Effect of Feeding Silage Incorporated Ration on Production Performances of Temperate Crossbred Dairy Cows in Dry Zone of Sri Lanka

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Forage scarcity during the drought seasons has a negative impact on productivity of dairy cows reared in the Dry Zone of Sri Lanka. Therefore, utilization of conserved forages (i.e., silage) was identified as a reliable solution for this. Current study was conducted to assess the effect of commercially available silage on production performances and profitability of temperate crossbred dairy cows reared in Dry Zone, Sri Lanka. Fourteen multiparous, temperate crossbred (Jersey ×Friesian) dairy cows with 430.1 ± 4.01 kg average body weight were used for the experiment. Cows were divided in to two groups considering the provision of a forage-based ration (Control) and a forage & silage (30% fresh matter) mixed ration (Treatment). Silage utilized in the study was a commercially available corn-based silage product. Cows were fed for 5 weeks during the months of February and March. The experiment was on a randomized complete block design with two treatments (i.e., forage-based diet alone and forage & silage mixed diet) and the lactation stage was considered in blocking the animals (early lactation and mid lactation). Body weight, fresh matter intake, individual milk yields were recorded. Ration samples were collected and analyzed for dry matter, ash, crude protein, crude fat, acid detergent fiber content and neutral detergent fiber content. Benefit Cost ration (B:C Ratio) was calculated to assess the profitability of the feeding regimens. Cows fed with corn silage had recorded significantly higher ($P<0.05$) per day milk production compared to cows did not receive a corn silage-based ration. As such, silage feeding resulted 23.57 L/cow higher ($P<0.05$) cumulative milk production at five weeks compared to their counterparts (104.96 vs. 81.39 L/cow). Silage feeding did not indicate any significant ($P>0.05$) effect on fresh matter intake and body weight gain of the experimental cows. Further, both control and treatment rations indicated B:C ratios higher than one (01) throughout the experimental period. It indicted that both rations were profitable to be utilized in proper circumstances. Considering the increment of milk production and the profitability, silage feeding could be recommended as a promising solution for forage scarcity faced by dairy farmers during the drought seasons.

***Keywords*:** Corn silage; Dairy cows; Drought season; Milk production