Proceedings of the IRC meeting held at ICAR-NRC on Mithun, Medziphema, Nagaland on 16.05.2019

The IRC Meeting was held in the Conference Hall of ICAR-NRC on Mithun, Medziphema, Nagaland on 16.05.2019. The meeting started at 10:30 under the Chairmanship of Dr. Abhijit Mitra, Director, ICAR-NRC on Mithun. Dr. Vinnet Bhasin, Principal Scientist (AG&B), Animal Science Division, ICAR, New Delhi attended IRC meeting as an external expert. The following Scientists, Technical Officers, and other staff were present in the meeting.

1. Dr. Abhijit Mitra, Director, ICAR-NRC on Mithun
2. Dr. Vineet Bhasin, Principal Scientist (AG&B), ICAR, New Delhi
3. Dr. Nazrul Haque, Principal Scientist, Animal Nutrition
4. Dr. Saroj Toppo, Principal Scientist, Animal Nutrition
5. Dr. Sabyasachi. Mukherjee, Principal Scientist, AGB
6. Dr. Meraj Haider Khan, Principal Scientist, Animal Reproduction
7. Dr. Jayanta Kumar Chamuah, Scientist, Vety Parasitology
8. Dr. S. S. Hanah, Scientist, LPM
9. Dr. Lalchamliani, Scientist, LPT
10. Dr. Laishram Sunitibala Devi, Scientist, LPM
11. Dr. H. Lalzampuia, Scientist, Vety. Microbiology
12. Dr. Vivek Joshi, Scientist, Vety Medicine
13. Kamni Paia Biam, Scientist, Ag. Extension
14. Dr. Kobu Khate, CTO
15. Dr. Kezhavituo Vupru, CTO

The Director of the Institute, Dr. Abhijit Mitra, in his welcome address briefed about the research findings and major achievements of the institute during 2018-19. Dr. Vineet Bhasin emphasized that the research project should be completed within the stipulated time frame and the research output should be reflected in quantitative terms. Section wise project presentation of work done and research achievements and the new proposals were presented by individual scientists. Major recommendations of IRC for each project mentioned as under:

I. Animal Genetics and Breeding (AGB):

A. Ongoing projects: 01

1. Genetic characterization of mithun (*Bos frontalis*) population through mitochondrial genome sequencing. PI: Dr. S. Mukherjee; Start date: July 2017, End date: March 2019.

Recommendations:

1) Correlate data using clustering analysis
2) Submit the first draft of the Manuscript/ Research paper within one month.
3) The project has been completed so RPP-III to be submitted.

Approved

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II. Animal Nutrition (AN)

A. Ongoing projects: 03

1. Effect of feeding agro-industrial by-product based feeds on growth performance of mithun and its application in field condition. PI: Dr. Nazrul Haque. Date of start: May 2017; End Date: April 2019

   Recommendations:
   1) The project is concluded so RPP-III may be submitted.
   2) A new research project may be taken up to find out the nutritional requirement of mithun and standard feeding practices of mithun may be documented.
   3) An experiment may also be initiated to know the growth potential of mithun under feedlot.
   4) Brainstorming workshop on the nutritional requirement of mithun may be organized.

2. Chemical fingerprinting and in vitro testing of some traditional medicinal herbs against bacterial and parasitic diarrhoea in mithun. PI: Dr. Nazrul Haque.Start Date: April 2015; End date: September 2018

   Recommendations: Project has been concluded hence RPP-III may be submitted.

3. Profiling gut microbiome of mithun. PI: Dr. Saroj Toppo, Start Date: May 2017; End date: April 2019

   Recommendations: Granted extension till December 2019 with the condition that the PI will submit the first draft of the manuscript/ draft research paper within next one month.

B. New Project: Nil

III. Livestock product Management (LPM)

A. Ongoing projects: 01

1. Genetic improvement of growth performance of mithun (*Bos frontalis*). PI: Dr. S. S. Hanah; Start Date: May 2017; End date: April 2020

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Recommendations

1) A document to be prepared depicting the key production and reproduction parameters of mithun reared under farm condition.
2) The Breeding goals/selection criteria to be fixed based on the growth data.

