A STUDY OF SHEEP NEMATODE POPULATIONS ON TEN COMMERCIAL PROPERTIES ON KANGAROO ISLAND, SOUTH AUSTRALIA

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South Australian studies to investigate the epidemiology of nematode parasites of sheep have been carried out at Kybybolite, Minnipa and Turretfield (Brown et al. 1985; Pullman et al. 1988). The epidemiological differences between Kybybolite and Turretfield are being investigated further. Recently, resistance to major groups of anthelmintics has been detected in sheep nematode populations in South Australia (Beveridge et al. 1990). The present study was undertaken to determine seasonal fluctuations in sheep nematode populations on Kangaroo Island and the effects anthelmintic resistance has on the control of sheep nematodes in-commercial flocks.

Ten sheep properties were randomly selected on Kangaroo Island. On each property 12 Merino weaners were tagged and a faecal sample was collected monthly to ascertain changes in faecal egg counts. Pasture samples were collected each month and the number of infective larvae estimated. Where there was evidence of anthelmintic resistance a faecal egg count reduction test was carried out.

Normal drenching practices were maintained on the ten properties during the 12 month monitoring period. Drenching frequency ranged from 2 to 7 times (mean 4.8). Anthelmintic resistance was detected on 4 properties. Drenching with an effective drench during the summer resulted in low faecal egg counts (FEC) for the remainder of the monitoring period. FEC were consistently higher on properties with anthelmintic resistance.

Infective larvae were detected on pasture from May-June to November-December with peak numbers occurring in mid-spring. Careful grazing management was needed during this period to avoid moving stock onto a pasture carrying a high level of infective larvae. The period during which no larvae were detected on pasture was greatly reduced on properties with anthelmintic resistance.

Seasonal fluctuations in FEC's followed a similar trend to those reported by Pullman et al. (1988). Strategic drenching with an effective anthelmintic combined with planned grazing management resulted in successful control of sheep nematodes. This study will be repeated for a further two years.


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