

## **THE EFFECTS OF A NEW TOTAL MIXED RATION ON THE PRODUCTION PERFORMANCES OF MILKING COWS**

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A lactation trial was conducted to determine the effect of total mixed rations (TMRs) on production performances of lactating dairy cows reared under intermediate zone. Eighteen Holstein Frisian crossbred cows were blocked according to the body weight into Randomized Complete Block Design and randomly assigned into two treatments: new total mixed ration (Treatment 1) and existing total mixed ration (control) having three cows per block and three blocks per treatment. Milk yield and feed intake were measured daily and milk composition, body weight and body condition score were measured fortnightly. Nutrient composition of TMRs were evaluated. Economic efficiency was calculated by a cost benefit analysis. Gross energy content of new TMR and existing TMR were 4304.35 and 4216.91 kcal/kg respectively. Crude protein content of new TMR and existing TMR were  $8.17 \pm 0.19$  % and  $7.46 \pm 0.192$  % respectively. Body weight, body condition score and body weight gain were not significantly different ( $p > 0.05$ ) between the two treatment groups. However, milk yield was significantly higher ( $p < 0.05$ ) in animals fed with new TMR ( $12.01 \pm 0.24$  L) than those fed with the existing TMR ( $10.15 \pm 0.24$  L). Milk fat, protein and solid non-fat content (SNF) were significantly higher ( $p < 0.05$ ) in new TMR fed group. Higher profit (Rs 419.60/cow/day) was recorded for the new TMR fed group compared to the control group (Rs 197.30/cow/day). The results revealed that, new TMR (Treatment 1) showed a significant impact on milk yield, milk fat, protein and SNF which contributed to the profit. Thus, it can be concluded that the farm can maximize the profit by replacing existing TMR with the new TMR.

**Keywords:** Dairy cows, Milk composition, Milk yield, New Total Mixed Ration