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Planning parasite control in beef systems

The longer days and warmer temperatures of spring signify the start of another growing season and this coincides with turning out cattle that have been over-wintered inside. Plans for the grazing season include several diverse, yet inter-related components, such as:

- Which pastures are to be used by which classes of stock?
- Which fields are to be shut up for silage or hay?
- What is the fertiliser schedule?
- When and where are other activities, such as harrowing or weed control to be done?
- What are the plans to monitor and control gut worms, lungworms and liver fluke?

So what about parasites? Well gut worms are ubiquitous on all cattle farms where the animals have some access to pasture and they can cause clinical disease (parasitic gastroenteritis = PGE), commonly manifest as diarrhoea and a rapid loss of weight, but more commonly are present subclinically – that is to say the cattle are not obviously sick. Subclinical infections however lead to less visible negative effects on feed intake, digestion and utilisation, which in turn cause poor performance, like reduced growth rates in young stock and decreased milk production and sometimes poor fertility in cows.

The good news for beef farmers with spring-calving suckler herds is that calves are generally not adversely affected by gut worms to any great extent prior to weaning as a result of their predominantly milk diet and low exposure to infection from the pasture. This does not mean that they should be ignored, but if they are closely monitored and there are no signs of disease or ill-thrift, then specific worm control can be postponed until weaning. If weaning occurs more than a month before the anticipated date of housing, then an anthelmintic treatment at weaning can be helpful in worm control and overcoming the stress of the change in diet and separation from the cows. If calves are housed at or soon after weaning, then worming with a persistent anthelmintic, a pour-on or injectable macrocyclic lactone (ML = ivermectin-like) product should be adequate.

For yearlings in their second grazing season, good worm control will help ensure that they reach their growth targets, whether they are for heifers, bulling or growing/finishing cattle. This can be achieved by giving a bolus or a couple of treatments with an ML at or soon after turnout. Monitoring of growth will allow farmers to make sure that the animals are on track. Adult beef cattle rarely need worming, but treatment can be useful to limit pasture contamination with worm eggs, especially in the spring, and also to help maintain body condition, milk yield and fertility, particularly in poorer animals or when feed is in short supply.

Lungworm disease, or husk as it is commonly called, occurs more sporadically than PGE, but again, it is unusual to see it in pre-weaned beef calves. Immunity to lungworm is acquired quickly (within 3-4 weeks of exposure) but it is relatively short lasting (~6 months) unless it is boosted. In an ideal world, which may be the case on some beef farms, calves acquire immunity through natural exposure to lungworms and the immunity is boosted naturally too. Should the challenge be too high however, disease can result, sometime even in calves that are partially immune. There is a vaccine for lungworm (Huskvac) and if this is administered to cattle before turnout, it can help prevent husk. It is difficult to comply with the recommended vaccination

schedule in spring-born calves, but if there is a risk of husk in the second or subsequent grazing seasons, then the vaccine can be given before turnout. If boluses or anthelmintics are given starting soon after turnout, they can also help control lungworm.

Liver fluke is present on many beef farms that have suitable habitats for the mud snail, which is the intermediate host of the parasite and essential for it to complete its lifecycle. It appears that fluke infections are becoming more common in both cattle and sheep and are occurring in regions that previously were not considered at risk. In addition, if you are buying in stock from a 'flukey' area, your animals could be infected, even though your farm is not. There is no effective immunity to liver fluke, so cattle of all ages can be affected; do not forget too that sheep are also susceptible, so if you have both sheep and cattle on your farm, both species should be included in your control programme. On most farms, administering a flukicide at housing and/or during the winter is a central part of control, but it has also been shown that a treatment of older cattle around two months after turnout can be useful in reducing the number of fluke eggs deposited on the pasture and hence available to infect the snails. This in turn reduces the challenge to animals in autumn, when infection rates typically peak.

This brings us back to the opening questions regarding forward planning of grassland management and what can be done to aid parasite control. For liver fluke the options are quite limited unless you have a farm where there are well defined muddy patches that can be fenced off or avoided, in which case you can keep stock away from the source of infection. There are no practical measures that can be taken to reduce the risk of lungworm on pasture, though the actions taken to help control PGE may help in husk control at the same time.

Essentially, for pasture management to be used as part of the worm control programme, it is important to understand that the infective larvae on pasture that are the source of infection can typically survive for up to a year, or even more. Thus any field that has had cattle in it over the previous twelve months must be considered as a medium to high risk pasture, however, if cattle have not grazed them during the current calendar year, then the risk should be quite low (but never zero). In practice, this means that silage or hay aftermaths that have been clear of stock since turnout should carry low levels of infection by the time they are available for grazing. They are thus suitable to put weaned calves on to, where they will also benefit from the fresh, new grass growth. Obviously if you have ungrazed reseeds available, these should carry very low risks of infection. The other thing to remember is that the gut worm species of sheep and cattle differ and normally do not affect the other host, so another potential source of low risk grazing is fields that have had only sheep grazing them for six months or more.

Hopefully, understanding of some of these general principles will allow farmers to tailor their parasite control activities to their stock and their farm at appropriate times and allow a good level of disease control and animal performance.