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<b>Author:</b>	Jacobson, C.; Besier, R.B.
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## Internal parasites in sheep at slaughter: a burden on the sheep meat industry?

C. Jacobson<sup>1</sup> and R.B Besier<sup>2</sup>

Australian Sheep Industry CRC

<sup>1</sup>School of Veterinary and Biomedical Sciences, Murdoch University, Murdoch, WA, 6150, Australia; <sup>2</sup>Department of Agriculture, Albany Highway, Albany, WA, 6330, Australia

Scouring (diarrhoea) in sheep is an important issue for the sheep meat industry. Soiled fleeces are a significant source of carcass contamination with microbes that include human pathogens and micro-organisms that cause meat spoilage (Newton *et al*, 1978) and scouring is the major risk factor for fleece soiling (French and Morgan, 1996). However, there is little information regarding the causes of scouring in sheep at slaughter. Strongyle worm infections are a commonly implicated cause of scouring, reduced wool production, poor growth rates and reduced bodyweight with young sheep being particularly susceptible (Besier, 2004). However, there is no published data quantifying strongyle infections or scouring in sheep at abattoirs. This study aimed to investigate the extent of strongyle infections and any association with scouring in sheep at an abattoir in Western Australia.

Faecal samples were collected from 4430 sheep from 367 lines of sheep in lairage at Fletchers International Export's abattoir in WA from September 2002 and January 2003. A "scouring line" included at least 10 sheep with evidence of active or recent scouring, in which case samples were taken from both scouring and non-scouring sheep. Faecal worm egg counts (FEC) were performed on individual samples and larval differentiations on pooled samples from each line. 16 lines with >70% *Haemonchus* were excluded from the analysis comparing FEC in scouring and normal lines.

**Table 1.** Faecal worm egg counts in sheep sampled in lairage (epg = eggs per gram of faeces).

	Lambs (< 12 months)	Yearling (1–2 years)	Adults (>2 years)
Number of lines	113	10	235
Lines scouring	9.5%	30%	9.3%
Lines >1000 epg	43%	40%	13%
Lines >2000 epg	22%	30%	6%
Average FEC*	1150 epg	1013 epg	364 epg

\* FEC excluding *Nematodirus* and *Haemonchus*

A significant number of lines of lambs had high FEC. Even allowing for FEC concentration due to sheep being off feed, counts in excess of 1000 epg would be expected to adversely impact production, particularly growth rates, feed conversion and wool growth. Whilst adults had lower average FEC, 13% of lines had significantly high FEC suggesting worm burdens should be considered in adult sheep as well as lambs.

There was no significant difference in the mean FEC of the scouring and non-scouring lambs. However, 7/10 scouring lines had high FEC (>1000 epg) and the lack of a statistical difference may be due to the relatively low number of scouring lines in the study. There was a trend to a marginally lower FEC in the scouring adults (437 epg) compared with normal adults (462 epg,  $P=0.065$ ). Scouring in adult sheep had a seasonal pattern with no scouring lines submitted after November when sheep were largely grazing dry pastures.

The results indicate that large worm burdens were common in prime lambs consigned for slaughter and less common in adults. Scouring did not provide a good indication of significant worm burdens and producers should use FEC to assess the need for drenching and to avoid production losses. The economic impact of strongyle infection on production in prime lamb enterprises requires quantification and warrants further investigation.

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