

Type evaluation for functional traits for cattle and buffaloes in existing PT projects under NDP I- an initiative:

Compiled by AB Group, NDDB

Introduction

Producing progenies with desirable type characters (conformation traits) is important as they support milk production as well as enhance productive life of animals by keeping them healthy. Genetic variability in type characteristics which is noted in our cattle and buffalo populations implies that by measuring these traits and selecting bulls for desirable type traits, they could be improved in the populations.

With the objective of improving type traits in animals, body typing of daughters of all test bulls has been envisaged under all progeny testing projects under NDPI. However, before routine typing of animals is initiated under the various Progeny Testing (PT) programmes, it is, required to standardize measurement procedures and develop appropriate scales for typing of animals for different type traits separately for different breeds of cattle and buffaloes identified under NDPI.

Measurement guidelines, procedures and scales for classifying animals have been evolved for typing HF and Jersey breeds and are available on the ICAR (International Committee for Animal Recording) web site. As direct application of these procedures and scales may not be appropriate for Indian cattle and buffalo breeds, the basic principles, guidelines and procedures used were thought to be a starting point for developing appropriate measurement procedures and scales for our breeds.

This document describes what has been done to standardize the measurement procedures and develop a scale for our breeds and proposes a plan for routine typing of daughters born under all PT projects.

Preliminaries

Developing Guidelines, standard measurement procedures and a scale

With the aim to develop guidelines, standard measurement procedures and scales, the following activities have been initiated/planned:

1. NDDDB invited Mr. Keith Flaman, Consultant from Canada during Feb-March 2014, to train a batch of trainers for conducting animal typing



under the on-going progeny testing programmes. He trained sixteen officers involved in implementing various PT Projects and helped in developing draft guidelines and a road map to establish evaluation systems for animal typing for Indian breeds.

2. While making the road map, five working groups were formed one each for five breeds namely pure HF, HF crossbred, Jersey crossbred, Mehsana buffalo and Murrah buffalo.

These groups were required to type at least 50 animals for their assigned breed and suggest the following

- the traits that can be measured;
- instruments to be used for measurement of different traits;
- Action plan to develop a scale of measurement for different type traits.



All the working groups successfully completed the exercise.

3. A workshop was then organized on 22nd May 2015, at NDDDB, Anand, during which each working group shared their experiences of typing of animals in their respective breed(s). Based on the recommendations of the working groups, the draft guidelines were suitably modified based on the learnings and has been circulated to all projects. It was also decided to plan for routine typing of daughters born under all PT projects after standardizing the measurement procedures and developing a scale for each trait.

The following activities have further been initiated;

Innovation on development and procurement of Instruments for typing

Based on the outcomes from the workshop, the SAG team along with the support from NDDB team has developed 2 different instruments and one instrument for circumference measurement from the market for use by the animal typers. These tools have been locally fabricated with financial assistance from NDDB. Thirty two sets of such tools have been initially fabricated for use during the initial training of typers as shown in the following pictures.



A



B



C

A- Retractable and locking measuring tape with leveller and telescoping rod for measuring stature, rump angle. B- Instrument for measuring angularity. C- Circumference gauge for measuring teat thickness.

Training of Typers:

For carrying out routine typing, many typers would need to be trained and re-trained and typing work need to be carried out on a continuing basis. To start with, all supervisors available with SAG, Banas, Mehsana PT projects were trained on 21st March 2016, during a training programmes organized by NDDB along with trainers at Panchmahals milk shed. Another programme for KMF PT Project team was organized on 29 March 2016 . 32



trainees participated in the programme. All were provided initially with the required theoretical background on typing and later were provided with hands on training by the trainers. They were initially oriented to all the tools and were later given practical training on animals in

the villages. All have been instructed to proceed with typing in their area

and collect information on animals in the required format (provided during training). It is proposed to conduct the 2nd round of training during June 2016, wherein the typers and the trainers would exchange their experiences and fine tune their skills and learning.



Considering the number of typers to be trained and the spread of the projects, it is required to further organize training of at least 2-3 more batches involving 30 to 40 participants.

Lessons learned

- Since there is some level of subjectivity in type evaluation and a uniform level of precision is important, all the typers need to be re-trained after they type about 100 animals (approximately after 2 months).
- There needs to be an annual programme wherein all the typers come together and exchange ideas and get themselves refreshed this also would also include an exercise for evaluation of skill of all typers.
- The instruments used for animal typing shall be improvised depending on the field lessons
- Such regular training and evaluation is expected to bring in uniformity in data collection.
- After developing the scales for different breeds and standardizing the methodology, all recorded data on type and conformation shall be captured through INAPH

Future Plan and expected Outcome

This exercise will evolve type trait measurement procedures and scales for scoring of some important breeds of dairy animals in India. Besides, it will develop a cadre of trained personnel who can collect very important data on type traits for some of the important cattle and buffaloes in future. This will also help in evaluating bulls for type traits and including these traits in a selection index which will ultimately help in improving overall profitability of Indian dairy farmers.