

EFFECT OF LASALOCID ON THE MILK PRODUCTION OF DAIRY COWS

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Lasalocid is 1 of a group of compounds called ionophores. They have also been called rumen modifiers. In the United States, lasalocid has been reported to produce small increases in milk production in dairy cows fed concentrate-based rations (Christensen *et al.* 1994). In New Zealand, lasalocid increased the milk yield of cows grazing perennial ryegrass and clover pastures (Gozho 1995).

A commercial grain based dairy pellet (16% crude protein), was formulated with or without lasalocid so that when fed at 6.0 kg/cow.day the lasalocid treatment cows received 400 mg/head.day of lasalocid. Cows were fed in individual feed stalls twice a day. There were 16 animals per treatment, and animals entered the experiment in blocks of 2, based on calving date and age. Animals in each block were randomly assigned to treatments. There were 5 blocks of primiparous cows and 11 blocks of multiparous cows. Animals calved over a 6-week period commencing in late April 1994. Initially animals grazed tropical grass pastures, but from late May cows also grazed irrigated ryegrass dominant pasture. The experiment continued until the last animal to calve had been milking 16 weeks. Milk yields were recorded on 2 consecutive milkings each week, and a composite milk sample from these 2 milkings was analysed for milk fat, true milk protein and lactose. Pre-calving animals were weighed weekly; after calving animals were weighed fortnightly.

To reduce within-block variation, milk production over the last 10 weeks of the experimental feeding period was analysed by analysis of variance using the milk production of the first milk recording as a covariate, and is presented in Table 1. There were no significant differences ($P < 0.05$) in production for all animals taken as a whole or for the heifers taken as a group. However feeding lasalocid increased ($P < 0.05$) the milk, protein and lactose yield of mature cows used in the experiment. Milk yield was increased by 2.7 L/cow.day, or 11 per cent by lasalocid but there was no treatment effect on FCM or milk fat yield, or on milk fat, protein or lactose per cent of mature cows. FCM and milk fat yields were unaffected by lasalocid because of the lower, though not significant, milk fat per cent of lasalocid fed cows. In mature cows lasalocid seemed to produce a more persistent lactation. The lack of response in the heifers was attributed to differences in genetic merit of the small number of heifers used in the experiment.

There were no significant effects of feeding lasalocid on liveweight or liveweight change of cows.

It is concluded that feeding lasalocid will increase milk yield of mature dairy cows, presumably by altering rumen fermentation products, as indicated by the small reduction in milk fat per cent, Table 1.

Table 1. Covariate adjusted milk yield, milk composition, and total milk component yield, of each treatment over the last 10 weeks of the feeding period

	All Animals		Heifers		Mature Cows	
	Lasalocid	Control	Lasalocid	Control	Lasalocid	Control
Milk (L/cow.day)	24.3	22.9	19.8	21.0	26.4 ^a	23.7 ^b
FCM (L/cow/day)	22.6	22.1	18.7	19.5	24.4	23.1
Milk fat (%)	3.60	3.68	3.66	3.49	3.58	3.77
Protein (%)	3.01	3.03	3.04	3.02	3.06	3.03
Lactose (%)	4.99	4.88	5.06	5.06	4.95	4.80

Means followed by different letters are significantly different ($P < 0.05$).

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