

UMB Feeding Demonstration on Farmers' Fields

A field-level feeding demonstration was approved by the Department of Animal Husbandry, Thimphu, to study the acceptability of UMB technology for ruminants such as cattle, sheep, and *yak* at high altitudes where a large number of animals die because of inadequate nutrition. Five northern districts (*Dzongkhags*) of the country namely, Haa, Thimphu, Wangdi, Bumthang, and Tashigang were selected to carry out the proposed field demonstration. The preliminary identification of target farmers was carried out by the Training, Research, and Extension Division of the Department with the help of district animal husbandry officers (DAHO).

About 900 kg of UMB (300 in number) were prepared according to the improved methodology. All UMB mixtures were molded at the Feed Mixing Plant and brought to the Feed Analytical Laboratory where they were partly over-dried.

Feedback forms were prepared for the three-week long field demonstration. As soon as the team arrived at the district headquarters, the following work was undertaken.

1. All field staff were briefed on the role of UMB in the presence of the DAHO.
2. Demonstrations of feeding UMB to ruminants in the nearby sheds of selected farmers were conducted in the presence of field staff from the Department of Animal Husbandry and in the presence of the local farmers.
3. Subsequent follow-up field visits to farmers' houses and animal sheds were carried out for the following two days. The feedback reports were received at the department from the offices of all five DAHOs.

About 182 blocks were used for the field demonstration which covered 91 farmers from 20 villages in the five districts and more than a thousand animals, including cattle, *yak*, and sheep. The field technicians fed UMB to local animals kept in sheds as well as in pastures. Based on the feedback received from the farmers, it was indicated that feeding UMBs to grazing animals was safe and no deleterious effects of urea toxicity were noted in the cattle, sheep, or *yak*. The duration required to finish a UMB varied from a few days among cattle and sheep to a few weeks among *yak*. Some *yak* showed reluctance to lick the block in the beginning but many of them consumed appreciable amounts of UMB when the blocks were sprayed with salt or grain flour. Some farmers observed an increase in milk yield among cows given

UMB for two weeks. A high demand for UMB by farmers was also reported by almost all field staff in their feedback reports. However, rural farmers reported that the cost of the UMB (5 Nu/kg) was high. It was suggested by farmers and village leaders that the UMB should be made available to farmers at government-subsidised rates.

After completion of the detailed study on the use of UMB as a feed supplement to ruminants, a consolidated report was presented to the Department of Animal Husbandry, Thimphu, with conclusions listed below.

1. UMN mixture containing 12 per cent of *Til* cakes (sesame oilseed cakes) was estimated to be the most suitable among all other mixtures in terms of nutritive value.
2. The control drying system for hardening UMB was cheaper and commercially more viable than the use of chemicals.
3. UMB supplements markedly improved the milk yield in dairy cows fed on straw-based diets.
4. Use of UMB as a nutrient supplement to dairy cows was a cost-effective input, even in field conditions.
5. The UMB supplement technology for ruminants on low-quality, high-fibre diets, was widely accepted by livestock owners even in high altitude areas.
6. The UMB technology was safe, simple to handle, and met the essential nutrient requirements for ruminants, so as to achieve efficient utilisation of local resources as animal feed in times of feed scarcity, especially during winter.