Pharmacology and ecology – an advantageous partnership

Vet **Richard Knight** discusses the modern scourges including *Nematodirus battus* and liver fluke, and resistance to some treatments, talks about how best to keep up to date, and refers back to the distant past

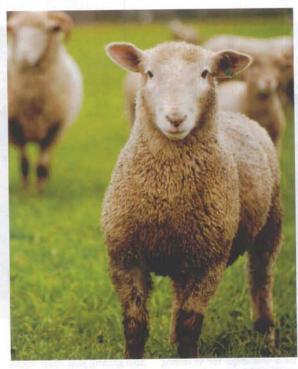


I have written quite a bit in the past about various treatment choices, and what to give when. We all know that in reality things seem to fail in treating animals, despite best efforts to diagnose the problem and treat it accordingly.

Within our practice my colleagues have highlighted a few farms where resistance of Nematodirus battus to benzimidazole drenches has been suspected. Not that we have all become complacent, but a failure to appreciate what the client reports when there appears to be a treatment failure, and to boldly continue down a wrong path, is plainly problematic. What's the correct path though?

"Medical treatments of affected animals are not the whole answer"

In this case it was a different treatment, such as levamisole, which solved the problem. Just as importantly though, my colleagues notified The Moredun Institute. This great organisation has an interest in research and development and it is from establishments like this that our advances for the future are going to come. It is



worth looking at being a member. Keeping everyone informed about problems reduces the risk of the same things happening over and over again.

An example of why Continuing Professional Development (CPD) is good is brought to us courtesy of The Auld Enemy, Fasciola hepatica (liver fluke). Would you believe that the first reported observation of liver fluke was in 1379? Clearly though, helminths have been on this earth longer than mammals. However, it is quite something that bubonic plague has been and gone, as has smallpox and Rinderpest (cattle plague). It looks like medical treatments of affected animals are not the whole answer. The fluke disasters of last year tell us that.

THE WAY FORWARD

So what is the way forward? Mammals are only half the equation, and by looking at tackling snails (Galba truncatula), liver fluke might be more completely addressed. Identifying where populations of these snails are within fields and eradicating them seems only logical when we look at how limited the progress in fluke control has been. A knowledge of ecology as well as pharmacology will be a more useful partnership.

In the harsh commercial work, it is unlikely that new medicines are readily forth-coming, and the more we rely on existing treatments as the sole method of control, the more likely we are to consign some areas of farmland as unviable for

livestock production.

A parallel situation is already present in many parts of Australia, where multi-drug resistant nematodes have meant that sheep farming has no longer been commercially viable, due to such high losses. Food for thought indeed!

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