



MITHUN DIGEST

मिथुन डाइजेस्ट



Vol. 17 No. 2

ICAR – NATIONAL RESEARCH CENTRE ON MITHUN

JULY-DECEMBER 2021

ISO 9001:2015 Certified ICAR Institution

The bi-annual panorama.....

Visit of Hon'ble Vice-President of India



Director's Desk



Despite the difficult time caused by COVID-19, ICAR-NRC on mithun is working hard for the improvement and conservation of mithun (*Bos frontalis*), the magnificent and unique bovine species of the Northeastern Hill state of India. The animal has tremendous potential for providing an alternative means of livelihood to the region. Besides ensuring nutritional security, mithun farming can also help in conserving the agro-ecological balance and preserving the socio-cultural uniqueness of the region. If reared scientifically, mithun farming can

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Visit of Hon'ble Vice-President of India

On 7th October 2021, the Hon'ble Vice-President of India, Shri M. Venkaiah Naidu visited ICAR-National Research Center on mithun, Medziphema Nagaland. During the interactive programme he stated that "Our scientific institutions should work for the development of location-specific technologies which are sustainable, climate-resilient and synchronized with the tribal cultures of the region. He lauded the NRCM for coming out with the alternative system of mithun rearing; the semi-intensive system, and expressed his happiness that the Center has done excellent work in the protection and preservation of the majestic animal. He also visited Central Instrumentation Facility (CIF) Laboratory where diseases and diagnostics relating to this unique animal were explained to him. He praised the efforts of the scientists in providing healthcare services to mithun in farmer's fields and also for the development of a mithun Mitra mobile app for the farmers. The Vice-President suggested that educated youth should be attracted towards the conservation of the animal.

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be an economically viable, ecologically sustainable, and profitable purpose venture. Mithun is primarily reared for meat purpose however, the high-quality milk opens up an avenue for producing value-added milk products. Furthermore, leather obtained from this species is far superior to cattle and draught power make the mithun suitable for hilly terrains. The potential of this animal can only be exploited by incorporating scientific husbandry as an entrepreneurial activity into the present practice of traditional mithun rearing under a free-range forest ecosystem.

The Institute has also developed various technologies. During the reporting period, one designed patent has been granted and obtained two copyrights. As part of the Institute's initiative towards uplifting farmers' livelihood, the Institute organized 20 different programmes such as technology awareness, animal health cum vaccination, farmers training, piglets and poultry feed distribution, etc. for the mithun farmers of Arunachal Pradesh, Manipur, Mizoram and Nagaland benefiting 1583 farmers. Besides mithun farmers, the Institute also provides training to the Veterinary Field Assistant (VFA).

It is a proud moment for the Institute that, the Hon'ble Vice-President of India, Shri, M. Venkaiah Naidu visited

the Institute and he lauded ICAR-NRCM for coming out with a scientific semi-intensive system of mithun rearing and said the Center has done excellent work in protection and preservation of the majestic animal. In the reporting period, the Institute signed MoU with St. Joseph University, Dimapur, Nagaland, for jointly undertaking various research programmes shortly.

The KVK-Phek, which was established under the aegis of ICAR-NRC mithun works at the grass-roots level as a vocational training institution to bridge the gap between the available technologies and their application to increase production and productivity. A total of 58 extension outreach programmes were conducted benefiting 980 farmers and extension functionaries.

I take this opportunity to extend my heartfelt congratulations to all the staff members of the Institute for their commitment, hard work, and dedication to achieve our target to conserve improve, and propagate this magnificent species, mithun.



(M. H. Khan)

Jai Hind !

Glimpse of Hon'ble Vice President of India visit





Signing of Memorandum of Understanding

On 1st November 2021, the Institute has signed a MoU with St. Joseph University, Dimapur, Nagaland, for jointly undertaking various research programmes. The Director assured to share the scientific facilities available at NRCM to the undergraduate and post-graduate students in research. The Vice-Chancellor of St. Joseph University Dr. D. Gnanadurai also expressed his happiness over the agreement and assured that Intellectual Property, research publication and benefits



arising out of the commercialization of technologies generated out of co-operation under this agreement shall be jointly owned and shared by both the parties.

