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O'DONOGHUE, P.J.

FACTORS INFLUENCING THE EPIDEMIOLOGY OF OVINE
SARCOSPORIDIA

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G.E. Ford

Slaughter sheep were selected under a factorial design in which the age, sex, breed, season of sample and region of origin of the sheep were equally represented. They were examined for *Sarcocystis* spp. using gross, histological and immunoserological methods.

Carcass examination revealed the incidence of macroscopic sarcocysts to be 6.7%, whereas microscopic sarcocysts were detected in 93.2% of the sheep after histological examination of 8,640 sections. Complement-fixing antibodies to *Sarcocystis* spp. were found in 93.6% of the animals and the indirect fluorescent-antibody test gave 96.9% positive. Upon analysis of the factorial design, significant differences in these incidences were observed within factors. Most animals were found infected in the cold wet season but in the drier months of the year and more adults were infected than lambs.

The intensity of infection in each animal was quantitated as the no. of cysts per cc. of muscle. This exhibited significant variation between seasons (heavier infections found in the hot dry season), as well as between geographic regions (lighter infections found in sandy crop-growing region). There is also a relationship between intensity of infection in individual animals and their antibody levels.

Sarcocyst measurement indicated the existence of 4 size populations; 2 microscopic with modes around 25 μ and 36 μ which are quite distinct from thin (40 μ diam) and fat (1,250 μ diam) microscopic cysts. Cyst size also differed significantly with age and season with larger cysts occurring in adults and in animals slaughtered during the wet cold season.

The farms of origin of the sheep were subject to investigations to determine features related to the transmission of the infection to sheep. Analysis of 86 features has shown that single features alone are not correlated with either incidence, intensity or cyst size. The investigation does give an indication of the relevance of certain collective features involved in transmission, e.g. sheep handling, type and number of livestock and domestic carnivores.