STUDIES OF SOME ASPECTS OF GASTROINTESTINAL NEMATODES AND *DICTYOCAULUS VIVIPARUS* OF FARMED RED DEER

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Studies were carried out on aspects of the treatment and control of gastrointestinal nematodes and *D. viviparus* in red deer, under New Zealand farming conditions. In addition, the relationship between faecal egg count and gastrointestinal worm count was investigated.

In the first study an anthelmintic-impregnated supplementary feed treatment regime incorporating 200mg albendazole per kg of deer nuts (medicated nuts), fed to give 5mg albendazole per kg liveweight daily for three 10-day treatments with 21 day intervals between treatments, was given to eight weaner deer in the autumn. This treatment was compared with 3-weekly single oral administration of albendazole (10mg/kg) to eight similar deer under the same conditions (set-stocked in small pasture plots and given 2kg concentrate feed per head, per day) and a similarly treated group rotationally grazed on pasture alone. Reductions in faecal egg and larval counts were the same for all three groups, but reinfestation in spring was more rapid in the pasture-fed deer. Liveweights were the same for all groups throughout the experimental period from March to November. As an adjunct to this trial, medicated nuts were fed at the same dose-rate to 16 adult hinds. All faecal egg and larval counts were reduced to zero within 10 days. Thus, anthelmintic-impregnated concentrate feed is an effective

way of controlling gastrointestinal and lung nematodes in deer.

The above trial and another on a commercial property showed that high faecal larval counts may be found in weaner deer where deer are set-stocked from before calving up to weaning, or if parasite control programmes are delayed until six weeks after weaning in March. A single oral dose of albendazole at 10mg/kg was found to reduce D. viviparus faecal larval counts and gastrointestinal nematode faecal egg counts by approximately 99% seven days after treatment. Faecal larval and egg counts were usually slightly elevated 21 days after treatment, suggesting either a rapid reinfestation and short prepatent period of the parasites in deer and/or an efficacy of albendazole of less than 100% against immature stages of the gut and lung nematodes.

In a third study, cutaneous application of levamisole (20% W/V) at a dose-rate of 10mg levamisole per kg was found to be ineffective in reducing faecal egg or larval counts in a group of 23 red deer under two years of age.

The fourth study involved collection of abomasa and intestines of 46 deer sent to a deer slaughter premises. A faecal egg count was performed and the gastrointestinal nematodes were identified and counted. The largest gut parasite burdens were of Trichostrongylus axei with counts up to 12,900. Five deer-specific species of the tribe Ostertagiea, Spiculopteragia spiculoptera, Spiculopteragia asymmetrica, Ostertagia leptospicularis, Skrjabinagia kolchida and Skrjabinagia lyratiformis were also common (counts up to 2470). Few other parasites were found and numbers were low (0 to 90). The relationship between worm count and faecal egg count was described by the relationship: Total Worm Count = 18.8 (Faecal Egg Count) - 341. However, there were few deer with high worm and egg counts and this relationship must therefore be regarded as tentative until more work can be carried out in deer with high worm burdens.

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