

## DEFAUNATION INCREASES MILK YIELD OF DAIRY COWS

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Defaunation (eradication of rumen protozoa) has been shown in many experiments to increase wool growth and liveweight gain in sheep (Bird S.H. 1988), but no information is available for effects on the milk production of dairy cows. This experiment examined the effects of defaunation on milk yield and milk composition of Friesian cows grazing, *ad libitum*, white clover dominant pasture (DDM 730g/kg, N 42 g/kg).

Fourteen cows in early lactation were allocated to two groups (control, treated) matched for milk yield, age and weight. On five successive days, treated cows were drenched with the antiprotozoal agent Alkanate 3SL3 (900 ml/cow/day, 9.5% active ingredient). To prevent reinfection with protozoa, treated cows were at all times kept separated from other cows.

Following the last drench with Alkanate 3SL3, the total number of protozoa in the rumen fluid of treated cows was reduced by 95% (Table 1).

TABLE 1 Effect of Alkanate 3SL3 drench on rumen protozoa, milk yield and milk composition of grazing dairy cows.

	Control	Treated	L.S.D. (P < 0.05)
No. of Protozoa (10 <sup>4</sup> /ml)	26.7	1.2	12.8
Milk (L/cow/day)	20.0	22.7	1.9
Milkfat (g/cow/day)	868	912	134
Milk protein (g/cow/day)	598	713	77
Milkfat (g/L)	45.6	38.8	6.2
Milk protein (g/L)	30.0	31.5	1.8

In the two weeks following the last drench, the yields of milk and milk protein were substantially increased in treated cows. Defaunation also increased the milk protein : fat ratio from 0.69 to 0.78. These changes are consistent with the known effects of defaunation on volatile fatty acid production in the rumen and improved economy of protein digestion. Increased production of milk protein and elevated protein : fat ratio are of considerable economic importance to the dairy industry.

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BIRD, S.H. (-1988) Production from ciliate-free ruminants.  
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