

Cattle Abortion: A significant loss!

Brian Hosie SAC C VS Edinburgh

SAC and the Moredun Research Institute conducted a survey into the causes of bovine abortions in Scotland during 2007. The latest investigative techniques were applied to these abortion cases and a diagnosis was reached in two thirds of the submission. The results were relayed to farmers and their vets, giving them an early warning of infections such as BVD, IBR or *Neospora* in their herds.

The cost of each abortion is estimated at £825, and even higher for pedigree animals. These costs include lost time, milk production and veterinary treatment. In some cases there are the costs of purchasing replacement calves and of culling affected cows. Remember that abortions are often only the most obvious sign of infectious disease in the herd. For example bovine virus diarrhoea (BVD virus) can cause infertility, ill thrift and deaths in addition to abortion. Investigation of the cause of abortion allows appropriate control measures to be put in place, with resulting savings.

What should I do in case of abortion?

- Isolate the affected cow.
- Notify all abortions to your local Animal Health Office. This is a legal requirement.

- Your vet will normally be asked to make a visit to suckler cows that abort and carry out a brucellosis investigation (BS7).
- Most abortions in dairy cow will not be investigated further, but your vet will visit and take samples if the dam is imported from outside GB, or if she has not previously produced a live full term calf in your herd, or if there has been another abortion in your herd within the last 30 days. (Screening of dairy herds for brucellosis is done using the bulk tank milk.)
- Submit the aborted calf and any placenta (cleaning) available to your local SAC Veterinary Centre.
- To allow further investigation of the aborting cow ask your vet to take an extra blood sample at the time of the BS7 visit.

How Much Does This Cost?

The Scottish Government pays for the local vet's farm visit and all testing for brucellosis. However the samples will only be examined for brucellosis and not for the other more common causes of abortion. Currently the Scottish Government is encouraging farmers to carry out a full abortion investigation. Examination of an aborted foetus and placenta plus tests on blood sample from the cow costs £55. This includes the fee for carcase disposal. This will be money well spent if the results help you and your vet prevent further losses.

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Milk spot livers in slaughtered pigs

Franz Brulisauer SAC C VS Inverness

So-called milk spot livers result from the migration of larval *Ascaris suum* roundworms from the intestine to the liver where they cause damage resulting in the healing lesions, which look like drops of milk. These milk spots lead to the condemnation of the liver at meat inspection. However it is the economic implications of the associated reduced performance that are of most concern to producers as clinical signs of intestinal infection with *Ascaris suum* are rarely observed even in heavy infections.

Most pig producers and vets are well aware that *Ascaris suum* females are capable of producing huge numbers of highly resistant eggs, and that worm-free

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This newsletter will be circulated twice annually to livestock producers throughout Scotland to increase awareness and may give ideas for your health plans. Funded by the Scottish Government as part of its Public Good Veterinary and Advisory Services.

Trace element deficiencies in sheep

Heather Stevenson SAC C VS Dumfries

Trace elements are minerals that animals required in small amounts for ensure normal health and bodily functions. The three most important trace elements for sheep are cobalt, copper and selenium. In each case deficiency can lead to production losses, presenting either as ill thrift (Figure 3) or as more specific changes, some of which are discussed below. Assessing the trace element status of a group of sheep requires analysis of six to ten blood samples or three samples of liver from carcasses.

Cobalt

Monitoring is carried out by measurement of blood Vitamin B12, which contains cobalt. This is the most common deficiency in Scotland and is related to the low soil cobalt levels present in much of the country. Deficiency is diagnosed particularly in weaned lambs, which are most sensitive to low dietary cobalt. The incidence shown in the graph (Figure 4) reflects the seasonality of this condition. Affected lambs are ill thriven, and may also have poor fleeces and runny eyes. Frequently they will also carry heavy worm burdens, so may be scoured. Dosing with a cobalt drench may be sufficient for short keep lambs, but this only gives a week-long increase in cobalt levels. Administration of Vitamin B12 injections or a bolus should be considered for long keep lambs and replacements. Some wormers contain cobalt, but where a true deficiency exists the amount within such treatments is generally insufficient to correct the problem.

Copper

This trace element is required for normal development of the foetal nervous system. Ewes that are severely deficient during mid to late pregnancy can give birth to lambs with the condition called swayback. Affected lambs are weak on their hind quarters and may be unable to sit or stand. Treatment of the affected lamb is ineffective. So-called "delayed" swayback occurs when lambs that appeared normal at birth, gradually lose power in their hind legs at two to four months of age. Supplementation with copper may help in these cases, but the response is often slow and incomplete.

