

DEER DISEASES IN THE UK

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INTRODUCTION

As my earlier contributions to this meeting will probably have made clear, probably the most serious disease affecting deer farming at the moment is spongy brain disease in the general public. The problems that we experience as being the butt of controversy seem to far outweigh the practical difficulties of our chosen careers. In addition, we are still at that very early stage of developing the husbandry of deer in which management is still much more often responsible for poor performance than frank disease.

In other words, the pattern of disease in farmed deer is following a very similar path to that which it has done in New Zealand. In the early years in Britain the most commonly diagnosed diseases were associated with live capture. The classic wryneck post capture myopathy as described in New Zealand and East Africa, was never a common feature in Great Britain, presumably because our capture systems do not involve long chases with resulting hypoxia. Instead capture associated disease usually presents, in Britain, as Yersiniosis or simple traumatic injury. This last is often caused by crushing in trucks when newly captured deer become recumbent and are trampled upon by other animals. The simple solution to this is of course to avoid overcrowding and the mixing of different age groups in the lorries. Injuries resulting from running into fences were also commonplace in the days when the capture of wild hinds was in vogue.

With the increase in availability of farm raised hinds and the downturn in prices associated with the problems of tuberculosis, the capture of wild hinds has become less attractive. From perhaps 2000 in the winter of 1988 - 1989 numbers captured fell to probably less than 1000 in 1989 - 1990 and are likely to fall still further next winter.

Undoubtedly tuberculosis has dominated the disease picture on British deer farms since 1987 but this has already been covered in an earlier session.

MALIGNANT CATARRHAL FEVER

After tuberculosis which does not, in any case, surface as a serious clinical entity in Britain, malignant catarrhal fever is probably the single most serious disease problem. Although contact with sheep is less common than in New Zealand, the disease has come increasingly to the fore. This year a serious outbreak arose from the haulage of deer from a sale, in a truck that had recently been used for transporting sheep. Among the weaned calves that were involved, mortality was surprisingly high, up to 20% on one property, with losses occurring for 4 or 5 months after the initial contact. In this outbreak deaths were normally acute with few premonitory signs.

As in New Zealand, losses among Pere David deer have been dramatic where contact with sheep has occurred. There is some evidence that losses can be minimized by ensuring that lambing ewes are isolated from the deer and that people attending lambing sheep are regarded as an important hazard.

CRYPTOSPORIDIOSIS

At the time of writing we are in the middle of the calf drop and there is no doubt that cryptosporidiosis is rapidly becoming one of the most serious deer diseases. Losses can be devastating, reaching 25% in some cases. The position is particularly frustrating in that there is little the farmer can do to prevent or treat the condition. The advice given is, of course, to move the calving herd onto fresh grazing but this is unlikely to effect a complete cure. It must also be remembered that cryptosporidia over-winter quite happily and it is necessary therefore to use different pasture in subsequent years. The problem does not always seem to be associated with heavy stocking densities but, as in most deer disease, stresses of weather in particular are very important. The current calving season follows a warm, wet period putting animals into good condition, being followed by a cold wet period predisposing new born calves to disease.

YERSINIOSIS

Yersiniosis is perhaps not quite the problem that it was, as deer have become habituated to handling and human contact, but each year weaning tends to throw up odd cases, especially where weaners are put through the sale ring when underweight or recently weaned. To reduce this and in an effort to forestall any criticism of sales on welfare grounds, the BDFA insists that sales are run under their rules which prevent calves of less than 30kg, or those weaned for less than fourteen days, being exposed to sale in sale yards.

As mentioned earlier most of the problems associated with Yersiniosis have been connected with the stresses of capture of wild deer. Now that farms are more organised and weaning in most cases is into housed accommodation, and is also earlier than previously, we see less of the disease at weaning time. Where weaning took place after the rut, particularly in Scotland, wet cold and windy weather often overtook newly weaned calves and created problems. In addition, earlier calving resulting from good management, has helped to control the disease by producing stronger, older calves for pre-rut weaning.

BOVINE SPONGIFORM ENCEPHALOPATHY

It would be wrong to pass on from the diseases seriously affecting the British deer farming industry without mentioning BSE. It seems unlikely that deer are susceptible to this disease. Of course a significant number of bovids, apart from cattle, ie gazelles, and antelope, in zoos have now been diagnosed as having had the condition, but still at the time of writing, no cervids appear to have contracted the disease. This is despite their presence in those same zoos where they have been fed the same ration and have been managed in the same way. This is extremely encouraging and of course the taxonomic difference between the cervids and the bovids is good ground for encouragement. In fact, of course, sheep where we believe the disease originated, are much more closely related to cattle than to deer.

