Indian J. Anim. Prod. Mgmt. Vol. 31(1-2) 62-66 (2015)

MANAGEMENTAL PRACTICES ADOPTED BY THE RURAL DAIRY FARMERS IN LOWER BRAHMAPUTRA VALLEY*

MUKUT DAS[1] ; D. C. MILI[2] ; R. ROYCHOUDHURY[3] ; A. K. GOGOI[4] ; M. C. BORAH[5] ; A. BORGOHAIN[6] AND B. N. SAIKIA[7]
Department of Livestock Production and Management, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati –781022, Assam

Received : 03.12.2014 ***Accepted : 20.03.2015***

ABSTRACT

An investigation was carried out to study the managemental practices adopted by the rural dairy farmers of Kamrup, Nalbari, Barpeta and Goalpara district of Assam in rearing indigenous and crossbred cows. The majority of dairy farmers used thatch as roofing material in their cattle shed (56.84% and 81.48% in crossbred and indigenous cows

respectively). Majority cattle sheds were observed with half wall (47.95%) for crossbred cows and full wall (62.96%) for indigenous cows. Concrete floor and earthen floor cattle shed were observed for crossbred cows as 67.81 per cent and 90.74 per cent for indigenous cows respectively. Proper drainage facilities in the sheds for crossbred cows (65.75%) and without proper drainage facilities for indigenous cows (88.89%) were also observed. Stall feeding was observed as 58.22 per cent in crossbred cows while grazing was observed as 92.59 per cent in indigenous cows. Most of the farmers fed their cows with naturally grown green fodder (94.52 and 96.30% in crossbred and indigenous cows respectively). The main source of dry fodder was paddy straw (*Oryza sativa* L.) and fed to the animals @ 2-5 kg per milch animal per day. Concentrate ration was provided @ 3-7 kg per crossbred cow per day; while for indigenous cows, 62.96 per cent of dairy farmers offered only rice polish @ 1-3 kg per cow per day and 37.04 per cent of dairy farmers did not provide concentrate ration to their cows at all.

Key words : Dairy Cattle, management, Assam.

Cattle rearing is an integral part of Indian farming system which is now fairly organized to become dairy industry. India has the largest number of cattle population, *i.e.* 190.90 million (Livestock Census, 2012) including 33.0 million crossbreds to suit different category of farmers in various agro climatic conditions. India continues to be the highest producer of milk (133 MMT in 2012-13) contributing Rs. 1100850 million to GDP (CIRC, Meerut). Generally dairy farmers follow certain traditional practices but the modern scientific practices do play a very important role in improving the production. The improved husbandry practices in livestock farming make it more sustainable and profitable livelihood enterprises especially to the rural backward people. The information on the existing cattle husbandry scenario helps to formulate the strategies for adoption of better husbandry practices. In the present investigation a detailed enquiry was made to study the husbandry practices followed by the dairy farmers in lower Brahmaputra valley zone of Assam.

MATERIALS AND METHODS

The study was conducted in rural areas of Kamrup, Nalbari, Barpeta and Goalpara districts of the Brahmaputra Valley zone of Assam. The required data for the present study were collected from the available records maintained by the unit owners, personal observations and interview schedule designed for the purpose. From each district, five (5) villages were selected by simple random sampling method and ten (10) farmers from each village having at least two (2) milch cows were also selected by simple random sampling method for collection of data (200 dairy farmers). The parameters studied on the basis of data from each of the selected farmer of respective villages during the study period from March, 2012 to April, 2013 were used to study dairy cattle management in lower Brahmaputra valley zone of Assam.

RESULTS AND DISCUSSION

The cattle sheds of the present study were located on plain areas, more particularly close to the house of the owner. The majority of the cattle

*****Part of Ph.D. thesis submitted by the first author to C.V.Sc., A.A.U., Khanapara,

[1]Research Associate, ICAR Research Complex for NEH Region, Umiam, Meghalaya

[2]Professor

[3]Professor & Head

[4]Associate Professor

[5]Professor

[6]Professor & Head, Department of Extension Education, C.V.Sc., AAU, Khanapara

[7]Professor & Head, Department of Animal Nutrition, C.V.Sc., AAU, Khanapara

sheds were constructed with locally available materials, *viz*. bamboo, wood and corrugated iron sheet or thatch.