Invited lecture on “Animal cloning scope and awareness”

On 12th November 2021, the Institute organized an invited lecture on “Animal cloning scope and awareness”, delivered by Dr. P. S. Yadav, Head, and Pr. Scientist, ICAR-CIRB. Dr. Yadav emphasized on the understanding of the current status, scope, and potential to create awareness



among scientific staff and students on the future of cloning technologies. He further added that advances in the understanding of cloning will lead to a significant improvements in enhancing productivity by propagating the desirable animal breeds without ill effects. The students were sensitized to the basic aspects of cloning technology, opportunities, and how it opens the way for enhancing productivity in farm animals. A total of 100 persons including the staff and scientists of ICAR-NRCM, scientists from ICAR-Research Complex for NEH Region, faculties and students of CAU, Veterinary College Jalukie, St. Joseph University, Dimapur and Patkai Christian College attended the programme.

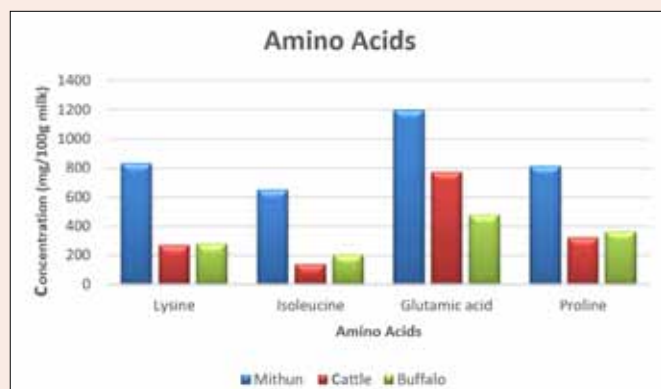


RESEARCH ACHIEVEMENTS

Amino Acids profiling of Mithun Milk

A trial was conducted on 10 lactating mithun cows to estimate the amino acid composition of mithun milk. The results of the analysis indicated that the most abundant amino acid in mithun milk was glutamic acid.

Among the essential amino acids, lysine was the major amino acid followed by isoleucine and among the non-essential amino acids, glutamic acid content was highest followed by proline. The present values of amino acids were higher than that of cattle and buffalo milk.



FMD seromonitoring

A total of 200 serum samples were screened by solid-phase competitive ELISA (SPCE) to determine the protection level of the anti-FMD antibody. Out of 200 samples, 40 samples were pre-vaccinated sera and the remaining 160 samples were post-vaccinated sera. It was observed that in the pre-vaccinated samples, 32.5%, 17.5% and 17.5% were protected against O, A and Asia1 serotypes. And in the post-vaccinated samples, 31.25%, 29.38% and 28.13% were protected against O, A and Asia1 serotypes, respectively.

FMD Serosurveillance

A total of 135 random serum samples were collected and tested using 3AB3 DIVA ELISA as per the DFMD guidelines. Out of the 135 samples, 29 samples were found to be DIVA positive with a positivity rate of 21.4%.

Name of the districts	Species of animals	Total no of serum samples tested	No of samples positive for DIVA test	Percentage
Dimapur	Mithun	135	29	21.4

Novel urinary metabolite-based pregnancy diagnosis in mithun

Exploration of the urine metabolite can be helpful for the development of pregnancy diagnostic tools which will indicate the non-invasive real-time-based reproductive status of the animal. The present study was conducted to simplify the early pregnancy diagnosis in mithun. A lactone conjugates-based color test kit was developed for the detection of early pregnancy, which represents a chemical conversion of α - β conjugated acid conjugates to its lactone conjugates derivative in presence of acid

