Parasite control in beef and dairy herds

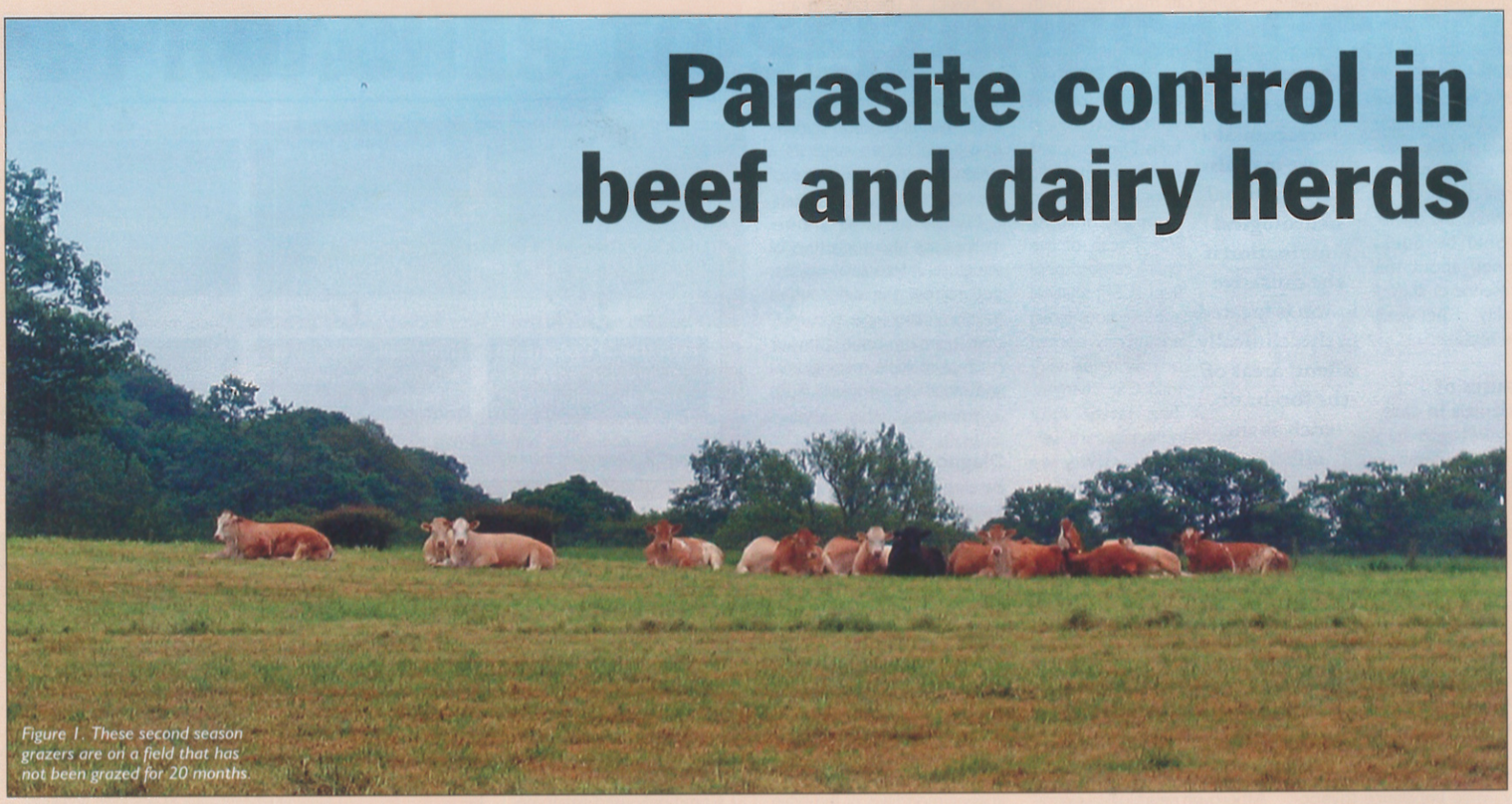

Figure 1. These second season grazers are on a field that has not been grazed for 20 months.

