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Little, G.; Beggs, D.; Carmichael, I.; Dyson, R.; Malmo, J.; Leighton, N.; Pyman, M.; Webster, M.; Gogolewski, R.; Gross, S.; Maciel, A.; Ryan, W.

1Merial, Australia; 2Veterinary Consultants, Australia; 3Merial, USA

A study involving more than 2,500 cows was conducted on nine commercial Australian dairy farms to evaluate the effect of treatment with the endectocide eprinomectin (500 mcg/kg topically) or a placebo at about the time of calving on milk production. On each farm multiparous and primiparous cows were randomly allocated to treatment or control based on parity and calving dates. Cows were maintained on a single pasture at each location. Supplemental feed was provided as needed, the same for all animals at a location. Faecal nematode egg per gram (EPG) counts were determined on approximately 18% of cows before treatment in 8 out of 9 farms. Positive strongylid nematode EPG counts before treatments commenced were determined in 46.7% of controls and 41.4% of treated cattle. Milk production was measured at approximately monthly intervals using the local dairy recording system. Actual amounts of milk (liters) and milk components (kg fat and protein), interpolated to 100 days of lactation, were analysed. From results for 100 days of lactation, data from 1,880 cows, (940 complete replicates) were available for analysis. Milk and fat production were significantly (p<0.05) higher for the cows treated with eprinomectin (2,642 L vs 2,595 L; 101.0 kg vs 99.2 kg fat). Protein production and content were also significantly (p<0.01) higher for the cattle treated with eprinomectin (87.1 kg vs 84.9 kg; 3.34% vs 3.31%). These results demonstrate that a single treatment with eprinomectin at calving significantly improved fluid milk, fat and protein production in dairy cows.