Roofs of the animal sheds were constructed by using locally available materials like thatch, bamboo etc. However, some cattle sheds had roofs with corrugated iron sheet; overall 43.16 and 18.52 per cent dairy farmers were found to use corrugated iron sheet (C.I.S.) as roof material for crossbred and indigenous cattle respectively. The majority of the dairy farmers were found to use thatch as roof material with 56.84 and 81.48 per cent for crossbred and indigenous cattle respectively. Similar finding was reported by[1] in Dimapur, Kohima and Pfutsero of Nagaland.

In case of some permanent sheds, concrete walls were constructed up to 4-5 feet from the ground level. Above this, walls made of bamboo were fitted up to roof. On the other hand, most of the temporary sheds were observed without surrounding walls. However, in some cases, full walls were provided to minimize the environmental stress. The overall average 47.95, 23.95 and 28.08 per cent of the dairy farmers were found to construct their cattle shed with half, full and without wall in crossbred cattle; whereas the corresponding values for indigenous cattle were found to be 25.93, 62.96 and 11.11 per cent respectively. The open house (77.5%) and closed/ semi-closed house (22.5%) cattle sheds on the small-scale dairy farming in Bangladesh were reported by earlier workers [2].

Majority of the dairy farmers found to construct concrete floor for crossbred cattle; whereas earthen floor was found to be common in indigenous cattle. A floor space allotment of 35-40 sq. ft. for each milch animal was observed in most of the sheds of crossbred cattle. The overall average 32.19 and 67.81 per cent dairy farmers were found to use earthen and concrete floor respectively for crossbred cattle; whereas the corresponding values for indigenous cattle were found to be 90.74 and 9.26 per cent respectively. A higher per cent of brick floor (85.60%) in rural areas of Uttar Pradesh was reported by earlier workers[3].

No special drainage system was followed in case of indigenous cattle. It was simple and natural to some extent. However, proper drainage system was followed in case of crossbred cattle by some dairy farmers. Generally disposal of dung was done by dumping in a pit within the vicinity of cattle shed. The dung and other feed refuses were used for manuring the paddy fields and in cultivation of fodder. Sometimes the dung was sold to outsiders. The overall average 65.75 and 34.25 per cent dairy farmers had cattle shed with drainage system and without drainage system respectively for crossbred cattle; whereas the corresponding values for indigenous cattle were found to be 11.11 and 88.89 per cent respectively.

Cattle owners generally fed their animals with natural grasses and tree leaves. Indigenous cattle were usually let loose for open grazing during day time. Some farmers were having cultivable lands used to cultivate fodder in their farms for crossbred cattle. To make up the shortage of fodder, naturally available grasses were also collected either through hired labour or by family labour. The overall average 58.22 and 41.78 per cent dairy farmers practiced stall feeding and grazing respectively in crossbred cattle; whereas the corresponding values for indigenous cattle were found to be 7.41 and 92.59 per cent respectively.

Green fodder

The green fodder was provided @ 20-25 kg to each milch animal per day. Time of feeding and system of feeding of different kind of feed varied widely from unit to unit. The quantity of green fodder supplied to the animal also varied from unit to unit and animal to animal depending upon the productive performance, availability and economic conditions of the farmers. Similar finding in Kamrup district of Assam was reported earlier [4], while a lower value of green fodder offered to the crossbred cattle was also reported in rural areas of West Bengal [5]. The overall average 94.52 and 5.48 per cent dairy farmers fed their animals with naturally grown green fodder and cultivated green fodder respectively in crossbred

cattle; whereas the corresponding values in indigenous cattle were found to be 96.30 and 3.70 per cent respectively. Similar finding in crossbred cattle of Karnal was reported[6].

