

## Bovine abortion – field sampling

Finding a definitive cause of abortion during bovine abortion investigations of foetuses and placentas is often unsuccessful. For this reason, this laboratory recommends a wide range of samples in order to maximise the chances for a successful diagnosis.

### Purpose

This LabFact provides a simple guide for an extensive range of foetal and cow samples to maximize the chances of a diagnosis.

### Personal Protective Equipment

Suitable protective facemask, eyewear, overalls and gloves should be considered whenever handling aborted material.

### Materials required

The list of materials includes:

- sterile containers
- 10% neutral buffered formalin
- red top serum tubes, needles, syringes
- esky, ice-bricks and absorbent packing materials.

### Selecting animals for testing

Calves and placentas with minimal post mortem autolytic changes should be selected for sampling.

Any foetuses and placentas, no matter how autolysed or scavenged, could be considered for necropsy and sampling but the likelihood of reaching a diagnosis diminishes significantly.

If the body is scavenged, and the abdomen eviscerated, lung and brain can be sampled for histology and microbiology.

A plain tube (clot) blood sample should be taken from the dams that have aborted.

Consider collecting serum from 3-5 animals, that have aborted (which can include those animals listed above), and serum from 3-5 animals, with calves at foot. See note below.

### Number of animals to be tested

The numbers of animals sampled is up to the discretion of the submitting veterinarian. The Animal Health Laboratory has a “Bovine abortion package” which covers the cost of testing for 3 foetuses and placentas (histology, microbiology, nitrate/nitrite testing, and serology for *Leptospira serovars pomona and hardjo*, *Neospora caninum*, *Brucella abortus*, *BVDV*, *Coxiella burnetti*) and serology for 3 affected dams. Please refer to the Animal Health Laboratory Pricelist.

<https://nre.tas.gov.au/Documents/AHL-Price-List.pdf>

In addition, 3-5 **affected** and 3-5 **unaffected** animals can be tested by serology. **Note:** This serology testing is **not covered** by the bovine abortion package.

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## Sampling procedure

### Foetal samples

**Microbiological** samples include fresh:

- a) abomasal fluid
- b) lung
- c) brain
- d) placenta (both cotyledon and intercotyledonary areas)
- e) any other lesions

**Additional fresh samples** include fresh kidney (Leptospira PCR) and fresh liver (toxicology). These two tests are **outside** the “Bovine abortion package”.

**Serology** samples include

- a) heart blood (if available). Please note, due to degrading post mortem changes on heart blood or absence of heart blood in the foetus, *C. burnetti* and *B. abortus* serology may not be tested.
- b) pleural or peritoneal fluid
- c) fresh ear notch ( for BVDV antigen capture ELISA).

**Clinical pathology** samples include aqueous humour for nitrate / nitrite levels.

**Histopathological** samples, in 10% neutral buffered formalin include: whole brain, lung, heart, liver, kidney, spleen, thymus, abomasum, duodenum/jejunum, eyelid and placenta (if available).

### Samples from dams which aborted

**Serology** samples include

- a) serum
- b) whole blood

## Transporting samples

All fresh samples should be packed on an ice brick and sealed formalin pots wrapped in absorbent material and sealed in plastic bags.

All samples are packed within a hard esky or foam esky within a cardboard box and the advice note attached in an envelope to the outside of the box.

## Submitting samples

Submit samples to:

Animal Health Laboratory  
NRE Tas  
165 Westbury Road  
Prospect TAS 7250  
P: 03 6777 2111

E: [specimenreception@nre.tas.gov.au](mailto:specimenreception@nre.tas.gov.au)