

EFFECT OF SUPPLEMENTING YEA SACC-1026 IN THE RATION OF HOLSTEIN FRIESIAN COWS ON MILK PRODUCTION

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ABSTRACT

Twenty six multiparous lactating HF cows, divided into two groups of thirteen each, were fed similar basal ration comprising green and dry fodder and concentrate mixture. Average daily DM intake in groups T₁ (Control) and T₂ (Experimental) was 16.0 and 16.24 kg, respectively, and the variation between groups was not significant. Supplementation of yeast culture (Yea Sacc-1026) @ 10 g per animal per day for a period of 16 weeks in group T₂ produced on an average 1 kg/day more (P<0.05) milk (4% FCM) than in group T₁. It was concluded that the daily supplementation of 10 g Yea Sacc-1026 significantly improved milk production in HF cows, without affecting the feed intake.

Key words : Yeast culture, HF cows, Milk yield

The function of the rumen is to convert energy and protein present in forages and concentrates into microbial biomass and fermentative products, such as volatile fatty acids which are utilized by the animal for their energy requirements. Since rumen bacteria provide 40-50 per cent of the amino acids that pass to the small intestine, the amino acid profile of duodenal digesta usually reflects microbial protein synthesis. The microbial protein production in the rumen is mainly dependent on the nitrogen and energy availability to the microbes. Certain yeast cultures are reported to be associated with the increased rumen propionate, higher feed intake and faster rates of fiber degradation (Girard and Dawson, 1994; Dawson *et al.*; 1990; Erasmus *et al.*, 1992). Increased feed intake and higher ruminal propionate levels are strongly associated with content and yield of protein. Addition of yeast culture to the ruminant diet helps in stabilisation and stimulation of rumen digestion and perhaps increased milk yield. The present investigation was attempted to study the effect of dietary supplementation of Yea Sacc-1026 on milk production in lactating HF cows.

Twenty six multiparous lactating HF cows (after 75 to 85 days of calving) were divided into two groups (T₁ and T₂) of thirteen each, based on 4% FCM yield. Average 4% FCM yield in group T₁ and T₂ was 19.28 and 19.49 kg, respectively. The animals

in both the groups were fed similar basal diet comprising concentrate mixture, green maize and oat straw *ad lib*. Concentrate mixture, green maize and oat straw contained CP, 19.82, 8.95, 6.75; EE, 2.70, 1.45, 1.56; CF, 6.62, 32.62, 30.11 and AIA, 2.23, 2.86, 2.10 % on DM basis. In addition, 135 g sodium bicarbonate as buffer was given to all the animals. Animals were fed and milked twice a day and had free access to fresh drinking water. All other managerial practices followed at the farm were similar for both the groups. Animals in group T₂ were supplemented with a yeast culture (Yea Sacc-1026 strain of viable yeast culture commercially manufactured by Alltech, Kentucky, U.S.A.) in the diet @ 10 g per animal per day. After three weeks of per-trial period, daily milk yield and weekly fat per cent were recorded for a period of 13 weeks. Data were analysed statistically as per Snedecor and Cochran (1967).

Table 1 Effect of feeding Yea Sacc-1026 on milk yield of HF cows

Week	Control (T ₁)			Experimental (T ₂)		
	Milk yield (kg/day)	Fat %	FCM (kg/day)	Milk yield (kg/day)	Fat %	FCM (kg/day)
1	20.60	3.90	20.30	20.60	4.40	21.90
2	20.40	4.20	21.00	20.00	4.50	21.50
3	19.20	3.90	18.90	18.70	4.10	18.90
4	16.50	3.60	15.40	17.20	3.60	16.20
5	15.10	3.50	13.90	17.30	3.40	15.70
6	15.50	3.60	14.50	18.50	3.70	17.60
7	16.50	3.70	15.80	19.40	3.90	19.20
8	16.80	3.80	16.20	18.70	3.60	17.60
9	16.20	3.60	15.10	18.00	3.60	16.90
10	19.10	3.90	18.70	21.00	3.50	19.40
11	18.90	3.70	18.20	18.60	3.40	17.00
12	21.00	3.50	19.50	19.90	3.50	18.30
13	19.40	3.50	17.90	20.90	3.10	18.00
Avg.	18.10	3.70	17.30	19.10	3.70	18.30
SE±	0.57	0.058	0.64	0.35	0.0113	0.52

The basal diet consisted 48% concentrate and 52% roughage on DM basis. Average daily DM intake per animal in groups T₁ and T₂ was 16.0 and 16.24 kg, respectively, which was not significantly different. Song and Sohn (1997) have also reported non-significant difference in DM intake in control and Yea Sacc-1026 supplemented lactating dairy cows.

Average weekly milk yield (4% FCM) in control group (T₁) and in experimental group (T₂), was 17.30 and 18.30 kg, respectively. Milk yield in group T₂ was higher (P<0.05) than control group. For the entire trial period, animals in experimental group produced on an average 1 kg more milk/animal/day compared to control group. By dietary supplementing Yea Sacc-1026, 3 to 16 per cent more milk production in dairy cows has been

reported by Beck (1991). Kung *et al.* (1997) reported that average milk yield in cows fed on control diet was 36.4 kg/day, whereas, it was 39.3 kg/day in cows fed 10 g of yeast/animal/day. Skoko *et al.* (1993) and Bernard (1992) concluded that efficiency of cows for milk production was greater with Yea Sacc-1026 supplementation compared with the controls. Increase in milk production before and after peak was also recorded by Gunther (1989) with better production persistency (Alonzo *et al.*, 1993).

It is evident from the present study that daily supplementation of 10 g Yea Sacc-1026 significantly ($P < 0.05$) increased milk production in lactating HF cows, without affecting the feed intake.

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