his interaction with the Director and Scientists, 29 July, 2011



Director and Scientist interacting with a group of Mithun rearers of Arunachal Pradesh on a visit to the Institute, 30 July 2011



Scientist of the Institute imparting training for the SMS of KVKs of NE Region, 14 November, 2011



Scientists interacting with the students and staff of Veterinary College, CAU, Aiwazal, 5 November 2011

**AWARDS/ RECOGNITION**

● **Dr. Perumal P** received Dr. G .B. Singh Memorial Award - 2010 for best international paper publication (International Journal of Reproduction in Domestic Animals. 46 (4):636 – 641) in 27<sup>th</sup> Annual Convention of ISSAR and National Symposium on “Reproductive

biotechnologies for augmenting fertility and conservation of animal species with special reference to north eastern hill region” from 27-29 September, 2011 in C.V.Sc., CAU, Aizawl, Mizoram.

**WORKSHOP/ SEMINAR/SYMPOSIUM/ CONGRESS ATTENDED**

Name of the Scientist	Workshop/ Seminar/Symposium/ Congress Attended	Institute
Dr. Jayanta Chamuah	Training programme on Data Analysis using SAS	19-24 September, 2011; ICAR Research Complex for NEH Region, Umiam, Barapani.
Dr. Perumal P.	27th Annual Convention and National Symposium of ISSAR on Reproductive biotechnologies for augmenting fertility and conservation of animal species with special reference to North Eastern hill region	27-29 Sept, 2011, C.V.Sc., C.A.U. Aizawl, Mizoram.
Dr. Perumal P.	20th Annual Convention and International symposium of Society of Animal Physiologist of India (SAPI) on Advances in physiologic research for sustainable development of livestock and poultry production with A Satellite symposium on Strategic physiological research for sustainable animal biodiversity	2-4 Nov, 2011, WBUAFS, Kolkata
Dr. Perumal P.	ICAR sponsored Winter School on Functional genomic approaches for enhancing fertility in livestock	22 Nov.- 12 Dec. 2011 NIANP, Bangalore





Imparting scientific Mithun Husbandry practices for the Mithun owners during Technology Injection Programme at Thetsumi village, 22 September, 2011



A newly installed chaff cutter in farm operation

**Activities of KVK**

Mithun is the major livestock in Phek district. Foot and Mouth Disease is the major threat to this enterprise causing immense economic loss to the farmers. However less cases of FMD has been reported in thotho cattle, goat and pig. Within last 4 years (2008-2011), 5 numbers of training on 'FMD in mithun and it prevention and control' was delivered out of which 3 were conducted in the year 2011. A total of 135 mithun farmer attended the training.

With the intension of technology injection through vaccination of mithun against FMD, 6 numbers of FMD vaccination camp were organized in 5 villages. Regular diagnostic visitsof KVK Personnels and Scientist NRCM to area of FMD outbreak for treatment and sample collection were made.(11 nos.).

Village	Year	No of mithun vaccinated
Thevopisu	2009	200 nos mithun
Mesulumi	2011	171 nos mithun
Porba	2011	258 mithun
Khomi	2011	160 mithun
Thetsumi	2011	92 mithun

On farm trial on Khaboo (*Ficus hookeri*) biofencing of mithun habitat was taken up in the session 2009-10 . A nursery for *Ficus hookeri* was developed in the farm and sapling 100 saplings were distributed in two mithun rearing village namely mesulumi and Porba.The programme is still under progress. Dr Debojyoti Borkotoky SMS(Animal Science) attended the of training on Knowledge management of SMSs of KVKs for desimination of mithun farming technologies' 14-16 th November organized by NRC on Mithun



