

Internal parasites in sheep – grazing management

Internal parasites often limit sheep production, even when symptoms are not obvious. Drenching is commonly used to control internal parasites, but reducing larval challenge through grazing management can also increase performance.

Importance of grazing management

Regular drenching controls internal parasites and increases animal performance. However, it does not stop sheep becoming reinfected by eating larvae on the pasture when the drench action finishes. Lambs pick up parasites between drenches and performance may suffer again.

Grazing management to reduce the number of infective larvae on pasture has these advantages:

- Lambs pick up fewer parasites between drenches and their performance improves.
- You may not need to drench as often, saving money, labour and delaying the onset of drench resistance.

If internal parasites are resistant to drenches, grazing management is essential to maintain animal production. Farms without major drench resistance problems can use grazing management or “safe pasture” to reduce the need to drench and thus prolong the useful life of their drenches. Grazing management to minimise larval challenge may not be easy but rewards include better stock health, higher animal performance, cost savings and higher farm profit.

What is safe pasture?

Safe pasture is pasture with few or no parasite larvae. Few pastures are totally “safe” (i.e., with *no* larvae), but careful management reduces larval numbers. Safer pastures include:

New pasture: The time taken to cultivate or spray and drill new pasture allows larvae to die before being grazed.

Forage crops: Summer forages such as rape, summer turnips and pasja (forage turnip) have low larval contamination, again owing to cultivation and establishment time. Lamb liveweight gains are also better on these high-quality feeds than on pasture.

Spelling sheep pastures: The period of time required for larval numbers to decline significantly on a contaminated pasture is far longer than many farmers think. Summer rotational grazing with lambs returning to paddocks after 2 to 3 weeks can be very dangerous, as numbers of infective larvae may be at their peak when lambs return. Larvae may stay “locked up” in faeces during dry spells in summer, migrating out only when moisture levels are high enough. Maximum larval numbers are normally recovered from pasture 2 to 8 weeks after faeces were deposited. Some of these larvae also survive for much longer periods than commonly believed. The only recommendation that can be made at present is “the longer between grazings, the better”.

Pastures grazed by other stock species: Animals such as cattle and deer (not goats) can graze pastures contaminated by sheep parasites without becoming infected. They thus “mop up” sheep parasites on the pasture.

Hay and silage regrowth: These paddocks will probably have been closed for 4 to 8 weeks. Most larvae on the herbage will have been removed and many on the stubble will have dried out and died.

Factors that make grazing management easier

Safe pasture is easier to arrange on farms with:

- a high proportion of complementary stock;
- If cattle make up more than about 30% of total stock units, grazing management to reduce larval challenge is easier. When sheep are less than about 60% of total stock units, rearing all lambs on safe pasture should be possible.
- intensive subdivision;
- large areas of feed conservation (hay, silage);
- forage cropping and/or pasture renewal programmes.

Controlled-release devices

These anthelmintic devices for lambs and adult sheep act for up to 100 days, killing any larvae ingested by sheep over this time *if* the parasites are susceptible to that drench family. Persistent oral formulations, acting for 40 to 50 days against some parasite species, are also available. They are often promoted as suitable for preparing safe pasture for lambs by suppressing worm egg output from ewes around lambing time. Thus, it is claimed that weaned lambs



can be returned to the areas grazed by lactating ewes without risk of high larval challenge.

This is generally correct but there will still be some parasites present – those resistant to the drench family in the device. The device continually selects the parasite population for resistance and only these (resistant parasites) survive and breed, increasing as a proportion of the total population. These parasites infect lambs, which produce more resistant parasites. Selection for resistance is further increased when the lambs are also treated with the same drench family. Thus, these devices may considerably increase the risk of drench resistance and are not recommended to “create safe pasture” for lambs.

Grazing management in practice

Successful organic farm units are a good model for parasite control using grazing management as the main tool and little or no drenching.

At Flock House, breeding sheep ran with cattle on an organic unit divided into two blocks. From weaning to lambing, ewes grazed one block while lambs and cattle grazed the other. At lambing, ewes and cattle swapped blocks. Ewes and lambs were moved monthly between paddocks on their block until weaning. At weaning the lambs moved to the cattle block, grazing alternately in a rotation with young finishing cattle. Lambs grazed regrowth of cattle pasture, moving every 7 to 14 days and not regrazing any pasture for at least 60 days. In the intervening period, cattle grazed these pastures.

The period immediately after weaning can be especially difficult but summer crops may add flexibility. If lambs are weaned onto a crop, cattle have more time to prepare pastures (e.g., where the ewes lambed) for lambs to move on to later.

On farms with *Nematodirus* problems (more common in the south), special care must be taken not to graze lambs in spring on areas grazed by lambs in the previous autumn. *Nematodirus* overwinters readily and may still be present in significant numbers.

Drench is still used with grazing systems to clear animals of parasites already present when first

moved to safe pasture to avoid contaminating their new areas, e.g., newly weaned lambs.

The role of pasture species

New information suggests that more parasite larvae can develop on some pasture types than others. Sheep may therefore pick up more parasites depending on the pasture type. For example, lambs grazing browntop-based pastures (common on hill country) have higher faecal egg counts and lower weight gains than lambs grazing to similar pasture levels on tall fescue, ryegrass or Yorkshire fog. Farmers may be able to reduce larval challenge by avoiding “worm-friendly” swards.

Feed crops containing high condensed tannin levels (such as sulla and Grasslands Maku and Grasslands Goldie lotuses), and chicory, give lambs–sheep extra benefits. Liveweight gains and wool growth of lambs with high worm burdens are less affected on these feeds than on conventional pasture.

As farmers face increasing pressure to reduce drench use, the need to consider parasite control in day-to-day grazing management decisions will become more important. Further research to allow more precise recommendations to be made will help farmers have greater confidence in using grazing management as a tool for parasite control.

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