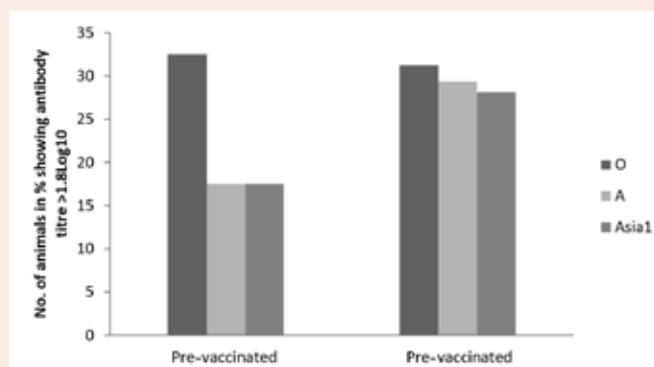
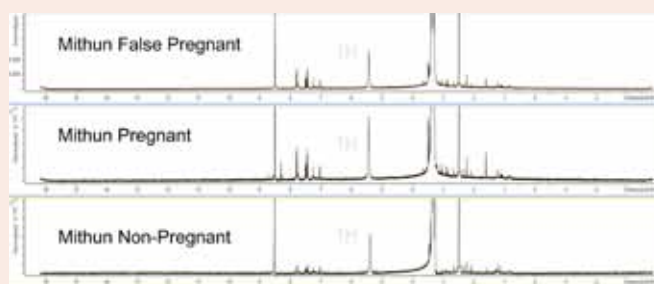


Fig: Pre and post-vaccination protection status against FMDV O, A and Asia1 Serotypes.



Proton nuclear magnetic resonance (^1H NMR) analysis of urinary metabolites of mithun

and basic reagents. The obtained precipitates of pregnant and non-pregnant animals were characterized by nuclear magnetic resonance spectroscopy (NMR). The NMR spectra of coloured crude precipitates in pregnant and non-pregnant animals reveal the difference in some α - β conjugated acid moiety conjugates along with other urinary metabolites. The carboxyl (COOH) group containing moiety acts as a good target and unveils the new pathway for improvisation of test kits e.g. strip-based, sensor-based and aptamer-based methods which are farmers-friendly and flexible.

Seasonal Variation in Carrying Capacity of Forests for Rearing mithun

The study was taken to quantify total biomass production in different seasons at different altitudes (Medziphema-300 m and Porba-2500 m, MSL) to determine the carrying capacity of the forest in different seasons. A total of 35 different vegetations were collected from both the altitude. The collected specimens were sent to the Botanical Survey of India, Shillong Centre for their identification. Out of the total sample, 26 specimens have been identified. The total biomass production (t/ha) during the reporting period was 40.11 ± 5.20 .



Elsholtzia blanda (Benth.) Benth.
(Lamiaceae)



Ageratina adenophora (Spreng.)
R.M.King & H.Rob. (Asteraceae)



Galium asperifolium Wall.
(Rubiaceae)



Melastoma Sp.



Imperata cylindrica



Angiopteris Sp.



Plantago asiatica subsp. *Erosa* (Wall.) Z.Yu Li
(Plantaginaceae)



Optismenus compositus



Arisaena dracontium (Green Dragon)



Oxalis corniculata. L.



Circaea lutetiana



Pilea pumila



Thysanolaena sp



Sida cordifolia



Commelina benghalensis



Centella asiatica

Species and Genus identified by Botanical Survey of India, Shillong centre

Documentation of the Existing mithun Rearing Practices

A project has been initiated to assess and document the existing mithun rearing practices under the free-range system adopted by mithun-herdsman of Arunachal Pradesh, Manipur, Mizoram and Nagaland and the scope for scientific intervention. Under this program, the existing mithun rearing practices like feeding, housing, breeding, healthcare, ITKs under free range system will be recorded from all the four mithun rearing states. This study will generate a good database about the traditional mithun rearing practices which will be helpful in developing developmental schemes for the mithun farmers.

Outreach Programmes

Under Tribal Sub-Plan (TSP), a total of 12

programmes were organized in Manipur, Mizoram and Nagaland. The various programmes organized included training for Veterinary Field Assistant, technology awareness programme, animal health cum vaccination camp, piglet, poultry, and feed distribution for doubling farmers' income. A total of 678 farmers benefitted from these programmes.

Technology Awareness cum TSP Input Distribution

As part of the Institute's initiatives towards creating awareness about the different technologies developed by the Institute. Technology awareness programmes are conducted in various mithun rearing states. During the awareness programmes, the technologies developed by the Institute are showcased. A total of 8 technology awareness cum TSP input distributions were organized benefiting 905 mithun farmers.

