

RESEARCH PAPER

Effect of different concentrates feeding on quality and quantity of crossbred cow milk

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INDIA**ABSTRACT**

The investigation was conducted at Livestock Instructional Farm, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, for a period for 45 days. Twelve crossbred cows were randomly selected and divided into three groups each consisting of four cows on the basis of age and milk yield. The observations were recorded on daily feed intake and milk production of individual cow. Feeds and fodders were analyzed for proximate constituents. Similarly milk was analyzed for fat, protein, lactose and total ash content. The data obtained were analyzed statistically with completely randomized design. The daily dry matter intake was 10.87, 12.42 and 11.33 kg in T_1 , T_2 and T_3 treatment, respectively. The DM intake was significant among the treatments. The milk yield of crossbred cows increased significantly in T_1 than T_2 and T_3 . The average fat, protein, lactose and ash content in the milk were significantly in T_1 than T_2 and T_3 . The feeding cost per kilogram of milk production was significantly less in T_1 than T_2 and T_3 .

Key words : Feeding, Concentrate, Crossbred cow, Milk, Protein, Fodder.

Dairy industry in India plays a vital role in the national, especially rural economy and decides the socio-economic status of the country. India, an agricultural country has largest cattle population in the world having 222 million cattle and 100 million of buffaloes (Anonymous, 2005). The cattle wealth of our country provides the lacto-vegetarian food in the form of milk and milk products to the mass population. Total milk production was 98 million metric tones (mmt) in the year 2005-06. The present growth rate of milk production is 4.5 per cent (Anonymous, 2007). The average annual milk production of the indigenous cow is 446 kg /lactation, 10 times less than exotic breed. The feeding of concentrates increases the milk yield as well as improves the quality of milk. It is found that in lactating animals secretion of milk results in lactation stress, due to this animals are deprived of protein and energy during this period to maintain body condition. Therefore, considering the beneficial effects of concentrates in terms of nutritive value an attempt was made to study the effect of concentrates feeding on the quality and quantity of crossbred cow milk.

MATERIALS AND METHODS

The present study was conducted at Livestock Instructional Farm, Department of Animal Husbandary and Dairying, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola for the period of 45 days.

Twelve crossbred cows were divided into three groups on the basis of lactation number, milk yield and body weight and allotted to three different feeding treatments namely T_1 -concentrate mixture (Dairy made), T_2 - concentrate mixture (Sugras), T_3 - concentrate mixture (Company made). The Jowar straw was fed adlib to cows in all treatments. The observations were recorded on feed intake and milk yield. The feed was analyzed for proximate constituents. Similarly, the milk was analyzed for fat, protein, lactose and ash contents. The data were subjected to the statistical analysis by following the completely randomized design for testing their differences in feed intake and milk yield as per the procedure described (Gomez and Gomez, 1976).

RESULTS AND DISCUSSION

The chemical composition of different concentrate mixture (Table 1) indicates that concentrates mixture-

Table 1 : Chemical composition (%) of feedstuffs on dry matter basis

Particulars	DM	CP	CF	EE	NFE	Total ash
Concentrate mixture-I (Dairy made)	88.82	25.16	10.63	5.25	52.72	6.24
Concentrate mixture-II (Sugras)	90.13	17.32	11.84	2.67	64.27	3.90
Concentrate mixture-III (Company made)	89.17	19.23	12.01	2.89	61.58	4.29
Jowar straw	89.27	3.84	29.41	4.75	53.40	8.60