GAU Res. J. 1991. 16 (2) : 82-83

Lactation Curve for Milk Fat Content in Surti Buffaloes

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Buffaloes contribute more than 58% of the total milk produced though they form only 30% of the total bovine population in India. Buffaloes are going to remain an important source of milk in India during foreseable future.

The buffalo milk is preferred and priced more, especially for its higher fat content. Surti is an important breed of buffaloes in Gujarat. The effects of two major tangible factors viz., individuals and stage of lactation, affecting milk fat content in Surti buffaloes, maintained at Livestock Research Station, Navsari, were studied. Lactation curve for milk fat content in Surti buffaloes was also studied.

Twenty four Surti buffaloes, calved during the year 1987, were included in the investigation. All except three were in milk upto the tenth month of their lactation. One buffalo dried in the eighth and two buffaloes dried in the tenth month of lacation. Fortnightly samples, collected from milk produced by each buffaloes at evening milking were tested instantly for milk fat content by the Gerber fat testing method. Mean of the two tests in a month was taken as an average milk fat content for that stage of lactation.

Average fat content in the milk of Surti buffaloes at different stages of lactation with prediction curve is depicted in Figure 1. Overall milk fat content was 8.08 $\pm$ 0.2437 per cent with 14.56% coefficient of variance. The stage of lactation had significant ($P < 0.01$) effect on milk fat tests. The Surti buffalo milk had 6.78 $\pm$ 0.340 per cent fat during first month of lactation, which dropped to 6.20 $\pm$ 0.176 per cent during second month of lactation. There was a steep rise in milk fat content (7.25 $\pm$ 0.235%) during third month of lactation. Thereafter, milk fat content increased steadily and linearly upto tenth month of lactation and reached the peak of milk fat content (9.88 $\pm$ 0.292%). This clearly indicates that a slightly drop in milk fat content during second month of lactation coincides with peak level of milk production in this month. The milk fat content goes on increasing from third month of lactation, concomitant to decreasing trend in milk production, till the animals go dry.

Simple correlation coefficient and regression value were calculated between milk fat content and stage of lactation. Milk fat content showed significat ($P < 0.01$) association with stage of lactation ($r = 0.68 \pm 0.0519$). From the values of regression coefficient and constant, prediction equation for milk fat content (Y) on the basis of stage of lactation (X) was evolved. The prediction curve was simple linear ($Y = 6.03 \pm 0.38 X$).

The variation in milk fat content between individuals was also significant ($P < 0.01$). This indicates scope for improve-

ment in the trait by selection. The results corroborate with the findings of Anonymous (1987). They also reported that the fat content in the milk of Surti buffaloes, maintained at the All India Co-ordinated Research Project, Dharwar, was the lowest (6.43 ± 1.09%) during the second month of lactation and then increased steadily upto the tenth month of lactation to reach the maximum (8.92 ± 1.42%). They further reported that variation between the buffaloes was very high.

It can be concluded that fat content in the milk of Surti buffaloes vary at different stages of lactation and also from animal to animal. Fat content in the milk increases steadily and linearly with advancement of lactation.

(Received on 26th March 1990)

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