



Goitre Farm – Case Study

Kerry, Newtown, Mid Wales

Farmed by John Parry

Vet: John Hughes



Goitre Farm has been involved in a project looking at the implementation of SCOPS principles since 2007. Over the last 4 years all of the SCOPS recommendations have been successfully put into practice. Not only has this allowed for better, more targeted parasite control, but there have also been improvements in flock performance, part of which can be attributed to the worm control strategy which is based on monitoring and better knowledge of the parasites on the farm. Goitre is also a Demonstration farm within the farming Connect programme run by HCC <http://www.hccmpw.org.uk/farming>.

Farm Details

93ha is owned and 172ha rented under range of tenures from summer and winter keep, short term tenancies and on-going agreements. Land ranges from 160m (500ft) to 500m (1500ft) above sea level. The farm has wide range of grass swards from reseeds to mountain pasture an unimproved rented land. Grass reseeds follow the 6-7 year rotation of maize- and winter cereals based on approximately 6ha (15acres) each year. No root crops are grown. Generally the ground at home is heavily stocked at turnout in the spring, which is an issue to be addressed. Fertilizer is based on purchased bags and, FYM and Chicken manure.

Sheep

750 ewes, 650 Welsh Mule and 100 Welsh ewes. The flock has its own stratification system currently hill ewes crossed with Blue Faced Leicester to produce Mules. All Mules topped with a Charollais and all finished sold to Vion at Welsh Country Food (farm is also a collection centre for WCF.)

450 are lambed end of February and lambs are creep fed and sold early. The remainder lambed March and April- lambs sold of grass and kept as replacements

Cattle

60 British Blue cross dairy put to the Limousin, mainly spring calving. All heifers purchased as bulling to calve at 2.5 years. All cattle are sold finished. Bull beef 13-14 months and heifers at 24 months.

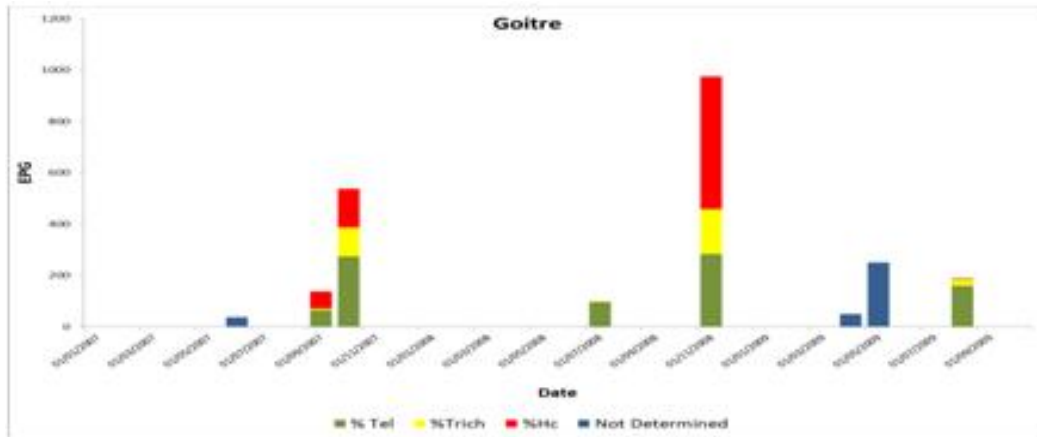
Internal parasites – Challenges and Solutions

Parasite	Challenge	Solutions adopted
NEMATODIRUS	Has been a significant problem Rarely a problem but where a high challenge coincides with 4-6 weeks old lambs there is a need to treat particularly if coccidiosis is also a risk.	BZ + diclazuril if required.
COCCIDIOSIS	As above	Treatment of groups at first sign of disease.
TELADORSAGIA (Ostertagia)	Not a major problem	FEC monitoring to determine the need to drench once the Nematodirus risk is over.
HAEMONCHUS CONTORTUS	Is present on the farm though so far has not caused a major problem – awareness that symptoms could be confused with fluke.	Careful monitoring and FECs – awareness that this can rear it's head suddenly.
TRICHOSTRONGYLUS	Not a major problem	Continue FECs into the autumn/early winter on remaining lambs and ewe lambs.
FLUKE	Is a major problem in both sheep and cattle – so much so that lambs have shown acute clinical signs in summer	Summer treatment to avoid clinical disease and suppress further challenge. Use of abattoir feedback; monitoring and autumn/winter treatments with narrow spectrum products – using the right product type at the appropriate time to allow for change.
SCAB	Not a problem on the farm – only need to protect against incoming replacements	Quarantine treatment of all sheep on arrival. Zolvix + 1% moxidectin injection to cover scab.

