

## THE EFFECT OF MONENSIN IN DAIRY COW RATIONS ON MILK PRODUCTION AND IN REDUCING THE SEVERITY OF SUBCLINICAL KETOSIS

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Sub clinical ketosis in lactating dairy cows is characterised by a fall in plasma glucose levels, an increase in plasma ketone levels, and a drop in milk production (Schultz 1968). Van Maanen et al. (1978) observed that monensin, an ionophore, increases net glucose production and absorption in steers. Therefore supplementing dairy cows in early lactation with monensin could reduce the effects of subclinical ketosis.

Twenty-four Holstein Friesian cows ranging from first to sixth lactation were allocated to four different treatments in a randomised complete block design. Treatments were 0 (control), 150 (T1), 300 (T2) and 450 (T3) mg monensin per day. Treatments were offered in a 1 kg supplement from two weeks pre partum to twelve weeks post partum. Plasma glucose,  $\beta$ -hydroxybutyrate and milk production were recorded during this period.

**TABLE 1 Plasma levels of glucose,  $\beta$ -hydroxybutyrate and daily milk production recorded during the treatment period**

	CONTROL	T1	T2	T3	S.E.*
Glucose (mg/dl plasma)	60.09	60.15	61.82	60.42	0.81
$\beta$ -hydroxybutyrate (mg/dl plasma)	14.69	13.33	13.38	14.06	0.57
Milk Production (Litres/day)	20.25 <sup>a</sup>	23.30 <sup>b</sup>	22.80 <sup>b</sup>	21.90 <sup>b</sup>	0.55

**ab - different subscripts indicate a significant difference (P<0.05)**

**\* Standard error of the mean**

As shown in Table 1, although there were no significant differences in glucose or  $\beta$ -hydroxybutyrate concentrations in plasma, there were significant increases in daily milk production. The improvement in milk production shown in this trial requires further investigation.

Schultz, L.H. (1968). *Journal of Dairy Science* 51:1133.

Van Maanen, R.W., Herbein, J.H., McGilliard, A.D. and Young J.W. (1978). *Journal of Nutrition* 108:1002.

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