

Effect of Total Mixed Ration (TMR) Briquette on Milk Yield, Composition and Sensory Properties of Cow Milk

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The production and composition of cow milk can be affected due to an inconsistent supply of quality forages throughout the year. Preservation of forages is one of the strategies to overcome this problem in Sri Lanka. Total mix ration (TMR) diets can be formulated by blending dried feed ingredients and preserved as briquettes. The present study aimed to assess the effect of feeding TMR briquettes on the yield, composition, and sensory attributes of cow milk. Nine, Jersey x Sahiwal crossbred, lactating dairy cows were assigned to three treatments in a Latin square design; control (T1: guinea grass with commercial feed) and two TMR recipe briquettes selected from a previous trial (T2 and T3). They were fed *ad libitum*. Milk yield was measured daily and composition was determined by an automated milk analyser. The sensory analysis was conducted using 30 un-trained panelists on a 9-point hedonic scale. There was no significant difference among the treatments in milk yield, composition; milk fat, lactose, solids non-fat, protein, and water. Milk yield was recorded for T1, T2, and T3 as 5.55 ± 0.56 , 6.59 ± 0.56 , and 6.04 ± 0.56 L per cow/day while milk fat content was 3.84 ± 0.21 , 3.45 ± 0.21 , and $3.76 \pm 0.21\%$, respectively. However, all the sensory attributes; colour, odour, taste, mouthfeel, and overall liking were significantly higher in T2 compared to T1 and control. Hence, the study reveals that TMR briquettes can be used to maintain continuous milk production without interfering with milk yield, composition, and sensory attributes.

Keywords: *inconsistent supply of quality forage, milkfat, preserved briquettes*