

## Deer parasite management - coming out of winter

At this time of year, there are a number of techniques deer farmers can use to avoid parasite resistance on their farms. There are key areas to consider for the farm parasite management plan including abiding by withholding periods for drenches and monitoring growth rates in young deer.



Deer drenching practices over the last decade have not been sustainable. Drench resistance has become an increasingly important issue, and should be on the radar of all deer farmers. The broad principles of parasite management apply to deer systems, but deer farmers only

have a limited number of anthelmintic products available. Every deer farmer needs to be aware of best-practice for parasite control to stop the development of drench resistance. Below are some key areas to consider for your farm's parasite management plan.

### Minimising larval challenge

The concept of minimising larval challenge is pivotal to effective parasite management. The emphasis for young stock should always be to minimise larval challenge. Diligent parasite management in autumn will pay dividends in spring, when options for drench products are more limited due to withholding times. Deer are either run extensively or wintered on crops, which goes a fair way to achieving low parasite challenge - unless the areas have continually had young stock grazing on them through the seasons.

In spring, avoiding putting young animals into blocks that weaners were running on in autumn and winter. This will help to minimise larval build-up. If weaner deer are wintered on a grass-based intensive system, parasite control will be crucial - especially if that land is used solely for young deer. Leaving pasture residuals of 1400kgDM/ha will aid pasture quality and help reduce larval challenge.

### Age, body condition and immunity

Healthy, well-fed adult deer should require little or no drenching as they will have developed a natural immunity. Hinds coming out of winter with a body condition score of less than three is the result of poor nutrition. Drenching is no substitute for feeding. That being said, lighter animals that have been under-fed will have compromised immune systems and be more susceptible to the impacts of internal parasitism. Deer start to develop immunity to parasites during their first year of life. Natural immunity to lungworm is developing by six to nine months of age, provided the deer experience some natural exposure. Some natural immunity to gut worms is seen at six months, but is not fully developed until 18 months of age. Yearling hinds should have developed considerable immunity by mating time. However, some strategic drenching may be required.

### Genetics

Wapiti are slower to develop immunity to parasites with age, although some lines of Wapiti have better immunity, comparable to that of red deer. Whilst drenching adult deer is generally discouraged, it is acknowledged that Wapiti bulls may need to be drenched routinely post-rut.

### Refugia

For sustainable worm control, there is great value in not exposing adult animals to anthelmintics. It is one way to protect the longevity of existing drenches. Except when animals are stressed, such as stags post-rut or lactating first-calvers. Running a few un-drenched adult hinds (enough to make up 10% of the mob) with young deer is a practical option. Other options to develop refugia include moving weaners on to contaminated pasture after drenching and making sure un-drenched adults graze "new/safe" pasture before weaners (so long as this does not compromise the quality and quantity of forage available to weaners too much).

Weaner only finishing blocks should also be avoided.

### Stock rotation

For deer systems, having another class of stock that is a "net remover" of deer parasites is useful. Research has shown that cattle or sheep cross-grazing on a 50:50 stock unit basis will reduce lungworm burdens, but is less effective on gut worms. Cross-grazing with cattle at a 50:50 stock unit basis reduces the need to drench young deer. Cross-grazing with sheep is less effective.

## Worm management tips

Key areas for attention coming out of winter:

### Spring drenches and drench withholding periods

- Carefully record and abide by the withholding periods for the drenches used
- Off-label use of drench (altered dose rate, products not registered for use in deer) carry a default withholding period of 91 days
- Due to the limited number of registered drench products for deer –products able to be used in spring (if targeting the chilled season) are limited to have appropriately short withholding periods.
- Main parasite species of concern at this time are gastrointestinal worms, rather than lungworm. A combination drench is still recommended.

### Velvet withholding periods

- Remember that velvet is subject to 'meat' withholding periods. Velvet declaration forms require farmers to sign confirming that velvet sold is not under any drug withholding period. This applies to all velvet, including spiker velvet.
- Ensure records are kept of drenching dates and withholding periods for products used.

### Replacement hinds

Weaner hinds are at risk of being a lower priority in spring. To achieve target mating weights for replacement hinds, treat hind fawns as high priority – which includes appropriate parasite control. Continue to weigh and monitor growth rates of rising-one-year-old hinds to keep on track to hit targets.

## Using effective combinations

Many of the available drenches have not been trialled or tested on deer and as an industry we have borrowed a lot of knowledge and product from sheep and cattle that may not be directly translatable. Deer do metabolise chemicals differently. Current research indicates that injectable ML ('mectin') is the most effective method of application for this group, and that levamisole is not highly effective in deer and that for toxicity/safety it should not be given at greater than double the sheep/cattle dose. The more up to date efficacy trials indicate that BZ (white) drenches need to be three to four times the standard sheep/cattle dose.

Effectiveness of single active pour-ons against abomasal parasites such as *Ostertagia* have been shown to be poor. Pour-ons are not only ineffective, their ongoing use encourages drench resistance.

For the most up to date advice on drench choices, doses and combinations, speak to your vet as part of planning your parasite management plan.



## Monitoring

With faecal egg counts being only of limited value in deer, the best indicator of performance in

young deer is growth rate. Weighing young deer regularly and looking at growth rates should form an integral part of your young deer management. If growth rates are lower than you think they ought to be, it may be an indication that parasite control is not as effective as it could be.

## Summary

There is no set plan for any deer farm. Your parasite management needs to be tailored to your system. Minimising production costs of parasitism is very much about how your forages are eaten and by what classes of stock. It is not just about the drench.

Mono-cultures of stock and repeated whole mob treatments of single active drenches are not sustainable for parasite control in any farmed animals, and especially deer.

For more information, see:

- [Deer facts: Internal Parasites on the Deer NZ website](#)