Dry fodder

Paddy straws (*Oryza sativa* L.), the only dry fodder available was fed to the animals particularly during lean season, @ 2-5 kg to each milch animal per day. During the absence of green fodder the animals had access to dry fodder throughout the day and night. All dairy farmers made available of paddy straw in their farm round the year. Supply of higher amount of dry fodder @ 7 kg per head per day was reported earlier [5] in crossbred cattle in rural areas of West Bengal.

Concentrate

Concentrate mixture was provided @ 3-7 kg per day per crossbred cow and offered twice daily depending upon the production level of the cow. Concentrate mixture prepared with all required ingredients was not fed to indigenous cows. Generally majority of the dairy farmers provided only rice polish in indigenous cattle @ 1-3 kg per cow per day and offered once or twice daily depending upon the milk yield. Similar finding was reported earlier [5] in crossbred cattle of West Bengal. All the dairy farmers having crossbred cattle were found to feed their animal with concentrate mixture. The overall average 37.04 per cent dairy farmers did not offer any concentrate mixture to indigenous cattle and 62.96 per cent dairy farmers offered only rice polish to their animal. The most common ingredients of concentrate feed offered to the animals were wheat bran, MOC/TOC, bason, broken rice, rice polish, *mati kalai* (black gram), molasses and common salt. These ingredients were mixed up at the ratio as convenient to the farmers as per availability and price of the stock in the market. No fixed thumb rule was followed by the farmers in feeding concentrate to their milch cows. Wheat bran, MOC/TOC, and bason were not fed to the animals in dry form. These ingredients were mixed in water and added to the boiled amount of other ingredients of the ration to prepare a final mixture which was then fed individually to the milking cow. Most of the water requirement of the animal was met in this way. The MOC (used in winter) and TOC (used in summer) were soaked in water before mixing with other ingredients. Cows immediately after drying off were supplied with only wheat bran @ 2-3 kg per cow per day. The factors affecting feeding of cows were level of milk production, stage of lactation, stage of pregnancy, general health condition of the cow and cost of feed ingredients.

CONCLUSION

The study revealed that the dairy farmers of lower Brahmaputra valley zone of Assam were adopting traditional methods of managemental practices in indigenous cattle; however, scientific managemental practices were adopted by some progressive farmers who were rearing crossbred cattle on commercial basis. The most of rural dairy farmers in the study area were unaware of scientific managemental practices and cost return traits which were very much important for sustainable dairy farming. The dairy farmers should be provided training programme on scientific dairy farming to adopt scientific practices on a greater scale in order to achieve better results.

REFERENCES

1. Chakhesang, K. (1992). Managemental aspects of dairy cows at different altitudes of Nagaland in relation to productive and reproductive traits. Ph.D. thesis submitted to Assam Agricultural University, Guwahati.

2. Uddin, M. N.; Uddin, M. B.; Al Mamun M.; Hassan, M. M. and Khan, M. M. H. (2012). Small Scale Dairy Farming for Livelihoods of Rural Farmers: Constraint and Prospect in Bangladesh. *J. Ani. Sci. Adv*., **2**(6): 543-550.

3. Sinha, R.R.K.; Dutt, T.; Singh, R.R.; Bhusan, B.; Singh, M. and Kumar, S. (2009). Feeding and housing management practices of dairy animals in Uttar Pradesh. *Indian J. Anim. Sci*., **79**(8):829-833.

4. Hazarika, D. N. (1989). Economics of dairy cattle enterprise in Assam - A study in Guwahati sub-division. Ph.D. thesis submitted to Assam Agricultural University, Khanapara, Guwahati.

5. Singh, S. and Raut, K. C. (1983). Life-time economics of crossbred and non-descript cows in a rural area of West Bengal. *Indian Farming*, **XXXII** (12): 41-43.

6. Ramchand, T. S. (1986). Aspirations of Karnal Dairy farmers. *Indian J. Ext. Edu.*, **22**(1&2): 94-96.

★ ★ ★