Challenges:	Positives:
Permanent pasture	Alternation with cattle may be possible
Relative high stocking rate	Improvement to grazing to help productivity
Haemonchus Nematodirus and coccidiosis risk	Risk assessment in place + FEC monitoring to help deal with Haemonchus.
Fluke a major problem	But no sheep scab risk (except bought in)
AR status a concern	But ML group used very little to date and bot all worm species with AR to BZ and LV groups

SCOPS Project Data

The farm has been part of the SCOPS project since 2007 with data available for 3 full seasons. The graph below illustrates the variation between the years in terms of the extent of the challenge (eggs), treatments required and the species of worm involved:



ND = Nematodirus; HC = Haemonchus contortus (Barbers Pole); Trich = Trichostrongylus (Black scour worm);
Tel = Teladorsagia (Ostertagia)

The graph above illustrates the results for FEC counts and species of worms present over the course of the project. This illustrates very well how the situation varies from year to year both in terms of the levels of worms at different times of year but also in terms of the species involved.

Historically BZ has been relied upon heavily but this has now been reduced to spring treatments for Nematodirus only. After this risk has passed, lamb treatments were based on FEC counts.

Ewes are not routinely drenched pre-tupping but have been done around lambing. Lambs have been drenched

Resistance Status – summary of results

BZ (white) group

- Teladorsagia would seem to have significant levels of resistance to BZ
- Trichostrongylus is also showing evidence of resistance to BZ but not consistent
- Haemonchus – no conclusive evidence of resistance to BZ
- BZ group can only be used for an early Nematodirus risk in future

LV (yellow) group

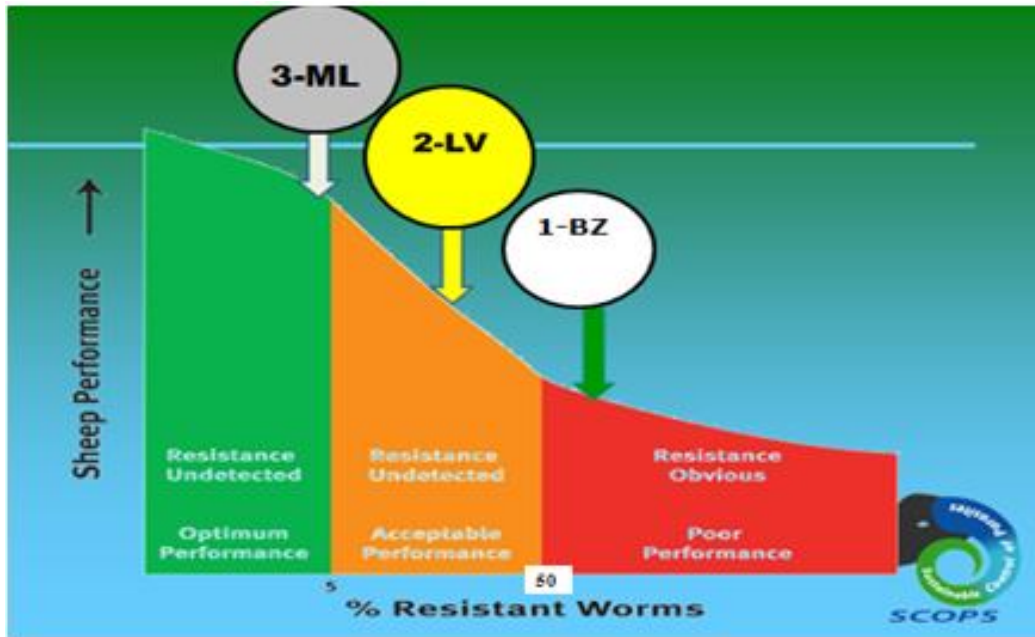
- Trichostrongylus shows evidence of resistance to LV.
- Teladorsagia less clear cut – requires further testing
- No evidence of AR in Haemonchus
- This group can probably still be used at certain times of year to spare the ML group

ML (clear) group

- There is no in vitro test so it has not possible to look at this group – though it has not really been used so the expectation is that there is no AR currently.

- An FECRT is needed to check this status

Graphic Representation of AR Status at Goitre Farm:



Discussion Session – Open Day 1st June 2011

During the course of the meeting, Vet and SQP delegates were split into groups and were asked to discuss the following questions. The resultant feedback is summarised below:

How would you suggest the existing anthelmintic groups are used in future on the farm and how would you integrate a new group(s) into the programme?

