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Smart Grazing New England

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In winter rainfall regions, the 'Smart Grazing' program (Niven et al., 2002) has been shown to increase the effectiveness and reliability of the summer drenching program in preparing low-worm or 'clean' paddocks for weaners. This experiment aims to test a modification of the 'Smart Grazing' program, designed to be applied in the New England region of northern NSW (summer rainfall) with a view to preparing clean paddocks for lambing and weaning.

The work of Southcott et al. (1976) demonstrated that contamination of pastures in late summer and autumn can result in infective larvae developing and 'over-wintering' to be available in significant numbers on pasture in spring. This coincides with the presence of peri-parturient ewes and lambs on pasture and the inherently lower level of immunity to parasites in these animals allows for the establishment of significant worm burdens. This can severely impact upon both livestock productivity and subsequent pasture contamination. It can also result in an increased requirement for anthelmintic usage.

The proposed program aims to prevent pasture contamination of selected lambing paddocks during late summer and autumn and to remove pre-existing contamination without the need for prolonged spelling. It aims to achieve this through the use of three short (three weeks), intensive (three times the set stocked rate) grazing periods using sheep given an effective anthelmintic treatment. The first graze period will commence in January, the second in March and the last in June. Anthelmintic treatments will be determined on the basis of faecal egg count reduction tests, worm egg counts and larval differentiation.

The experiment will be conducted on nine two-hectare paddocks on 'Kirby' Rural Research Station, University of New England, Armidale over two years. Three grazing treatments will be used to prepare lambing paddocks (set stocked sheep, set stocked cattle and 'Smart Grazed' sheep) with three replicates of each treatment. The treatments shall commence in January 2006 and conclude at the end of June 2006. Lambing ewes will be introduced to the paddocks in late August 2006. Following lambing, ewes and lambs will remain in the paddocks until weaning in late December 2006. The experiment will assess a number of variables:

- parasitological (FEC, tracer sheep and drench usage)
- production (bodyweight ewes and lambs, wool growth in ewes)
- pasture (dry matter and species composition)

This will enable us to determine whether the 'Smart Grazing' program is able to provide significantly cleaner paddocks for lambing ewes and weaners than current industry practice and whether overall anthelmintic usage can be reduced.

Niven, P., Anderson, N., Vizard, A., 2002. The integration of grazing management and summer treatments for the control of trichostrongylid infections in Merino weaners. *Australian Veterinary Journal* 80, 559-566.

Southcott, W. H., Major, G. W. and Barger, I. A., 1976. Seasonal pasture contamination and availability of nematodes for grazing sheep. *Australian Journal of Agricultural Research* 27, 277-286.