Distribution of Khaboo saplings at Mesulumi village



Vaccination camp at Thetsumi village





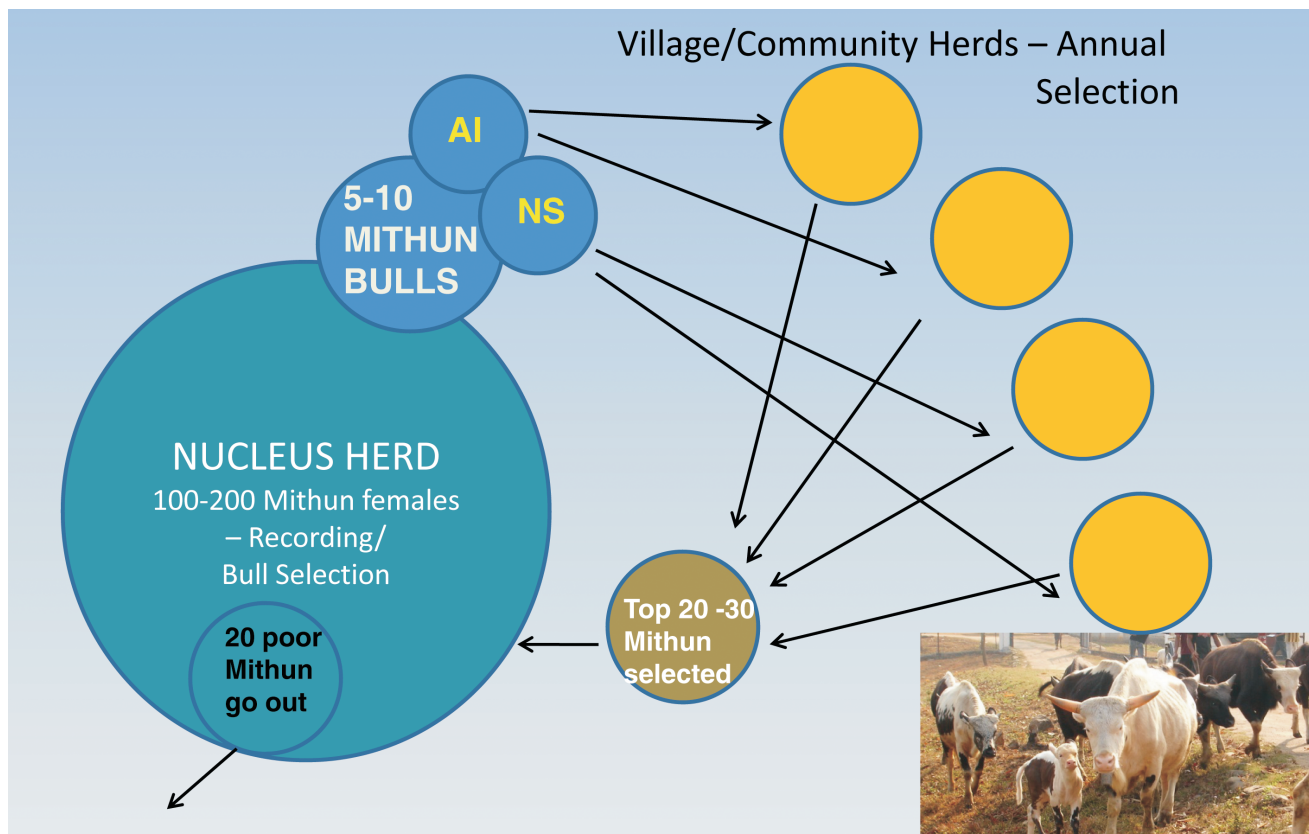
Vaccination at Khomi village

**FLAGSHIP PROGRAMME**

*Development of a nucleus breeding stock of Mithuns for seed production, to conserve and to propagate pure stock for meat and milk – A participatory approach.*

**Objectives**

- Establishment of nucleus herds of Mithuns in the native tracts of Mithuns (Nagaland, Arunachal Pradesh) in association with Mithun owners/rearers.
- Selection of Mithun bulls with high genetic merit and further propagation of improved germplasm for future herd improvement.
- Assessment, refinement and transfer of technologies developed by the Institute (breeding, reproductive, nutritional and health-care intervention) for enhancing reproductive and productive performance of Mithuns.



## From the Director's Desk



I deem it my proud privilege to present this volume of Mithun Digest for the period July to December 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 with Mithuns in different capacity either with rearing or research activities. I must congratulate the editor for his efforts in this endeavour.

During this period, the Scientists of this Institute generated some useful information in regard to various aspects of Mithun husbandry. Studies on cytb gene of Mithun including its amplification and sequencing of the entire gene will be an important piece of work and a milestone towards the understanding the phylogenetic significance of this species. Morphometric characterization of Mithuns, use of non-conventional feed resources for low-cost feeding strategy, and taking up health cares of Mithun were some of the ongoing research work of Institute which is note-worthy.

Our Institute show-cased the technologies developed for the benefits of field veterinarians, Mithun farmers and others concerned during various training programmes and Technology Injection Programmes organized by this Institute. These activities have helped us to reach to the stakeholders for transmitting the technologies developed.

Apart from research and extension programme, this Institute has different staff-welfare activities where family members also participate enthusiastically. Celebration of Nationally important days and taking part in cultural programmes are the ways of life for breaking the daily monotony. As part of this staff welfare activities, the Institute celebrated Christ Mass with much pomp and grandeur and hosted a grand pre-Christ Mass party along with cultural programme performed by the children.

We have received very good responses from different quarters and a number of high-profile dignitaries visited this Institute to show their keen interests and the developmental work undertaken for the benefits of tribal Mithun owners. Our Institute also organized a one day interface with the stakeholders of Mithuns – the Mithun owners, farmers, and Directors and other officials from Veterinary and A. H. Dept of four North East States – Nagaland, Arunachal Pradesh, Manipur and Mizoram to focus on the strategies to find out some important programmes for XII five year plan.

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.

Last but not the least, I pray to the Almighty to shower His blessings and give us wisdom and strength to devote ourselves in a positive way for the betterment of magnificent Mithuns.

**C. Rajkhowa)**  
Director

## The editorial escapade



The tumultuous Year of 2011 (MMXI) which was a common year in the Gregorian calendar passed on to the vast ocean of times into oblivion. The world lost two greatest visionaries in the area of computing - a man who helped started a computer company in his garage, but ended up revolutionizing media and changing the way people communicate – Steve Jobs the visionary college dropout who co-founded Apple, on 5 October 2011, and the inventor of the world's most popular programming language 'C', the core for free and open source operating systems like UNIX and MULTICS – Dennis Ritchie on 8 October 2011. India also lost two of its best known cultural icons – Dev Anand and Bhupen Hazarika. The year also brought some bright moments in India. India breaks into the top 10 nations in Scientific Research Output and the great efforts of civil rights crusader Anna Hazare united the whole country to put an abrupt break in corruption.

The current XI Plan of the Institute is also on the verge of completion and preparation for XII five year plan has been started with new programmes to focus. Organizing a one day interface with the stakeholders of Mithuns – the Mithun owners, farmers, and Directors and other officials from Veterinary and A. H. Dept of four North East States to find out some important programmes for XII five year plan was heartening.

We are the lesser mortals in this Mithun country. It is our responsibility to put words in the mouth of these meek Mithuns, to find out solutions of their problems and to make a better world of these animals unique in their existence amid vast inaccessible terrains. We are constantly engaged for providing better breeding, management, nutrition, health care and to disseminate these knowledge and developed technology through extension activities. We will deem to be blessed if any of these efforts benefit those for whom these are meant for.



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