**Bovine Abortion**

Abortions in cattle are a source of worry to all farmers due to economic losses it entails and the possibility of there being an infection risk to the rest of the herd. Here we aim to provide some information on the main causes of abortion in cattle and how we go about investigating abortions.

Points to note: -‘Abortion’ is defined as the expulsion of a recognisable dead or non-viable foetus prior to the end of pregnancy. (Including premature and still born calves’. We are not talking here about early losses that either re-absorb or are just seen as a cow repeatedly coming to bulling.

* Most experts advise that it is only economically viable to investigate abortions once the incidence exceeds 3% of the herd or you have several abortions occurring in quick succession (an abortion storm).

**Causes Of Abortions**

These can be divided into infectious and non-infectious causes, with the infectious causes being easier to diagnose.

Non-Infectious Causes

**Nutritional:**  Iodine deficiency, selenium/vitamin E deficiency and Vitamin A deficiency have all been associated with abortions. Iodine can also lead to still born or weak calves.

**Toxic:** These are rare but plants such as hemlock, cypress and juniper can cause abortions.

**Genetic:** Any condition leading to congenital malformations can cause abortions.

Infectious Causes

**Brucella:** (*Brucella abortus)* Now largely eradicated in UK but cattle can be infected by eating the bacteria directly from infected afterbirths or from contaminated pasture/feed.

 -Leads to an infectious in the womb and placenta which leads to abortion.

 -Infected cows often struggle to pass their afterbirth.

 -In non-pregnant cows the bacteria infects the udder and surrounding lymph nodes, from where it can infect the placenta during the next pregnancy, and can lead to shedding in the milk. This makes it a risk to human health.

**Salmonella:** (*Salmonella Dublin*) Cows aborting due to salmonella often have a high temperature and have diarrhoea, however some may show no clinical signs. This is also zoonotic, so can pose a risk to human health.

**Leptospira:** (*Leptospira hardjo*) Cows may or may not show clinical signs. This is usually transmitted during mating, but can also be transmitted by contact with urine or abortion material. Sheep can be infected with no signs, so can silently spread disease to your herd. Again, this is a zoonosis.

**Listeria:** (*Listeria monocytogenese*) This bacteria is ever-present in the environment, and seen especially in poorer quality silage etc.

-The cows eat the organism which spreads to the placenta leading to an infection of the placenta causing an abortion.

-The cows usually are not clinically ill with listeria (blind/circling etc)

**Trupurella:** (*Trupurella pyogenes*) This is one of these bacteria which keeps changing names, so don’t worry too much about it. Just bear in mind that some abortions can be attributed to this.

**Campylobacter:** (*Campylobacter fetus fetus)* A bacteria that is always present in the cows intestines that can sometimes cause abortions.

**BVD:** (Bovine Diarrhoea Virus) This virus is widespread in the UK and causes many problems within the herds it infects. It often is linked to fertility problems but infection in early to mid pregnancy can cause abortions or the development of a persistently infected calf that will go on to infect the rest of the herd.

**IBR:** (Infectious Bovine Rhinotracheitis) This virus can cause abortion several months after the cow was actually infected, with abortions usually occurring in mid to late pregnancy.

 -Aborting cattle may be ill with a high temperature and respiratory signs. (Sometimes it is the high temperature itself which causes the abortion and not the infection)

 -It is difficult to diagnose IBR as the cause of an abortion as the placenta decomposes very quickly causing the death of the calf before the infection can actually reach the calf.

 -Blood samples from the cow at the time of abortion and a few weeks after it may be useful in diagnosis.

**Neospora:** (*Neospora caninum*) This is the most common infectious cause of abortion.

 -Eggs (oocysts) are shed in dog faeces which are then ingested off the pasture by cattle.

 -The oocysts then develop inside the placenta and amniotic fluid causing abortion or still birth. It can also cause reabsorption and mummification of foetuses, or calves can be born alive with neurological deficits or be clinically normal.

 -This protozoan parasite cannot spread from cow to cow, the only way it spreads is from cow to calf during pregnancy. Calves that are boen infected can go on to infect their own offspring during pregnancy. It is therefore advisable to remove infected animals from the herd.

 -Infestation of a pasture can cause abortion storms in naïve herds.

As this is the most common cause of abortion in cattle, there is a separate article available on the website which looks into this in more detail.

**Fungal Diseases:** Fungal invasion of the placenta and the calf can cause abortion, this is most often seen from December to March in the UK.

 -Mouldy food sources are a common cause of infection.

 -There are usually very characteristic white plaques visible on the aborted calf and placenta.

**Investigation of Abortion**

When to call: -If over 3% of the herd are affected

 -If several cows abort close together

 -If the aborting cow is ill

What we will do:- Take a thorough history of the cow and a bit about the herd (age, stage of pregnancy, date of first abortion in herd, number of abortions, illnesses, housing, diet, any bought in stock, vaccination/resent blood tests, previous problems)

 -Take samples to send to the lab Including: Blood from cow (this may be unhelpful if your cattle are vaccinated)

 Calf stomach contents

 Fluid from calf’s abdomen

 Calf spleen/thyroid

 Calf brainstem

What happens next: Once the results are through from the lab (this can take 7-10days or more in some cases) we will phone you to discuss what measures can be taken to control the cause of abortion.

 -In the mean time please continue to keep us informed of any further abortions that occur.