B. New project: 01

1. Developing weaning strategies in mithun. PI: Dr. Laishram Sunitibala Devi: Start Date: June 2019; End date: May 2020

Recommendations

1) Project is approved.
2) Milking behavior of mithun cow including let down time and milk flow rate to be studied and recorded before starting the actual experiment
3) In treatment group 1 (T1) allow suckling for 2 min then bottle feeding along with calf starter following feeding schedule of cattle claves.
4) Under milk parameter analysis, include fatty acids profile, amino acid profile and size of fat globules in collaboration with NDRI.

IV. Animal Reproduction (AR)

A. Ongoing projects: 02

1. Optimization of mithun semen freezing protocol through controlled freezing and minimizing sperm damage: PI: Dr. M. H. Khan. Start Date: April 2015; End date: September 2018

Recommendations:

1) Document the protocol of semen freezing & AI and publish a booklet within a month.
2) RPP-III may be submitted

2. Characterization of physico-chemical properties of cervical mucus with reference to estrus behaviour and endocrine profile in mithun. PI: Dr. M. H. Khan; Start Date: May 2018; End date: April 2019

Recommendations:

1) Semen samples from all the bulls may be collected and frozen
2) Deposit 500 semen doses of all available breeding mithun bulls at farm to NBAGR within three months
3) Granted extension for six months period.

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B. New project: 01

1. Ovarian follicular dynamics and hormonal profile in pre-pubertal and pubertal mithun. PI: Dr. Vikram R. Start Date: June 2019; End date: May 2020

Recommendations

1) Project is approved.
2) Try and demonstrate commercially available heat detection aids (chin ball marker, tail paints, adhesive patch) for accurate heat detection along with parading teaser mithun bulls

V. Animal Health (AH)

A. Ongoing projects: 01

1. Phyto-formulation for effective control against leech infestation in mithun (Bos frontalis). PI: Dr. Jayanta Kumar Chamuah. Start date: June 2017; End date: December 2018

Recommendations

1) Complete the work recommended in last IRC:
2) Analyze the methanolic and aqueous extract for biochemical constituents.
3) Work with extracted active principles on bio-safety issues / adverse effect on animals.
4) Granted extension for six months period.

B. New projects: 02

1. Immune response profile of FMD vaccinated mithun. PI: Dr. Lalzampuia; Start Date: June 2019; End date: May 2020

Recommendations:

1) Project is approved.
2) For comparison, calves (cattle) may also be included as naive animals.
3) The project may be finalized in consultation with PDFMD.

2. Clinico-epidemiological study of major subclinical metabolic diseases of transition mithun cows. PI: Dr. Vivek Joshi; Start Date: June 2019; End Date: May 2020

Recommendations:

1) Project is approved.
2) Collect the samples both from Medziphema and Porba mithun farm
3) All biological samples/ fluids to be collected from all the animals

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VI. Livestock Product Technology (LPT)

A. Ongoing projects: 01

1. Physico-chemical properties of mithun (*Bos frontalis*) meat. PI: Dr. Lalchamliani; Start Date: May 2017; End Date: December 2018.

Recommendations:

I) RPP-III may be submitted and a recommendation for the optimum age of slaughter of mithun may be made.

B. New Project: Nil

VII. Livestock Extension

A. Ongoing projects: Nil

B. New Project: 01

1. Socio-economic evaluation of mithun rearing. PI: Kamni Paia Biam; Start Date: June 2019; End date: May 2020.

Recommendations: Project is approved.

VIII. General Recommendations of IRC

1) Experimental animals will be allotted only on written request by the PI to the relevant Committee and approval of the competent authority. The Farm manager will not issue any experimental animal without proper indent from PI and approval of the CA.
2) Daily Dairy in the prescribed format, Growth Register and all the relevant Registers for all animals are to be maintained in the Farm.
3) All the section will prepare a document highlighting the achievements based on the past publications of the Institute.
4) Publication of research paper should be routed through the proper channel and while communicating the manuscript to a Journal and publication charges, if any, is to be mentioned and get approval before submission.
5) It would be the responsibility of the PI to complete all the formalities of animal ethics, SPSCA and biosafety before initiating any experiments.

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