



ABORTION IN SHEEP

Abortion in sheep can have disastrous economic consequences and in the hectic aftermath of lambing time it is all too easy for a handful of abortions to be overlooked as no major problem. However the following year there is likely to be an 'abortion storm' leading to large numbers of abortions or weakly lambs.

All cases of abortion should be isolated immediately and all abortion material disposed of hygienically to prevent spread of infectious causes. Ewes must be marked for future reference. We would strongly encourage ALL cases of abortion to be investigated in full by the submission of abortion material to the VLA at Thirsk so that appropriate preventative measure can be put in place to limit the impact. It is also important to remember that pregnant women should stay away from the lambing sheds due to a risk of zoonotic abortion agents.

The two main causes of abortion are **Enzootic abortion** and **Toxoplasmosis** and both of these are very preventable.

- **Enzootic** abortion is caused by the bacterium *chlamydomphila abortus*. It is usually introduced into a flock by infected purchased sheep. They abort typically in the last 3 weeks of pregnancy and the placenta and foetal fluids contaminate the environment and expose other sheep to the bacteria who then abort in their subsequent pregnancy (hence it is often the following season when problems manifest). Lambs infected as youngsters will abort in their 1st pregnancy. Once an animal has aborted, it is then immune from further chlamydial abortions but will continue to excrete the bacteria at further lambings so should be culled. Maintaining a closed flock or only buying in replacements from accredited Chlamydia-free flocks can prevent introduction of the disease in a clean flock. Alternatively, vaccination of all breeding ewes in the first year then the vaccination of replacement gimmers in future years, can help adequately control enzootic abortion. Once the flock is vaccinated and has been closed for a couple of years with no abortions, vaccination of replacements can cease. Vaccination must take place in the period of 4 weeks - 4 months prior to tugging. In an outbreak of diagnosed chlamydial abortion, the whole flock can be treated with long acting oxytetracycline to help reduce losses. In 2009 there was a manufacturing shortage of enzootic abortion vaccine towards the end of the season so we are aware there may be some flocks at risk this lambing season. For flocks that are routinely vaccinating replacements every year our advice would be to treat all replacements which have not been vaccinated with long acting oxytetracycline (alamycin LA) and where possible lamb the replacement ewes separately to the main flock. These ewes should then be identified so that they can be vaccinated this next season with the newest replacements. In unvaccinated flocks where enzootic abortion was a diagnosed problem last lambing season it may be worth considering to blanket treat all ewes with alamycin LA to try to reduce losses.
- **Toxoplasmosis** is caused by the protozoa *toxoplasma gondii*. Toxoplasma is an intestinal parasite of cats and the sheep is the intermediate host. Cats acquire



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infection from eating mice or other rodents and then shed encysted eggs in their faeces which are the source of infection to sheep. Rodent control and keeping feed stores secure from cats can help lower the level of environmental contamination but *vaccination is highly recommended* as one injection will provide immunity for the life of the ewe so once initial vaccination has taken place, only replacements will need to be vaccinated. Vaccination with Toxovax must take place in the period of 4 weeks to 4 months prior to tupping and can be carried out at the same time as vaccination for enzootic abortion. The typical picture of a toxoplasma abortion is that of one weakly lamb born alive and another lamb mummified or aborted inside a discoloured placenta (or the last of a set of triplets). Toxoplasma can also contribute to high barren rates if the ewes are infected early in pregnancy. **In 2010 there was a manufacturing problem with Toxovax meaning there was no vaccine available. This problem should be resolved for the 2011 season and all replacements lambing this year should be vaccinated in 2011.**

Other, less common causes of abortion in sheep are:

- Border Disease - similar to BVD infection in cattle. It is not frequently a significant problem in sheep but the practice has dealt with one severe outbreak this year which has had serious ramifications right through the season including abortions, high barren rates, lamb deaths, immunocompromised lambs and poor growth rates in fattening lambs and replacements. The classical presentation of Border Disease is the birth of 'hairy shaker' lambs which have continuous tremors and a curly fleece. These lambs often die in the first week of life. Control is difficult should a severe outbreak occur and advice should be sought from the vets.
- Salmonellosis - Salmonella is not a common cause of abortion in sheep but in affected flocks, losses can be catastrophic, with up to 70% of pregnant ewes aborting. Infection of a naïve flock is usually introduced by asymptomatic carrier sheep which are also important in the maintenance of infection within a flock. For some types of salmonella, spread through food and water as well as other mammals and birds is important. Once diagnosed, control is restricted to antibiotic treatment and strict hygiene measures.
- Campylobacter - Caused by a bacteria and are usually sporadic in nature although losses of up to 20% is possible. Ewes which have been infected with the bacteria become immune for life therefore will not abort the following year.
- Listeria - rarely causes abortion storms. Cases are usually sporadic and can often be linked to feeding of poor quality silage or silage which is contaminated with soil or mould during pregnancy. Apart from abortion, the other signs of listeria infection include one-sided facial paralysis (drooling, ear drop, unable to chew), circling and incoordination.
- Tick Borne Fever - Control hinges on the control of ticks and moorland management to prevent tick infestations on ewes during pregnancy.