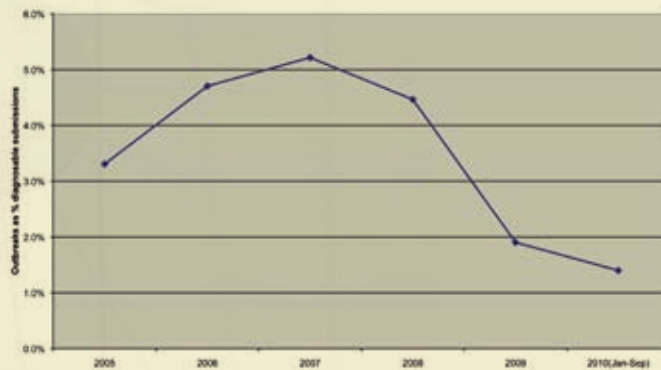
There is a breed effect, with Scottish Blackfaces being more susceptible to copper deficiency than Cheviots. Breeds such as the Texel that are very efficient at absorbing copper, are unlikely to be affected by significant deficiencies. Grazing hill ewes on improved pasture increases the risk by reducing grass copper availability. Increased supplementary feeding during severe winters, such as occurred earlier this year, reduces the likelihood of swayback by boosting ewe copper intakes. Prevention can be via copper needles, boluses or injections. The latter are given in mid pregnancy. It is important to be aware that supplementation of copper carries a significant risk of toxicity if too much is supplied. It should therefore only be carried out where a known deficiency exists. Similarly only one mode of supplementation should be used at any time.

Selenium

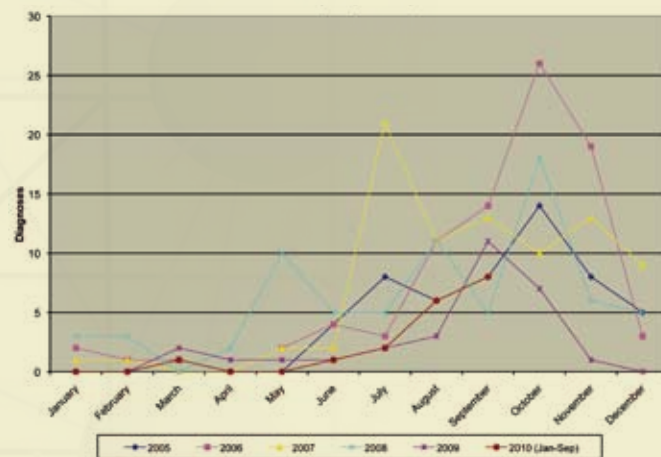
Symptoms of selenium deficiency can vary from poor fertility or ill thrift, to sudden deaths, and is again linked to low soil levels. A high proportion of barren ewes at scanning can be a sign of deficiency, as selenium is required both for sperm motility

and survival of the early embryo. Although the effects of this deficiency were felt several weeks earlier, blood sampling ewes at scanning can still be useful. This is because GSH-Px levels within the blood, used as a measure of selenium status, reflect intake of this trace element over a three month period. Prevention of selenium deficiency is best achieved is by monitoring status two months pre-tupping and supplementing by bolus, drench or injection.

Ovine Cobalt Deficiency



Ovine Cobalt Deficiency Diagnoses by Month 2005 - 2010



Trace elements are required for normal health and bodily functions in small amounts. Minerals are required for normal health and bodily functions in small amounts.



SAC Disease Surveillance Centres



8 Veterinary Disease Surveillance Centres



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|-------------|---------------|
| Aberdeen | 01224 711177 |
| Ayr | 01292 520318 |
| Dumfries | 01387 267260 |
| Edinburgh | 0131 535 3130 |
| Inverness | 01463 243030 |
| Perth | 01738 629167 |
| St Boswells | 01835 822456 |
| Thurso | 01847 892602 |

Reports are published monthly in the Veterinary Record highlighting the disease surveillance findings in Scotland. These are available at www.sac.ac.uk/consultancy/veterinary/publications/monthlyreports

