

IMPACT OF MAIZE SILAGE INCORPORATED TOTAL MIXED RATION ON THE PRODUCTION PERFORMANCES OF DAIRY COWS

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Maize (*Zea mays*) silage is an excellent feed that can be fed to dairy cows. The aim of this research was to study the impact of maize silage incorporated total mixed ration (TMR) on the production performances of dairy cows. Eight, Jersey cross-bred cows were grouped according to their parity and they were randomly assigned into two treatments (T1: 6% TMR + 94% grass mixture and T2: 100% TMR) in a randomized complete block design. The grass mixture was guinea grass (*Panicum maximum*) and CO3 (*Pennisetum puerperium* x *Pennisetum americanum*). The TMR consisted with maize silage, coconut (*Cocos nucifera*) poonac, lentils (*Lens culinaris*) dust, rice (*Oryza sativa*) bran, mineral mixture and urea and it was formulated according to the recommendations. The cows were stallfed *ad-libitum* three times per day. Milk yield and feed intake were measured daily and milk quality parameters (solid non-fat; SNF and fat), body weight and body condition score (BCS) were observed weekly. Statistical analyses were undertaken using two-way Analysis of Variance procedure in Statistical Analysis Software. Milk yield and SNF content in milk were higher ($p < 0.05$) in cows fed with T2 ($11.55 \pm 0.34 \text{ kgd}^{-1}$ per cow and $8.57\% \pm 0.05$) than T1 ($7.86 \pm 0.34 \text{ kgd}^{-1}$ per cow and $8.33\% \pm 0.05$). The increase in milk yield for T1 and T2 were 6% and 18%, respectively. Feed intake and body weight were higher ($p < 0.05$) in T1 than T2. Fat percentage in milk and BCS were not significantly different between treatments. The cost of production for 1kg of T1 and T2 were estimated as 17.43LKR and 45.85LKR, respectively. The income per litre of milk from T1 and T2 were 97.00LKR and 105.00LKR, respectively. Thus, it can be concluded that feeding maize silage incorporated TMR improved the milk yield and profit at the farm.

Keywords: Jersey cross-bred cows, Milk yield, Solid non-fat, Stall feeding