Sl. No.	Programmes	Date	Village/District/State	Total Beneficiaries
1	Technology Awareness cum TSP Input Distribution	8 /09/2021	Haipi and Machi village of Manipur	180
		9-10 /11/2021	Tuipang-L, Siaha District Mizoram	53
		28-30/09/2021	Lairam Phungka village, Kamjong district, Manipur.	63
2	Training	28-30/09/2021	Lairam Phungka village, Kamjong district, Manipur.	63
		25-30/10/2021	Veterinary Field Assistant (VFA) students: Veterinary Field Assistant Training Institute, Medziphema Nagaland	30
		24-30/11/2021	Veterinary Field Assistant (VFA) students: Veterinary Field Assistant Training Institute, Medziphema Nagaland	30
3	Animal Health cum Vaccination camp	28-30/09/2021	Lairam Phungka village, Kamjong district, Manipur.	35
		3/11/2021	Khonoma, Nagaland	40
		9/12/2021	Porba village, Phek district – Nagaland	100
4	Piglet and pig feed distribution for doubling farmers' income	07/2021	Nagaland and Manipur	24
		1/09/2021	Nagaland	21
5	Distribution of day-old chicks and poultry feed	09/2021	Nagaland	102

GLIMPSES OF THE TECHNOLOGY AWARENESS PROGRAMMES CUM TSP INPUT DISTRIBUTION



Inputs distribution to mithun Society of Haipi and Machi villages of Manipur



Tuipang-L, Siaha District Mizoram



Lairam Phungka, Kamjong district Manipur

Distribution of Piglet, Poultry & feeds for doubling farmer's income

As a part of the Institute's initiative towards creating self-reliant, self-sustaining and self-generating tribal communities and doubling farmers' income, the Institute

distributed 64 piglets and 1300 kgs of pig feed to the farmers of Manipur and Nagaland benefiting 46 farmers. The Institute also distributed 900 day-old chicks and 1800 kg of starter and grower feed to 102 farmers of Nagaland under the Tribal Sub-Plan Scheme.



Piglet distribution, Nagaland and Manipur



Piglet distribution, Nagaland



Poultry distribution, Nagaland



Animal Health cum Vaccination Camp

ICAR-NRC on mithun conducted 03 “Animal Health cum Vaccination Camp” in different districts of Manipur and Nagaland. During the camp, the mithun were

vaccinated against FMD. The farmers were also taught about the importance of the vaccine and preventive measures against FMD. The programme benefited more than 175 mithun farmers.



Animal Health cum Vaccination Camp at Lairam Phungka village, Kamjong district, Manipur



Animal Health cum Vaccination Camp, Khonoma village, Nagaland





"FMD Awareness & Vaccination cum mithun Health Camp" at Porba village, Phek district – Nagaland



Virtual Meeting on Commercial Assessment of Technologies

On 14th July 2021, the Institute conducted a virtual meeting with Agrinnovate India Ltd. a company owned by the Department of Agriculture Research & Education (DARE), Ministry of Agriculture Govt. of India on "Commercial Assessment of Technologies". The programme was attended by Scientists from different ICAR Institutes, a team of the Agrinnovate India Ltd, New Delhi and Dr. Sudha, CEO, Agrinnovate. The proposed technologies for commercialization were presented by Dr. Nazrul Haque, Dr. Bhukya Prakash and Dr. Debojyoti Borkotoky. A total of seven technologies namely, portable mineral block dispenser for animals, portable mineral block dispenser with adjustable height, area-specific mineral mixture developed for mithun rearing states, manual ectoparasite removal and drug applicator, bird feeder, dryer (meat and vegetable) and humane killing cone were presented. It was followed by a technical discussion about the innovativeness of

the technologies, licensing procedure, licensing fee and royalty, etc. for commercialization.

Independence Day Celebration

75th Independence Day was celebrated at ICAR-NRC on mithun which included flag-hoisting and an address by the Director of the Institute. All the staff members along with their families were present during the celebration and sang National Anthem with great pride and honour.

Mass Cleanliness Drive

On 13th August 2021, ICAR NRC on mithun conducted a "Mass Cleanliness Drive" where all the staff of the Institute participated in the programme. During the drive, the staffs lead by the respective Section-in-charges, actively took part in cleaning the office compound (outside and inside the building), laboratory (cleaning of equipment, bookshelves, window pane, roof ceiling, etc), store-room, and data-cell room/record-room (separation of junk items).



