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Abortions in Cattle

Sporadic abortions are common in all dairy herds. It is thought to be of concern once the incidence rate exceeds 3-5%, especially if there is a temporal cluster (occurring over a short period of time).

Abortion definition: the foetus is expelled from Day 45 of gestation up until Day 260 of gestation.

The exact cause of abortion in dairy cattle can be difficult to determine due to the variety of non-infectious and infectious causes.

Non-infectious causes include genetic factors, toxic plants, hormonal dysfunction, inadequate nutrition, trauma, and administration of abortigenic agents (such as prostaglandin).

Infectious causes are outline in Table 1 below.

Table 1. Common infectious cause of abortion in Cattle

Bacterial (Common)	Mycoplasma and chlamydia spp.	Viral	Protozoal	Mycotic
Brucellosis (<i>Brucella abortus</i>)	<i>Ureaplasma diversium</i>	Bovine herpesvirus Type 1 (IBR)	<i>Neospora caninum</i>	<i>Mortierella wolfii</i>
Leptospirosis	<i>Mycoplasma bovigenitalium</i>	Bovine Viral Diarrhoea Virus	<i>Tritrichomonas foetus</i>	<i>Aspergillus fumigatus</i>
Salmonellosis (<i>S. Dublin</i> , <i>S. Brandgenberg</i> and others)	<i>Mycoplasma bovis</i>	Bluetongue virus		<i>Absidia</i> and <i>Mucor spp</i>
<i>Listeria monocytogens</i>	Other Mycoplasma	Akabane virus		
<i>Bacillus Licheniformis</i>	<i>Chlamydophila abortus</i>	Parainfluenza virus (PI3)		
Less common bacterial spp*	<i>Acholeplasma laidlawii</i>	Schellenberg virus		

**Campylobacter fetus* subspecies *fetus* and *veneralis*, *Campylobacter jejuni*, *Histophilus somni*, *Bacillus cereus*, *Streptococcus spp*, *Truperalla pyogens*, *Fusobacterium necrophorum*, *Escherichia coli* and *Acinetobacter spp*

Despite intensive diagnostic investigations the cause of an abortion is **ONLY** found in **40-50%** of cases. To maximize the chances of achieving a diagnosis the following elements are required:

- A detail history
 - Number of animals affected, over what time period, recent treatments, new animals introduced to the herd, dietary changes, transportation, vaccination status, disease events in the herd, age group of affected animals, lactation stage of affected animals, breeding method used, new dogs on the property etc.
- Examination of the environment
 - Pasture
 - Supplement feed sources (grain silage, hay etc.)
 - Toxic weeds
- Examination of affected cows
 - Thorough clinical examination
 - Blood samples (usually repeated in three weeks)
 - Collection of vaginal secretions
 - Collection of foetal membranes
 - Collection of faeces and milk
- Ideally, an aborted foetus to collect fresh fluid and tissues for culture and formalin fixed samples for histological examination
- Collection of Bulk Milk Samples to assess the herd's BVDV exposure status.

Reference material:

- Parkinson T J, Vermunt J J & Malmo J (2019) Diseases of Cattle in Australasia: A Comprehensive Textbook. New Zealand Veterinary Association Foundation for Continuing Education, USA. pp 662-685