Worm resistance being spread by wild hares

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Wild hares have been found to be important carriers of sheep worms and are likely to be helping spread resistance to worm drenches, according to new University of Adelaide research.

Although worm parasites were believed to be fairly species specific, the researchers found that more than 40% of the hares they investigated had sheep worms in their gastrointestinal tract. This research is published in the journal *Veterinary Parasitology*.

"There were more sheep worms in the hares than there were rabbit or hare worms," says Dr Philip Stott, Senior Lecturer in the University's School of Animal and Veterinary Sciences at Roseworthy Campus. This has important implications for sheep management in Australia, and for hare conservation globally.

Parasitic worms are a serious disease of sheep (second only in Australia to blow-fly strike). They are transmitted between animals via the faeces which contains worm eggs that develop into larvae attached to the grass in pasture. This is then eaten by other animals, continuing the cycle.

"Farmers use drenches to control worms but these parasites are very quick to develop resistance and it's been a constant battle for decades to keep bringing out new varieties of drenches to overcome the resistance," Dr Stott says. "This is a serious problem for commercial sheep producers and requires careful management."

Options for farmers concerned about resistance on neighbouring properties include rabbit proof fencing - an expensive option - or controlling hares. "If importing resistant worms isn't an issue because all the neighbours are adopting good worm management, then it may actually be desirable to have some hares, as they will be carrying drench-susceptible worms," says Dr Stott.

Distribution studies of hares and rabbits in the Strathalbyn area showed that while rabbits covered a small grazing area, hares covered as much as 180 hectares.

"Everywhere sheep were grazing, hares were also grazing," says Dr Stott. Earlier research showed that sheep worms could be established in hares under experimental conditions.

Postgraduate student Marina Tai, a Brazilian veterinary graduate, followed up with investigations in the field. The study found the common sheep worm, *Trichostrongylus colubriformis*, was well established in the intestines of wild hares at the three different locations in Australia they surveyed - near Adelaide, Hamilton in Victoria and Wagga in NSW.

"These hares are moving about in sheep areas, grazing freely where the sheep graze," Dr Stott says. "A good farmer is giving sheep the correct dose of drench so that resistance doesn't develop. These farmers employ quarantine measures - making sure that there are good boundary fences and isolating any sheep brought onto the property.

"But the hares are moving readily through fences, transporting worms from one property to another and potentially transferring resistance between properties as well."

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