Hindi Week Celebration

The Institute celebrated a week-long Hindi Week from 14 to 20th September 2021. During the programme, a total of 10 Hindi competitions such as extempore speech, Hindi writing, Hindi calligraphy, noting, drafting, Hindi translation, easy competition, etc. were conducted for the Institute staff and school children. The Closing Ceremony was graced by Shri Vishal Chauhan (I.P.S.) SP, Kohima as the Chief-Guest. He appreciated the efforts made by the Institute and encouraged the staff and school children to practice Hindi (speaking as well as writing) in every walk of life. Prizes for different events were also distributed by the Chief-Guest. A total of 134 participants were participated in the programme.



International Year of Millets 2023, campaign on Nutri-garden and tree plantation



Hon'ble PM program on interaction with farmers

On the 28th of September 2021, the Institute organized a program for farmers "Prime Minister, Interaction with farmers program through video bridge". The Institute programme was graced by Shri. Abi Yalie, a progressive farmer as the chief guest. The farmers witnessed the introduction of 35 varieties of crops and the interaction

International Year of Millets 2023

On the 17th September 2021, ICAR-NRC on mithun in collaboration with KVK Phek Nagaland, organized International Year of Millets 2023, Campaign on Nutri-garden and tree plantation programme at KVK Phek. The programme was attended by scientists of NRC on Mithun, KVK Phek, Village Council Chairman & Secretary, Social Welfare Department ICDS Pfutsero, SDAO Pfutsero and farmers. A total of 1050 tree saplings (*Taxus baccata* and Tree Tomato) were distributed to the farmers. A plantation drive was also conducted in the KVK Phek premises where 100 trees of *Taxus baccata* were planted in the campus. Altogether 85 people participated in the programme.





of farmers across the country via video conferencing by the Hon'ble Prime Minister. After the interactive session of the Hon'ble PM, Dr. Nazrul Haque, Pr. Scientist, delivered a lecture on "climate-resilient agriculture".

Training for Veterinary Field Assistant

ICAR-NRC on mithun conducted 2 training programmes (6 days each) on 25th-30th Oct. and 24th-30th Nov. 2021, respectively, for Veterinary Field

Assistant (VFA) students from VFA Training Institute, Medziphema Nagaland, on "Scientific Management of Livestock Farm vis-à-vis mithun Husbandry" to provide a platform to create awareness for enhancing their knowledge and skill in livestock husbandry in general and mithun in particular. The training covered both theory and practical which include scientific managemental practices, feeding of a different category of animals, care and management during illness, housing, restraining of animals, collection and processing of fecal samples, etc. A total of 60 students attended the programme.

Vigilance Awareness Week-2021

The Institute observed the Vigilance Awareness Week-2021, starting from 26th Oct. to 1st Nov. 2021, with the Theme: "Independent India@75: Self Reliance with Integrity". The programme commenced with the undertaking of the Integrity Pledge. As part of the celebrations, several competitions viz. essay writing, drawing; extempore speech and debate were held for the Institute staff, high school children, and VFA students. The Director distributed the certificate to the winner of various events during the valedictory programme. A total of 185 persons attended the week-long program.





Special Swachhta Campaign

On 12th October 2021, ICAR-NRCM organized a Special Swachhta Campaign at village Molvom village, Dimapur district Nagaland. A presentation on awareness of “Hygienic Living” was delivered by Dr. Kobu Khate, followed by the distribution of pamphlets on decomposting of crop residues.



Meeting on Finalization of Bankable mithun Scheme

Like any other economic activity, mithun farming also needs financial support in the form of bank loans and insurance. On 23rd November 2021, the Institute conducted Stakeholders Meeting on Finalization of Bankable mithun Scheme with the staff of SBI and Insurance Company.



Awareness on Cleanliness under Swachhta

Mahila Kisan Diwas Celebration

On 15th October 2021, the KVK-Phek organized the programme on National campaign under Azadi Ka Amrit Mahotsav “Mahila Kisan Diwas”. The programme was attended by the village elders and the women’s society of Porba village. A brief introduction and presentation on “Role of women in agriculture” was delivered by Mr. Keniseto Chucha, Farm manager KVK-Phek. During the programme an award was given to Mrs. Pudatsulu and Mrs. Zavetsolu Khamo for their contributions to agriculture/nursery and piggery farming. A total of 50 farmers were participated in the programme.