Mucosal disease and other BVD disease

Catriona Ritchie SAC CVS Aberdeen

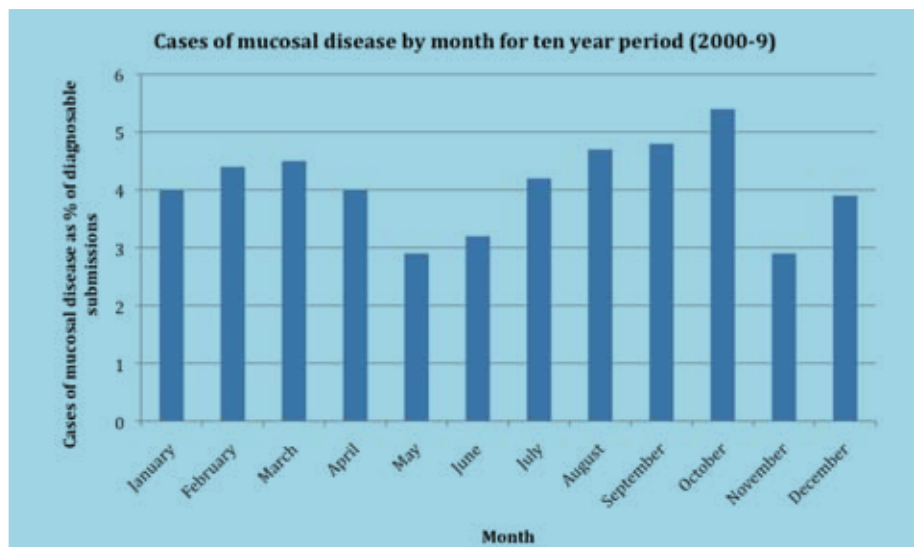
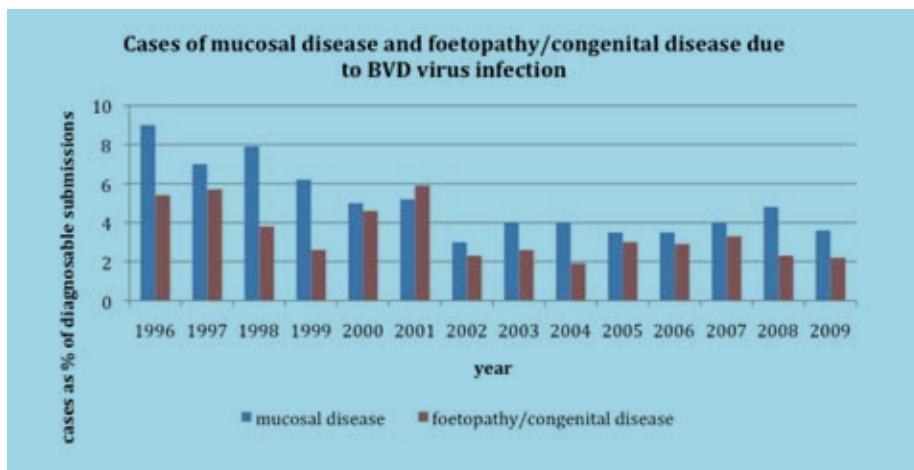
Mucosal disease the fatal condition that develops in animals that are persistently infected (PI) with BVD virus. These PIs are the animals that are the main source of BVD infection to other cattle in the herd.

From 1996 to 2002 there was a downward trend in the number of cases of mucosal disease diagnosed in Scotland (see Figure 1). Since then the number of confirmed cases has remained at a relatively static level. As would be expected, a similar pattern was seen with the percentage of abortions and cases of congenital disease where BVD virus was detected in the aborted calf. The initial declining trends are likely to have been the result of widely available and effective BVD virus vaccines, and their increased uptake by breeding herds. The launching and promotion of BVD accreditation schemes

in the late nineties, with the resultant increased awareness of the effects of BVD virus infection, are also likely to have contributed to the reduction in the number of cases of mucosal disease.

Improved herd biosecurity and the use of vaccination are likely to have been the main factors behind the reduction in disease due to BVD virus. Over the last eight years the percentage of bovine abortions due to BVD virus infection has ranged from 1.9 to 3.3%, with a mean of 2.6%.

The number of cases of mucosal disease diagnosed appears to follow a cyclical trend with the highest number being diagnosed in the autumn and the lowest number diagnosed in early summer (see Figure 2). The peak coincides with the start of housing, possibly reflecting the associated stress to animals and the increased contact between and mixing of, cattle during housing. The lowest number of cases tend to occur during the summer months when cattle are at grass.



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The Group Manager would be pleased to have comments from readers on the usefulness of this publication and if you have topics you would like to see covered in future issues.

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