Department of
Primary Industries and
Regional Development

GOVERNMENT OF
WESTERN AUSTRALIA

Biosecurity
It's everyone's business

Post-mortem kits for northern producers – instructions

23 April 2018

Purpose of the kits

When a livestock disease occurs on your property and a vet cannot reach you in time to take samples while the bodies are still fresh, you can use this kit to take samples from newly dead or euthanased animals.

Early samples may assist in rapidly determining the cause of death, identifying the right treatment, and preventing further losses.

What you need to do before you begin a post-mortem:

1. **Complete the 'description of the health problem' form**
Completing the attached form will help to define the cause of the problem and resolve it.

2. **Call a vet BEFORE you collect samples**
Please contact your private vet, or if unavailable the DPIRD vet, before collecting samples. **(If it is an exotic disease emergency, call the emergency animal disease hotline on 1800 675 888.)**

3. **Protect yourself and your family, and prevent disease spread**
Some cattle diseases may pose a risk to human health. To reduce the risk, when conducting a post-mortem use good hygiene practices and use the overalls, face masks, eye protection and gloves included in this kit. On completion of the post-mortem, wash hands thoroughly and clean all equipment in soapy water, detergent or disinfectant after use.

4. **If the animal needs to be put down, use humane slaughtering methods**
Animals should be euthanased humanely by experienced operators. See the enclosed factsheet on humane destruction.

5. **Prepare the animal for post-mortem**
Post-mortem examinations are simplest to perform with the animal lying on its left side. A step-by-step guide is included in this kit. Animals must have died recently to have the best chance of obtaining a diagnosis.

6. **Take lots of photos** (put your phone or camera in a plastic bag first).

Contents of this post-mortem kit

- overalls, gloves, face mask and eye protection
- post-mortem knives, loppers and dissection board
- needles, syringes and blood collection tubes
- pots for sample collection and tissue fixative (Finefix)
- foam esky and ice brick for sample transport.

Note: keep kit in a cool place, out of reach of children.

History of the health problem		
Number in mob:	**Number affected:**	**Number dead:**
What's wrong Describe disease signs	(what is the consistent set of signs)	
Animals or mobs affected and unaffected	[age, sex breed, pregnancy, vaccination, condition score 1 (very thin) to 5 (fat), origin, treatments]	
Where is it occurring **Where is it not occurring?**	(Draw a map & mark where the problem is occurring & features such as plants, soils, wild animals, feed, water points, yards, visitors, products, old machinery, sheds, chemicals, other stock)	
When (graph when cases started, subsequent cases, alongside events such as weather, management, treatments)	**- 4 wks - 3 wks - 2 wks -1 wk now**	

Class of animal	Sex	
	Age	
	Class (calf, weaner, bull etc.)	
	Dead: Yes/No	
Tick animal is showing if any of these **Movement signs:**	**Tick** if animal is showing any of these **Posture signs**	View the animal **FROM BEHIND** and **tick** if showing:
Abnormal	Abnormal	Something wrong
Unsteady	Down	Abdomen abnormal shape
Lame	Tucked up	Scouring
Circling	Paddling	Scouring with blood
Straggler	Head down	Vaginal discharge
Aggressive	Head twisted	Vaginal surface not normal
		Udder abnormal shape
		Skin issues or lumps

View the animal FROM THE FRONT and tick if showing:	View the animal **FROM THE SIDE** and **tick** if showing**:**	**Other signs:**
Something wrong	Something wrong: (right) (left)	Abscesses
Shape abnormal	Coat abnormal	Maggots (if present, use screw-worm fly kit to collect)
Hair abnormal	Abnormal lumps	Broken bones, cuts
Eyes abnormal	Swellings	Hair loss
Ears abnormal	Fluid build-up (right) (left)	**If dead:**
Mouth abnormal	Distended abdomen (right) (left)	Signs of thrashing prior to death
Nostrils abnormal	Leg joints abnormal (right) (left)	Fluids coming from the eyes, nostrils, mouth, anus, vagina, pizzle
Lumps	Toes abnormal	
Discharges or salivation	Wounds	
Breathing abnormal	Ticks	

Step-by-step guide to cattle post-mortem

1. Fill out the ‘history of the health’ problem form before you begin.
2. Place the animal on its left side if possible as this makes it easiest to perform the post-mortem.
3. Examine area around carcass. Note on the history form any signs or thrashing and other features such as if found near watering hole or dam.
4. Examine all external surfaces and mouth.
5. Note the body condition of the animal, along with any injuries, cuts, broken bones, scours or other obvious changes to the animal on the history form.
6. Collect any parasites (ticks, maggots) found.
7. Check feet, joints and udder for anything unusual.
8. Look for blood or fluid from nose, mouth, rectum, vulva or pizzle.
9. **If there are blisters or erosions in the mouth and feet or lots of blood from any orifice, then stop and contact a vet or 1800 675 888 immediately.**

To begin the post-mortem:

Collect eye fluid:
Insert needle at the junction of the coloured and white sections of the eye. Direct the needle towards the centre of the back of the eye and draw back gently on syringe (Figure 1). 1mL is enough fluid for laboratory testing.

Figure 1

Open up the animal:
Use the knife in the kit to cut between the back legs, continuing in a line between the front legs and finish under the jaw (Figure 2). If the underside of the skin is mostly green, the animal is too decomposed for laboratory testing.

Figure 2

Free skin from underlying muscle with knife. Reflect or remove front leg by cutting in between the muscles of the chest and shoulder blade. Reflect the right hind leg by cutting through the muscle towards the hip joint (Figure 3).