World Food Day Celebration

National Campaign under Azadi Ka Amrit Mahotsav on “World Food Day” was celebrated by KVK Phek, ICAR-NRC on mithun on 16th October 2021 at Porba. Mr. Keniseto, Farm manager KVK-Phek highlighted the significance of the day and delivered a lecture on “Nutrition for human health”. Mr. Vevo K, Chairman of Farmer’s Union Porba Village and FPO member talked about “Food Security and Nutritious Diets”. A Farmers-Scientist interaction programme was also held and a total of 56 farmers attended the programme.



Intellectual Property Rights

Institute registered one design “Portable mineral block dispenser with adjustable height” and two copyrights namely “Promotional video on semi-intensive mithun farming (Registration No. CF-5014/2021)” and “Documentary on NICRA Intervention: 2012-2020 KVK Phek” at the patent office, Government of India in the name of Indian Council of Agricultural Research.

Design

Sl. No.	Name of design	Application number	Application date	Remarks
1	Portable mineral block dispenser with adjustable height	334974-001	06.11.2020	Granted on 10.11.2021

Copyrights

Name of Copyright	Application/Registration No	Name of Innovation/ Technology/ Products/Verities	Date of Filling/Registration	Status
Cinematograph Film	12786/2021-CO/CF	Promotional video on semi-intensive mithun farming (Registration No. CF-5014/2021)	09.06.2021	Granted on 25.08.2021
Cinematograph Film	Diary Number: 23232/2021-CO/CF	Documentary on NICRA Intervention: 2012-2020 KVK Phek	24.09.2021	Granted on 31.12.2021
Artistic work	Diary Number: 30715/2021-CO/A	"Ovulation predictor and timing of artificial insemination chart for mithun"	18.12.2021	In process

Copyright Office
Government of India

Extracts from the Register of Copyrights

1. Registration Number: CF-5056/2021

2. Name, address and nationality of the applicant: DIRECTOR, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, IMPHAL, MANIPUR, INDIA-791008

3. Name of the applicant's interest in the copyright of the work: OWNER

4. Class and description of the work: CINEMATOGRAPH FILM WORK

5. Title of the work: DOCUMENTARY ON NICRA INTERVENTION: 2012-2020 KVK PHEK

6. Language of the work: ENGLISH

7. Name, address and nationality of the author and if the author is deceased, date of his decease: DR. DEBENDU BOBOTOBY, KVK PHEK, ICAR-NRC ON MITHUN, PHEK, JHUTSERO, NAGALAND, INDIA-791007

8. Whether the work is published or unpublished: UNPUBLISHED

9. Year and country of first publication and name, address and nationality of the publisher: N.A.

10. Name and country of subsequent publications, if any, and name, address and nationality of the publisher: N.A.

11. Name, address and nationality of the owner of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licenses, if any: DIRECTOR, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, IMPHAL, MANIPUR, INDIA-791008

12. Name, address and nationality of other persons, if any, entitled to assign or license of rights comprising the copyright: N.A.

13. If the work is an "artistic work", the location of the original work, including name, address and nationality of the person in possession of the work (if the work is an architectural work, the year of completion of the work should also be shown): N.A.

14. If the work is an "artistic work", whether it is registered under the Designs Act 1911 or under the Copyright Act, 1957: N.A.

15. If the work is an "artistic work", whether it is registered under the Copyright Act 1957: N.A.

16. If the work is an "artistic work", whether it is registered under the Copyright Act 1957: N.A.

17. Remarks, if any: N.A.

DEPUTY REGISTRAR OF COPYRIGHTS

Copyright Office
Government of India

Extracts from the Register of Copyrights

1. Registration Number: CF-5014/2021

2. Name, address and nationality of the applicant: DIRECTOR, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, IMPHAL, MANIPUR, INDIA-791008

