

## EFFECT OF YEAST (*SACHAROMYCES CERVISIAE*) ON THE PERFORMANCE OF FINISHING LAMBS FED A DIET BASED ON MOLASSES-TREATED SUGAR BEET PULP

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Non-fiber carbohydrate concentrate feeds, primarily high starch cereals, are major components of diets of lambs and steers. However, these diets are associated with some problems such as low rumen pH and production of soft fat (Berthelot *et al.* 1998). Molasses sugar beet pulp (MSBP) has been used to partially replace cereals in ruminant rations. High levels of substitution of cereals with MSBP were associated with low dry matter intake (Rouzbehan *et al.* 1994; Mandebvu and Galbraith 1999). To achieve an efficient gain and feed conversion in finishing ruminants it is essential to maintain a high dry matter intake. The aim of present study was to investigate whether addition of yeast (*Sacharomyces cerevisiae*) can improve dry matter intake and feed conversion in lambs receiving a diet based on MSBP.

Pelleted MSBP was ground to make a loose – mix diet containing 680 g MSBP, 150 g alfalfa hay, 40 g barley 115 g soybean meal, 10 g vitamin - mineral mix and 5 g salt/kg DM. In this experiment 18 Sanjabi male lambs ( $20.95 \pm 2.5$  kg initial body weight and 3 months of age) were used in a completely randomised design. They were assigned to 1 of the 2 dietary treatments (with or without yeast). Yeast was fed at a level of 2 g/head daily. In a digestibility and nitrogen balance trial 6 mature male lambs were used in a change over design to determine the digestibility of the finishing diet with or without yeast. Some of the serum metabolites were also determined in samples taken from lambs at the end of the experiment.

**Table 1. The effect of yeast (SC) on performance of finishing lambs on a diet based on molasses sugar beet pulp**

	Treatments		SE	Sig.
	No Yeast	Yeast		
Initial weight (kg)	20.9	21.0	0.6	0.92
Final weight (kg)	36.8	39.8	1.2	0.18
Average daily gain (kg)	0.18	0.21	0.01	0.04
Dry matter intake (kg/d)	0.91	1.06	0.03	0.04
Feed conversion ratio (feed/gain)	5.15	5.09	0.13	0.41

Dry matter digestibility was significantly ( $P < 0.05$ ) improved by addition of yeast (from 788 g/kg DM to 804 g/kg DM) but nitrogen retention was not affected when yeast was added to the diet. The serum concentrations of glucose, urea, cholesterol, sodium, potassium, calcium, phosphorous and creatinine concentrations were not significantly affected ( $P > 0.05$ ) by yeast supplementation, but serum triglyceride concentrations increased significantly ( $P < 0.01$ ) when yeast was added to the diet. Results of this study indicated that addition of yeast improved daily dry matter intake through improving the digestibility of the diet based on MSBP.

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