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advises on planning suitable parasite control – including the housing period, fluke worm and external parasite control – for herds

GENERAL principles apply in the control of various parasites in dairy and beef herds. However, over the past two decades, there has been an increasing change in the management of cattle herds in the UK. Herd health plans (HHP) are the norm, but an intimate knowledge of the farm's management is essential for the optimum control of parasites and the responsible use of medicines.

Discussing HHPs rarely involves the management of pasture – **Figure 1** shows a group of second season grazing cattle.

It should be noted:

- this pasture has recently been mown for silage;
- it was a new ley the previous year;
- it had not been grazed by cattle or sheep for approximately 20 months;
- there is unlikely to be any significant pasture "contamination"; and
- these cattle were treated at housing the previous autumn.

When would you advise anthelmintic treatment? Perhaps these animals do not even need treating?

Clients do, however, require advice. **Figure 2** shows a selection of products found on one farm – and the client was of the opinion that a wormer was a wormer.

Emphasis must be placed on using the correct dose of injectables, oral and pour-on preparations by weighing a representative sample of animals. Farms generally ensure that drenching and automatic syringes are in good order and working correctly, but, with many herds expanding, there has been an increasing use of summer grazing away from home with no cattle handling facilities.

On occasion, the use of anthelmintic intraruminal boluses is viewed on price alone, but the maximum weights for two well-known intraruminal bolus products, for example, are 300kg and 400kg respectively (Anon, 2011). Many spring-born calves that are grazing for the second season are often in excess of 400kg, therefore they may receive a sub-lethal dose of anthelmintic.

Figure 2. A selection of anthelmintics discovered on one farm.

Choice of anthelmintic

The choice of anthelmintic may depend on factors such as administration method (oral drenches, intraruminal boluses, injections or pour-ons) without fully taking into account a product's activity and persistence against reinfection. There is potential for incorrect application, resulting in control failure, which may be perceived as anthelmintic resistance (Taylor 2012).

Three groups of anthelmintics exist:

- macrocyclic lactones (ML);
- benzimidiazoles; and
- imidazothiazoles.

The MLs also have the advantage of being able to be used for treating ectoparasites (lice and mange mites), which is particularly useful when dosing cattle at housing.

Lungworm will not be discussed in this article, other than to say it is predictable by its unpredictability.

TABLE 1. Active ingredient and age of fluke killed (in weeks)

Triclabendazole	Two to adult
Nitroxynil	Seven to adult
Closantel	Seven to adult
Cloesulon	Eight to adult
Albendazole	10 to adult

With their ease of application, ML pour-on products are the most commonly used on beef herds in south-west England (Barton et al, 2006). However, on occasions administration is not carried out correctly – for example, attempting to apply the product when the cattle are not restrained but are feeding at a trough or milling around in a field. Under such circumstances there is an increased likelihood of incorrect application and dosage (**Figure 3**).

Meat and milk residues are significant as they will often limit the choice of treatments when dealing with cows producing milk for human consumption or when an animal is due for slaughter to enter the food chain.

Combination products containing flukicides and anthelmintics have the advantage that the cattle only have to be handled once at one treatment.

However, when choosing a flukicide it is essential to take into account that development in the animal from early immature fluke to adult fluke is 12 weeks. Not all products kill immature and mature fluke.

Figure 3. Inappropriate application of a pour-on anthelmintic.

A greater than 80 per cent efficacy of liver fluke kill is illustrated in **Table 1**.

At housing, depending on the product used, delaying fluke treatment will maximise the effectiveness of the number of fluke killed.

The effect of using MLs at housing is that as well as treating inhibited larvae of *Ostertagia ostertagi*, they will also treat ectoparasites. On many occasions where cows are housed with youngstock it is essential to treat these with, at the very least, an insecticide, such as deltamethrin, to control ectoparasites.

Beef and dairy youngstock can be treated similarly. However, for dairy cows, MLs with a nil withdrawal time for milk are available, but, at present, the opportunities for fluke treatments are limited to the dry period.

Conclusion

It is important to take into account the knowledge of individual farmers before embarking on any treatment regimens. It is essential to consider the ultimate goals – nematodes, fluke or ectoparasites – or all three. It could be that using two products may be more effective than a combined product.

References

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