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Buffalo rearing system in Bhadawari breeding tract

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Introduction

Bhadawari buffalo is one of the recognized buffalo breeds in India, known for high milk fat content, which may go as high as 14% (Kushwaha *et al*., 2012). Zachariah (1941) had first described this breed as "Bhadawan" buffalo –the best breed of buffaloes in Uttar Pradesh and found in the districts of Agra and Etah (Central India). Presently Bhadawari Buffaloes are found in the ravines of Yamuna and Chambal rivers spread over in the states of Uttar Pradesh and Madhya Pradesh. These buffaloes have adapted to the harsh conditions of the ravines with undulating topography, thorny and scanty bushes, climatic stress and draught conditions. The buffaloes are of medium size with medium to low milk yield having high fat content. Animals are of copper color, have two white rings on the lower side of the neck and legs are comparatively shorter. Indiscriminate crossbreeding with Murrah buffaloes, for increasing milk production, during the last 3-4 decades has reduced the number of Bhadawari buffaloes in the region. Looking into the need to conserve this gene pool, Indian Council of Agricultural Research has initiated efforts on conservation and improvement of Bhadawari buffaloes at Indian Grassland and Fodder Research Institute, Jhansi (IGFRI) under Network program in the year 2001. The present study was conducted to collect the information regarding existing buffalo rearing practices adopted by the farmers in the Bhadawari breeding tract.

Materials and Methods

The information regarding buffalo rearing practices and feed and fodder availability were collected from the farmers covered under artificial insemination program of the Bhadawari conservation project. More than 3000 farmers rearing buffaloes in Etawah, Jaluan, Agra, Auraiya and Jhansi district were covered under AI program, out of these about 2000 farmers were from Etawah district, which is considered heart of Bhadawari breeding tract.

Results and Discussion

Bhadawari buffaloes in the past, used to graze extensively in the undulated topography of ravines. Their compact small body and smaller legs (Bhadawari have also been described as "Suar Gori" meaning having legs like pigs) help in making balance while grazing in undulated ravine topography. Some 20-30 years ago, these ravines were seeded with Babul, which have taken roots and proliferated extensively. Farmers complained that the Babul trees have destroyed the natural grassland and it does not allow grasses to grow under its canopy. Moreover, the prickly thorns prevent its use as fodder besides restricting the movement in ravines. Further shrinking of common pasture land was another reason of keeping animals under stall feeding. It was observed that about 50% of the farmers kept their animals in semi-intensive (grazing + stall fed) and the rest were stall-fed with locally available roughage like sorghum kadbi and wheat straw. The chopped fodder/kadbi is liberally mixed with water and mixing of concentrate at regular interval is done to induce feeding. The concentrate mixture is soaked in the evening left overnight and then boiled in the morning and fed to the animals after cooling. The practice of boiling concentrate is discontinued once the buffalo successfully conceives. Farmers have a belief that boiling of concentrate helps keep buffalo warm and enhances conception. Buffaloes are offered water twice a day. Bhadawari buffaloes are hardy animals. They easily tolerate the extreme weather condition in the ravine where the maximum temperature goes up to 48^0c.

Weaning was not practiced and the calves were allowed to suckle their mother. Deworming was reported to be done by most of the farmers, which is contrary to the reports of Pundir *et al.* (1996) and Kushwaha *et. al*. (2007). Availability of quality breeding bulls in the field was limited and more than 80% of the farmers were breeding their animals through artificial inseminations and rest about 20% farmers were using locally available bulls for breeding. A majority of the farmers (95%) practiced cleaning the teats and utensils prior to milking. Regarding milk disposal it was reported that about 60% farmers sold whole milk, 25 % utilized it for home consumption and about 15 % of the farmers, particularly from remotely located villages, utilize it in the form of ghee. Pundir *et al.* (1996) reported that 40% farmers sold whole

milk and 17% in the form of ghee. Majority of the farmers (80%) sold their milk to the middlemen and the rest 20% to the market directly.

Conclusion

A shift in the animals rearing system was observed from extensive system/semi intensive system to intensive system. The major reason behind this shift was observed to be the non availability of the grazing land or the common property resources for grazing of the animals. Rearing of buffaloes for commercial purpose was another reason for this shift.

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