
Session 4. Identification of the necessary components for establishing and maintaining a programme for the genetic improvement of dairy buffalo

Fifty percent of the participating countries have either an on-going programme at different stages or have recently concluded breeding programmes. In Azerbaijan and Bulgaria, the programme was successfully carried out in the past based on full governmental financial support. Due to the collapse of the State economy and consequent privatisation, breeding programmes have now been terminated as farmers cannot afford to pay the costs of maintenance of a recording system and breeding programme.

In Iran, Italy and Pakistan, breeding programmes are still effective, because there is a precise will of the Government to maintain them by guaranteeing the relevant funding.

India is the only example where the breeding programme has been successfully established and maintained by the farmers' cooperative, without any financial support from the Government. However, in this case the farmers do not pay directly for the services of recording and selection; the cost of the recording and selection programme has been met indirectly from the revenue generated by their cooperative union through the sale of their produce.

In India, Iran, Italy and Pakistan only one organization carries out all activities of the milk recording and genetic improvement programmes (i.e. recording, data processing, genetic evaluation, distribution of bulls, etc.). The same applied to Azerbaijan and Bulgaria when the programme was implemented.

However, in Egypt, the on-going breeding programme was implemented with the cooperation of several different institutions, including the cattle and buffalo breeders' associations.

Discussion

To what extent have genetic improvement programmes for buffalo been implemented at present?

Which organization is responsible for carrying out the genetic evaluation of buffalo?

How can a breeding programme be implemented and maintained successfully?

A breeding programme can successfully be implemented only with good infrastructure for artificial insemination and for milk recording. Some selected farmers having better animals could be involved in test mating programmes. Semen of proven bulls or of bulls produced using top proven bulls and top recorded daughters could be used for the entire population. Bulls produced using top proven bulls and top recorded daughters could also be used for a natural service programme.

Conclusions

To implement and maintain a successful breeding programme:

1. The breeding objective for improvement of buffaloes should be well-defined. If the breeding objective is the improvement of milk yield, the performance recording of milk yield as well as the method for calculating the lactation production must be standardised.
2. It is advantageous if a single organization supervises recording practises and carries out data processing work. The organization must develop good computing facilities and make use of advanced methodologies in evaluation of animals. It should also plan to receive long-term financial support for all its recording activities either from the local government or from other external sources (farmers, foreign agencies, international development projects).
3. Development of a good infrastructure for artificial insemination is a pre-requisite to any buffalo improvement programme. Developing infrastructure for identifying good bulls is one thing, but using identified bulls to a maximum in the base population is another thing. Dissemination of genetic material is only possible with a good artificial insemination infrastructure.

In the case where developing infrastructure for milk recording and for artificial insemination is not feasible in the country, a breeding programme could be organized within nucleus herds, where all tools of the genetic improvement could be applied. In this case, research institutions could be given the responsibility to implement the programme as they can offer scientific/technical expertise at all levels. It is recommended, however, that research institution's help must be sought to sensitise policy-makers in the need to initiate a recording and genetic improvement programme in the country.