It is difficult to assess the degree to which the venison trade has benefited from the hysteria generated about beef. At the time of writing beef sales have recovered to the extent that they are only about 15% down on normal beef consumption. It is probable then that the effect on venison has been only very slight. Perhaps in the long term the sole effect of the hysteria is likely to be a small, but permanent, decline in red meat consumption in all sorts.

If the absence of the disease in deer is maintained however we can expect to see a number of beef producers taking up deer farming.

The final way in which BSE has affected the British deer industry is in the availability of export markets for our breeding stock. New Zealand and Australia closed their borders to deer as soon as the first cases of BSE were reported and Canada and the United States joined them in May 1990, following the publicity generated by the two cats which had been found to have a spongiform encephalopathy at Bristol. There is good reason to hope that this import ban will be lifted from the Canadian and American markets in the quite short term.

PREVENTIVE MEDICINE

There have been few other recent developments among the diseases affecting farmed deer. Routine preventatives practised by deer farmers remain predominantly ivermectin, with a few also using clostridial vaccines. In areas of high rainfall and acid soils, as on the west of Scotland, a complex programme of mineral supplementation may be required to ensure adequate copper and cobalt levels.

Similar climatic difficulties also exacerbate the problems of liver fluke and gastro-intestinal parasites. Also in the Highlands of Scotland, as you know, we have problems among the wild deer with warble flies (Hypoderma diana) and nostril maggots (Cephenomia auribarbis). These are readily eliminated from farmed animals not in contact with wild deer.

Figure 1 demonstrates the programme of prevention and treatment used at the Rahoy deer farm on the very high rainfall exposed west coast of Scotland. The high rainfall predisposes to leaching of minerals and high risks of parasitism.

ANNUAL PREVENTATIVE PROGRAMME ON WEST COAST HILL FARM

	<u>YEARLINGS & HINDS</u>	<u>CALVES</u>	<u>STAGS</u>
MIDWINTER (FEBRUARY)	8g COPPER OXIDE NEEDLES	-	8g COPPER OXIDE NEEDLES
APRIL	PANACUR & TRODAX	FASINEX	IVOMEC, TRODAX, COPPER
MAY	IVOMEC & COPPER HEPTAVAC 4ml	VIT B12 PANACUR (3-4 WEEKLY) COPPER	PANACUR IN FEED
AUGUST	PANACUR, COPPER VIT B12	PANACUR, COPPER B12, HEPTAVAC	PANACUR IN FEED
SEPT	IVOMEC & FASINEX	IVOMEC, FASINEX B12	IVOMEC, TRODAX, VIT B12, COPPER INJECTION HEPTAVAC
DEC	IVOMEC & FASINEX HEPTAVAC 4ml	IVOMEC & FASINEX	IVOMEC & FASINEX

Another principle of good management, well known to the New Zealanders but only recently becoming widely noted in Britain, is the realisation of the importance of putting deer on to quite short pasture, prior to calving. Some farmers are finding increasing numbers of hinds requiring assistance due, I suspect, to the animals being overweight or on small t 8 4 flat pastures without access to hill ground. It does seem strange to me but nevertheless a genuine effect, that hilly pasture in some way encourages the animals to remain fit and better able to cope with calving. I believe the problem is exacerbated as farms develop because hinds more easily attain better condition when they are more domesticated. It is becoming increasingly clear that hinds must not be allowed to become fat at any time during gestation.

MISCELLANEOUS

Finally a quick cover of some of the less important diseases that have arisen recently or are for some other reason, noteworthy. First of all the red deer herpes virus. This appears in most years affecting animals in the same categories as Yersinia. In other words principally newly weaned calves, probably that have recently been through the sale room, or have been handled in cold, wet, windy weather. The condition has been well described and does not appear to have changed much. It presents with mildly dull and anorexic animals with conspicuous bilateral weeping and swollen eyelids. It rapidly progresses to corneal opacity with occasional ulceration. In animals that are well nourished and managed, mortality is a rarity. This disease has been a problem in that the serum neutralisation tests for infectious bovine rhinotrachitis insisted upon by the Irish for animals being exported into Ireland, cross react with red deer herpes virus. We have found positive reactors to this test among animals from all sources yet there appear to be one or two isolated populations that have not yet been exposed to the virus. Increasingly we are also finding that calves of less than 6 months old are not sero-positive, suggesting perhaps that the incidence of the disease is declining.

There has been a number of cases of ringworm recently reported in red deer which has had the effect of requiring animals to be withdrawn from quarantine. The nature of the ringworm was not established but it did respond well to fulcin treatment.