3. Name of the applicant's interest in the copyright of the work: OWNER

4. Class and description of the work: CINEMATOGRAPH FILM WORK

5. Title of the work: PROMOTIONAL VIDEO ON SEMI-INTENSIVE MITHUN FARMING

6. Language of the work: HINDI

7. Name, address and nationality of the author and if the author is deceased, date of his decease: DR. DEBENDU BOBOTOBY, KVK PHEK, ICAR-NRC ON MITHUN, PHEK, JHUTSERO, NAGALAND, INDIA-791007

8. Whether the work is published or unpublished: UNPUBLISHED

9. Year and country of first publication and name, address and nationality of the publisher: N.A.

10. Name and country of subsequent publications, if any, and name, address and nationality of the publisher: N.A.

11. Name, address and nationality of the owner of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licenses, if any: DIRECTOR, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, ICAR-NATIONAL RESEARCH CENTRE ON MITHUN, IMPHAL, MANIPUR, INDIA-791008

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17. Remarks, if any: N.A.

DEPUTY REGISTRAR OF COPYRIGHTS

Educational Tour programme

On 25th November 2021, PG students from the Zoology department of St. Joseph University, Dimapur visited the Institute laboratories and farm as part of their education tour programme. The Section/Laboratories In-charge explained different research activities carried

out by the respective sections and demonstrated some of the equipments/instruments. The students got the chance to interact with the scientists and cleared their doubts on various issues (molecular techniques, conservation methods, processing of samples, etc.). A total of 59 PG students and 6 faculties attended the programme.

Institute Animal Ethics Committee Meeting.

On 23rd December 2021, the Institute organized a meeting of IAEC virtually with the external experts to streamline the animal ethics activities of the Institute. All the ongoing projects and numbers of animals under the experiment were discussed deliberately. A total of 9 members attended the meeting.



Interactive Meeting with the Department of Vety and A.H., Arunachal Pradesh

On 23rd December 2021, the Scientists of ICAR-NRC on mithun had an interactive meeting with the Jt. Director of Arunachal Pradesh State Govt. regarding the report of the sudden death of mithun at West Kameng district of Sergo village Arunachal Pradesh. Based on the information (symptoms and Post mortem lesions), the Scientists have suggested the preventive measures to be taken up to control the death.



Swachh Bharat Pakhwada 2021 Valedictory Programme

ICAR-NRC on mithun organized a Valedictory programme of “Swachh Bharat Pakhwada 2021” by inviting the media from Doordarshan TV and a special guest from 4th Assam Rifles Medziphema. During the programme, 15 days of activities (16th - 31st Dec. 2021) that have been carried out by the Institute were highlighted. A total of 66 members participated in the programme.



ACTIVITIES OF KRISHI VIGYAN KENDRA-PHEK (July-December 2021)

Krishi Vigyan Kendra (KVK) is the fundamental part of the National Agricultural Research System (NARS) which aims to the assessment of location-specific technology modules in agriculture and allied enterprises, through technology assessment, refinement and demonstrations. KVK works at the grass-root level as a vocational training institution to bridge the gap between the available technologies and their application to increase production and productivity. KVK functions as the Knowledge and Resource Centre of agricultural technology supporting initiatives of public, private and voluntary sectors for improving the agricultural economy of the district.

Under National Initiative on Climate Resilient Agriculture (NICRA) project at Thipuzumi village, 11 training programmes were conducted for practicing farmers with total beneficiaries of 174 farmers, 2 nos. of field day benefitting 38 farmers and 9 method demonstrations with 140 beneficiaries and 30 nos. of mobile advisories were disseminated benefitting 721 farmers. Under Mera Gaon Mera Gaurav, 2 training programmes were conducted with 47 participants. Under NARI and KSHAMTA, 2 programmes were

conducted with 109 participants. Under Jal Shakti Abhiyan, 13 training programme on water use efficiency was conducted benefitting 267 farmers. Webcasting on organic cultivation in french beans on the occasion of ICAR Foundation Day, sweet corn and baby corn production for NGOs of Chizami and Live streaming on Natural farming by the PM and Farmer Scientist Interaction were conducted with a total of 85 participants.

