

The Effect of pasture species on lamb parasitism.

- Is there a way I can reduce my drenching costs but maintain stock performance?
- Which forages will give me the lowest Faecal Egg Count (FEC) in my lambs?
- What are the benefits of changing my pasture species to reduce internal parasite infection?

The Research

Pasture trials were carried out at Lincoln (plains), Ballantrae (hill country) and Flock House (finishing property) to see if pasture species affects the levels of parasite burdens in lambs.

Parasites and Grasses.

Pure swards of **Yorkshire fog**, **tall fescue**, **browntop** and **ryegrass** were compared in a set stocked situation, at 3 different sward heights. Nematode counts in the lambs were taken.

- FEC's and worm burdens in lambs were highest on browntop and tall fescue, and **lowest on ryegrass and Yorkshire fog**.
- While lamb growth was highest on ryegrass, it was compromised by parasite burdens on all grasses except Yorkshire fog.

Through measuring nematode counts in lambs, it was shown that **pasture species can have a major effect on lamb parasitism and performance.**

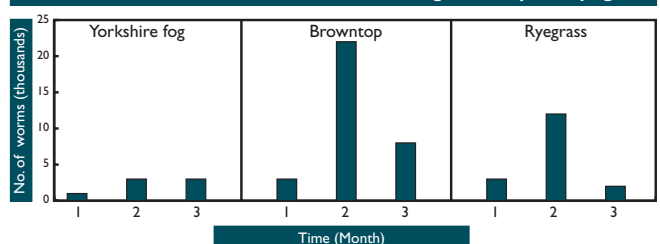
Weight Gain and Parasites

On average, the lambs grazed on Yorkshire fog were **2-3 kg** heavier after grazing over a **four month period** compared to the lambs on tall fescue.

Yorkshire fog could be a good alternative to browntop in **low fertility hill** areas where there are few management options to lessen drench resistance. Yorkshire fog will **persist** in low to moderate fertility conditions and appears to proliferate well in a set-stocked management system. In the experiment, Yorkshire fog was established in autumn and grown as pure swards.

As a diet of browntop leads to higher FEC's in lambs than any other grass, **the interval between grazing** with susceptible stock **should be increased** relative to other grass species. **This gives a chance for more larvae to die.**

Intestinal Worm Counts for Lambs on Yorkshire Fog, Browntop and Rye-grass



What about grass and clover combinations?

The second part of the project looked at the effect mixing grass and non-grass species in pastures had on lamb parasitism and performance.

The trial compared :

- ryegrass/white clover
- Yorkshire fog/white clover
- browntop/white clover

...in a set-stocked situation.

Overall **lamb performance was lifted** by the presence of **white clover**.

Parasitised lambs which grazed grass/clover swards had markedly better performance than non-parasitised lambs which grazed pure grass swards in the previous experiment.

Many of the negative effects of parasitism can be overcome by increasing the white clover content of pastures, especially in the browntop swards.

The required percentage of clover needed in the pasture to begin to counteract the negative effects of parasitism from grasses, has not been established.

However, with 30% white clover in the swards there was no difference between parasitised and non-parasitised lamb performance.

Parasitised lambs performed far better on swards with 30% white clover than non-parasitised lambs on swards with 5% white clover.

Less parasite larvae on white clover, chicory and lucerne.

When comparing non-grass species with grasses, non-grass species **came up trumps**.

There were **lower numbers of larvae** on the non-grasses (**white clover, chicory and lucerne**) than on the grasses (tall fescue, browntop, cocksfoot, Yorkshire fog and ryegrass).

Can forage crops reduce scouring and dagginess in lambs?

It was found that forages containing condensed tannins (**e.g. sulla, Maku lotus and Goldie lotus**) maintain high levels of performance in parasitised lambs and **reduce dagginess**.

This decreases the chance of flystrike.

These forages are best grown as a specialist crop as they do not compete vigorously with grasses.

Can I run an “organic lamb” finishing unit and still achieve good growth rates?

In an integrated grazing trial at Flockhouse, the production cost of withholding drenches on pasture was a **25 g/day drop** in live-weight gain.

This production cost **could be rectified if more clover and chicory** were included in the pasture.

What’s the effect of topography on internal parasites?

Fewer larvae were found in the south facing aspects of hill country pastures than in the north facing pastures. To take advantage of this, you could graze your parasite susceptible stock more frequently on south facing paddocks than north facing ones.

Questions Answered

Q: How will I be controlling parasites in 10 years time?

A: Using an integrated approach i.e. pasture species that limit the effects of parasitism, breeding for nematode tolerance or resistance in stock, management that avoids contaminated pastures.

Q: Is there a way I can reduce my drenching costs but maintain stock performance?

A: Yes. Reduce browntop and increase the ryegrass, white clover and chicory in your pastures. In low fertility hill country, Yorkshire fog appears to be a good replacement for browntop.

Q: What are the benefits of changing my pasture species to reduce internal parasite infection?

A: Better animal performance, fewer parasites, less drench usage, slower onset of drench resistance.

Points to Remember

- Monitor FEC regularly.
- There are less parasite larvae on non-grass pasture such as white clover than on grasses.
- A specialist crop which reduces the incidence of parasitism can be an important part of an integrated grazing management system. It can be utilized at critical lamb growth stages.
- Consider your pasture species, larval ecology and topography when you are planning your grazing management.
- Developing practical management systems to reap the benefits from differences in forages are continually being developed.
- Watch your Meat Matters and The Meat Producer for research updates.

Contacts for more information

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