- BZ for Nematodirus (if required) but a drench efficacy to be done to check for resistance
- Possibly use LV for early season treatments if for example Nematodirus risk is quite late and a BZ would be risky. Late season not a sensible option the AR status in Trichostrongylus
- Careful use of MLs and Mox in particular but these do need to be integrated into the strategy now. Use of partial flock treatments to help protect them = particularly ewes at lambing
- Integrate monepantel sooner rather than later. Quarantine treatment + use in lambs mid/late season but must be on the basis of FEC count and after ML use in the early season.

What actions should you actively implement to reduce the selection pressure on nematodes in the future?

- Extra care on dose accuracy given AR status. Increased use of the on farm FECPAK for monitoring and drench tests.
- Alternation with cattle where possible, even if only to dilute worm levels and/or provide a break for the spring to reduce Nematodirus risk.
- Partial flock treatments and targeted treatments to maintain refugia Use of dry ewes to reduce contamination levels in late season
- Nutritional effects – improved grazing to help lambs growth rates + ewe nutrition around lambing

What are your thoughts on Fluke control for this?

- A major issue for the farm. Need to look at the TZB resistance status and reduce reliance on this drug. NB Symptoms are similar to Haemonchus so need to be careful.
- Consider using alternative treatments (e.g. closantel, nitroxylnil and oxclozanide for adult only in the spring)
- Summer treatment if required in high risk years – use risk assessment + monitor FECs in autumn winter.

General Conclusion

- This farm is in a better position than many others because it has not used MLs much. This awareness means that careful use of anthelmintics and monitoring they can protect the MLs for years to come. After initially not wanting to use 4-AD on this farm the consensus was that it should be integrated now to help preserve the MLs.
- Barriers to success identified were access to larval differentiation, assessing DLWGs for targeting treatments.

Implementation of SCOPS principles and Future Options

PRINCIPLE		ADOPTION	FUTURE OPTIONS / IMPROVEMENTS?
Have a strategy	✓	Adopted for the last 4 seasons. Takes full account of high level of performance required.	Continued updating - annual and on-going review of policy with Vet / advisers
Drench Correctly	✓	Equipment checked and calibrated. Dosing to the heaviest and good technique.	Keep this as a priority.
Quarantine treatments for all in-coming sheep	✓	SCOPS recommendations fully adopted for in-coming rams	Update as SCOPS recommendations are updated when new group(s) are available
Test for anthelmintic resistance	✓	AR status investigated over the last 4 years and taken into account within the strategy	An FECRT is urgently required to confirm the situation with the ML (clear) group.
Use anthelmintics only when necessary	✓	FEC monitoring used to determine the need to treat lambs. Routine pre-tupping drench removed Consideration of the need for whole flock treatments	Increase the use of selected treatments ewe and lambs moving away from whole flock treatments
Select the most appropriate product	✓	Different products now used within the season according – carefully increase use of the MLs. Use of fluke specific products whenever possible (not combinations)	Continue this move to using various products at different times Integration of monepantel mid/ late season but dependent on FEC results Change the type of product according to the timing – check TZB resistance status and use the other groups when possible to reduce reliance on TZB.
Maintain a susceptible population of worms in refugia	✓	Partial flock treatments a vital part of this objective. Moving away for whole flock treatment at housing a major step.	Continue to develop this part of the strategy reducing the proportion of sheep treated at any one time.
Reduce Dependence on anthelmintics	✓	Use Of FECs	Grassland improvement / nutrition Use of dry sheep and grazing strategy to try and reduce pasture contamination levels.

Summary

- **Fluke** - has been a major problem in recent years including acute fluke in lambs. There is a need to check the AR status of fluke on the farm to TZB and to make sure that the available chemical alternatives are used appropriately.
- The roundworm AR status on the farm is probably quite good compared to many others. However, AR to the BZ and LV groups is present and the priority now has to be to use the MLs carefully and protect them for as long as possible. Using the new 4-AD group now, rather than waiting until the MLs start to fail was agreed as a sensible strategy. Use for quarantine and mid-season following MI use early season (base on FECs).
- SCOPS principles have been fully implemented but there are still additional refinements to be adopted over the coming seasons. Future options include reducing dependence on anthelmintics through breeding and nutrition together with implementation of partial and targeted treatments to maintain a worm population *in refugia*.
- The discovery that Haemonchus is present means they can monitor carefully – the year to year fluctuations shown on the farm demonstrate the value of regular monitoring and the need for a farm specific strategy.

Lesley Stubbings

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