

Pathogenicity of gastrointestinal parasitism in young farmed deer

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The aim of this study was to investigate the pathogenicity of a challenge with a mixed infection of gastrointestinal nematodes in young deer. It was divided into 2 phases. In Phase 1, 45 weaner deer were divided into one control uninfected group of 12 animals and 3 groups of 11 animals. These latter 3 groups were given a trickle infection three times a week with a mixed culture of only gastrointestinal nematodes. These were nominated as Low Dose, Medium Dose (3 times as many larvae as the Low Dose Group) and High Dose Groups (5 times as many larvae as the Low Dose Group). By Week 5 and 6 groups were showing clinical signs of parasitism and having reached the endpoint criteria, were euthanased at this point. A feature of Phase 1 was the number of *Oesophagostomum radiatum*-like nematodes in the large intestine which had caused obvious pathological change. There was a decline in serum albumin, liveweight gain and feed intake which was different between groups being dose-dependent but no differences in plasma pepsinogen concentrations or eosinophil counts. Faecal egg counts also increased in proportion to the size of the challenge. As a consequence of the observations in Phase 1 the control group was subsequently split into 2 groups of 6 deer for Phase 2 and one of these groups was given a trickle infection with a dose of the same mixed larvae source but at 30% of that given to the Low Dose group. There were no obvious clinical signs of parasitism, no significant differences in voluntary feed intake or growth rates and no effect on serum albumin, eosinophil or plasma pepsinogen concentrations. Faecal egg counts did increase. This study has indicated the rapid reduction in weight gain with even modest worm numbers, and in particular the pathogenicity of this *Oesophagostomum radiatum*-like parasite in deer.

Acknowledgements: This study was funded by AgResearch New Zealand in Association with DEEResearch.