Sl. No.	Activities	No. of activities	Participants
Mera Gaon Mera Gaurav			
1.	Training	2	47
NICRA			
1.	Training	11	174
2.	Field days	2	38
3.	Method demonstration	9	140
4.	Mobile advisory services	30	721
Total		52	1073

Action photographs- OFT/FLD/Training/Extension Activities On-Farm Trial



OFT on Gladiolus cultivation



OFT on organic turmeric



OFT on varietal evaluation on millet



OFT on varietal evaluation on sweet corn



FLD on broccoli cultivation



FLD on zero tillage in field pea



FLD on low cost vermicomposting



FLD on integrated crop management in paddy



FLD on water harvesting at Yoruba

Frontline Demonstration

Sl. No.	Activities	No. of activities	Participants
NARI, PKVY and KSHAMTA			
1.	Awareness on NARI cum Seeds and input distribution	1	59
2.	Training on the importance of homestead farming and nutri-cereals in the Phek district and distribution of winter crop seeds	1	50
Total		2	109



Awareness on NARI cum seeds and input distribution



Training programme under KSHAMTA

Training Organized

Under capacity-building programmes, a total of 33 training programmes for practicing farmers were conducted benefiting 807 participants, 4 numbers of training benefiting 103 rural youths and 2 trainings for extension personnel were conducted benefitting 23 personnel. 1 no of vocational training were conducted benefitting 16 rural youths.

Sl. No.	Activities	No. of activities	Participants
1.	Training for practicing farmers	33	807
2.	Training for rural youth	4	103
3.	Training for extension personnel	2	23
4.	Vocational training	1	16
Total nos. of training		40	949



Capacity building training on soil health management for extension personnel



Capacity building training on Rabi maize



Capacity building training for extension

EXTENSION ACTIVITIES

Under extension activities, 10 numbers of field days were conducted with a total of 111 beneficiaries, and diagnostic visits and Scientist visits to farmer's fields were carried out in different villages. 6 nos. of method demonstrations were conducted benefitting 93 farmers. 33 numbers of mobile advisory services through SMS were sent to 330 farmers. Two numbers of Farmers-

Scientist Interaction were conducted with a total of 165 participants. 7 lectures were delivered on agriculture and allied topics under NABARD, Phek. Important days were also celebrated in the Institute benefitting 281 participants. Awareness of cleanliness under the Swacch Bharat Mission was also conducted from 16th December to 31st December 2021.

Sl. No.	Activities	No. of activities	Participants
Extension Activities			
1.	Field days	10	111
2.	Diagnostic visit	18	52
3.	Scientist visits to farmers' field	23	66
4.	Method demonstration	6	93
5.	Mobile advisory services	33	330
6.	Farmers-Scientist interactions	2	165
7.	Exhibition	6	269
8.	Lecture delivered as a resource person	7	147
9.	Soil health camp	1	20
10.	Exposure visit	1	25
11.	Farmers' exposure visit to KVK under NEN Chizami and ATMA Phek	3	75
12.	Webinar on organic cultivation in french bean on the occasion of ICAR Foundation Day	1	19
13.	Webinar on sweet-corn and baby-corn production for NGOs of Chizami	1	22
14.	Celebration of Important days	5	404
a.	Independence day	1	61
b.	Seminar on food and nutrition on Azadi ka Amrit Mahotsav	1	30
c.	International year of millet 2023 and awareness on climate-resilient agriculture	1	85
d.	World soil day	1	53
e.	Mahila Kisan Diwas 2021	1	50
f.	World Food Day 2021	1	56
g.	Vigilance awareness week	3	29
h.	National campaign on agriculture & environment-the citizen face cum Constitution Day	1	52
i.	Live streaming on Natural Farming by the PM and Farmer-Scientist Interaction	1	44
15	Jal Shakti Abhiyan	13	267
16	Field visit and Field day conducted under ATMA, Phek	3	75
Total		144	2600



Jal Shakti Abhiyan programme at Sakraba village



Exposure visit to KVK Phek for Phek farmers under ATMA Phek



Soil Health Management programme during Summer Farm School conducted by NEN



Celebration of World Soil Day



Village level programme organized by NABARD Phek



Demonstration and distribution of tools and implements under IIMR Project



Exposure visit under NABARD



Demonstration programme under ATMA Phek



Visit to large cardamom field under Spices Board, Kohima



Live streaming on Natural farming

Publication:

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