

## **Proceedings of the RAC meeting held on 21.04.2018 at ICAR-NRC on Mithun, Medziphema, Nagaland**

The RAC meeting was held in the meeting hall of ICAR-NRC on Mithun on 21.04.2018 at 9:30 am to review the progress of ongoing research projects and suggestion for new area for future research. The meeting was attended by the following members:

1. Dr. Dharmeswar Das, Former Joint Director, IVRI, Chairman
2. Dr. Kusumakar Sharma, Former ADG (Edu), ICAR, Krishi Bhavan, New Delhi, Member
3. Dr. K. K. Baruah, Former Director, ICAR-NRC on Yak, Dirang, Member
4. Dr. Apurba Chakravarty, Director Research, AAU, Khanapara, Member
5. Dr. A. Aziz Former Prof. & Head, Animal Genetics & Breeding, AAU, Khanapara, Member
6. Dr. R. S. Gandhi, ADG (AP & B), ICAR, Krishi Bhavan, New Delhi, Member
7. Dr. Abhijit Mitra, Director, ICAR-NRC on Mithun, Member
8. Dr. Nazrul Haque, Principal Scientist & Member Secretary

Meeting was started with welcome address by the Director, NRC on Mithun. Chairman RAC, Dr. Dharmeswar Das formally welcomed all the members of RAC and Scientist of ICAR-NRC on Mithun. In opening remarks, the committee suggested the following points:

1. Identification of prototype area for spending the TSP fund to make a visible impact. Prepare location specific project and Mo U with State Govt. Inputs may be given in the form of infrastructure and livestock.
2. Exchanging breeding bull among the villages is a good initiative by the Institute to mitigate the inbreeding problem.
3. There is a need to educate the people about the role of mithun in maintaining ecological balance.
4. Re-introduction of mithun in new areas under semi-intensive system is also a good initiative by the Institute.
5. Establishing ONBS in different states.

### **Section wise progress of Research project**

#### **AGB Section**

#### **Genetic characterization of mithun (*Bos frontalis*) population through mitochondrial genome sequencing.**

#### **Recommendations:**

1. Permission may be taken from Assam Govt. for collecting the blood samples from Gaur. Help of CVSc, Khanapara may be taken in this regard.
2. Committee also suggested taking up work on breeding aspect of mithun, phenotype characterization, performance recording and registration of mithun as breed. Selection of mithun should be based on meat and milk production.
3. Extension for one year was granted.

## **LPM Section**

### **Genetic improvement of growth performance of mithun (*Bos frontalis*)**

1. Body wt of calf should be taken at weekly interval till 26 week after that monthly body wt can be taken. It must be the continuous activity of the farm.
2. Milk record must be taken regularly.

## **Animal Nutrition Section**

### **Effect of feeding agro-industrial by-product based feeds on growth performance of mithun and its application in field condition**

1. Calculate the economics of milk production.
2. Develop a package of practices for semi-intensive mithun farming for milk and meat purpose. Semi-intensive system must be encouraged in the field.
3. Extension of one year is granted.

### **Effect of dietary supplementation of unsaturated fatty on conjugated linoleic acid (CLA) levels in milk and meat of mithun**

1. Compare mithun milk CLA with CLA of other animal.
2. Conduct season wise variation in CLA content and correlate it with the type of feed and fodder available.
3. Analyze the data again and rule out the outliers.

## **Profiling of gut microbiome of mithun**

1. Six month extension is provided and PI is requested to complete the work in six months.

## **AP&R Section**

### **Optimization of mithun semen freezing protocol through controlled freezing and minimizing sperm damage**

2. Vasectomized crossbred cattle bull may be used to identify female mithun in heat.
3. Estrus behavior studies may be conducted.
4. Training of manpower for estrus detection and AI.

### **Development of mithun based Integrated Farming System model for sustainability and livelihood improvement of small and marginal farmers**

1. This project is not presented as QRT has recommended closing the project.

## **Animal Health**

### **Phyto-formulation for effective control against *Rhipicephalus microplus* and leech infestation in mithun**

2. Identification as well as the botanical name of the plants has to be ascertained.
3. Different components crude extract has to be defined. Find out the active principles of the components.
4. Extension of one year is granted.

**Chemical fingerprinting of traditionally known medicinal herbs and *in-vitro* testing against bacterial and helminthes parasitic diarrhoea in mithun (*Bos frontalis*)**

1. Extension for six months was granted.

**LPT Section**

**Carcass characteristics and physicochemical properties of mithun meat**

1. Recommended for taking same age group animals with same plane of nutrition and study the carcass characteristics, tenderness, water holding capacity and amino acid composition to find out the suitable age for slaughter.
2. Extension for one year was granted.

**Recommendations of the Committee**

1. Alternate species like mithun has a great future. Therefore, make a list of project since inception and take into consideration while taking new projects.
2. Take very specific and short duration projects.
3. Genetic improvement of mithun may be taken on priority basis. Generate highly meritorious bulls and distribute in the field to check the inbreeding.
4. Behavior of the mithun bull and estrus female may be studied.
5. MoU should be signed with AAU, Khanapara and NRC on Mithun should work in cohesion with State Governments and progressive mithun farmers.
6. Generated data should be analyzed through standard statistical procedure.
7. Chairman thanked all the Committee members for their valuable comments and Scientists of NRC on Mithun for nice presentation.