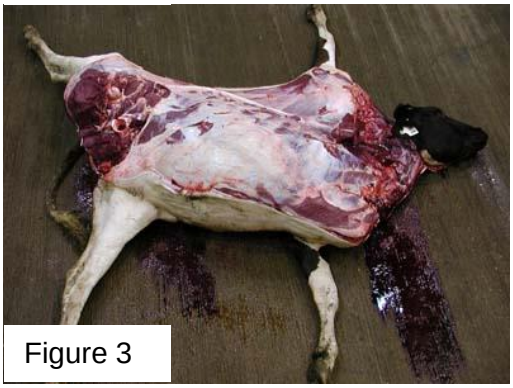


Figure 3

Collect a muscle sample (about 1cm x 2.5cm) from two of the large muscle groups in the hind leg and place in sample jar. Label jar.

Carefully cut a rectangle through the muscles covering the belly to expose the contents (Figure 4). Check the space for any fluid in the belly and note the amount and colour if present.

Examine all internal organs, photograph and note anything unusual.

Sample organs as noted on ‘samples required’ page.

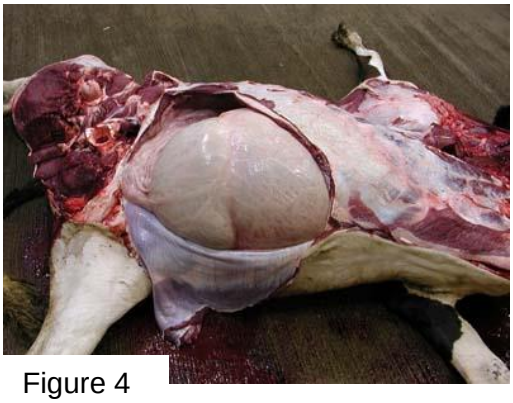
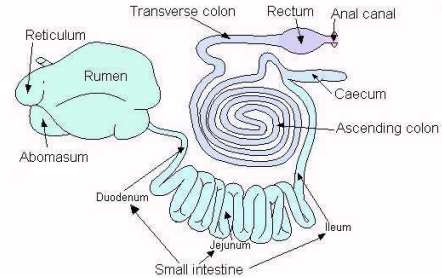


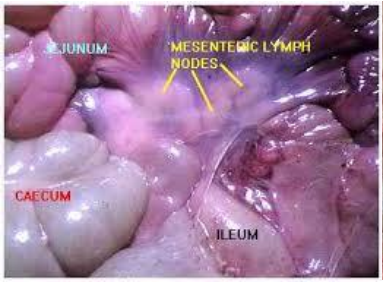
Figure 4

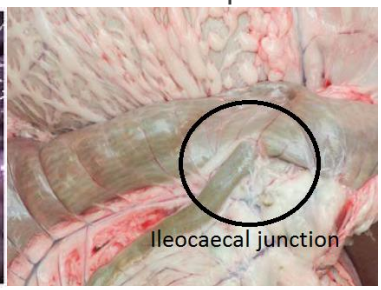
Kidney

Liver

Spleen – under rumen/paunch

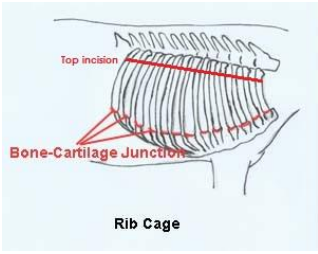






Gastrointestinal tract Lymph nodes Ileocaecal junction

- The diaphragm separates the chest from the belly. Puncture the diaphragm and cut along the entire side.
- Using the loppers provided, cut the ribs just below the spine and at the bone-cartilage junction. Or use knife to separate each rib and break back. Remove the ribs to expose the lungs and heart.



- Examine, then sample the lungs.

- Cut through the thin sac surrounding the heart and note any fluid around the heart.
- Examine, then sample the heart.

- Package all samples as described in the packaging guidelines.

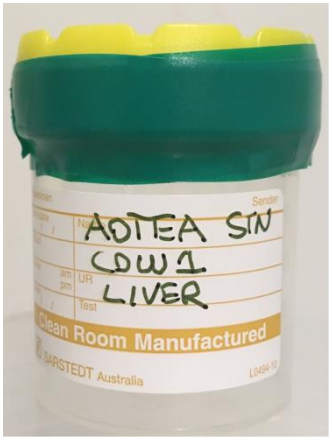
Samples required

The samples below should be collected and stored until you are able to send them to a vet for forwarding to the laboratory. The sooner the samples can arrive at the laboratory, the better the chance of a diagnosis. Fresh samples can be kept refrigerated for 24 hours prior to transport but otherwise should be frozen if storage will be longer than this.

Sample type	Sample to take	Instructions
Blood if animal bled at slaughter	green, red and purple blood tubes	Put cap back on and gently mix by inverting a few times, stand upright, refrigerate. NEVER freeze
Fresh samples (individual containers)	Eye fluid	Place in red top tube. Refrigerate.
	Liver Kidney Spleen Lung Rumen contents Faeces	Place in separate yellow-top jars. Sample should fill most of jar. Label side of jar. Refrigerate. Only freeze if advised to do so.
	Lymph node Small intestinal contents Heart blood clot	
Fixed samples (place in large plastic jar, add FineFix). Then seal with tape and double bag. Do not refrigerate. Store at room temperature.	Muscle Liver Kidney Spleen Lung	Samples should be 1cm thick. Place 1L clear jar, tip in the FineFix.
	Lymph node	
	Heart	T-section as per guide, add to FineFix
	Abomasum Rumen	Take 3x3cm squares add to FineFix.
	Ileocaecal junction	T-section including 10mm either side of junction. Add to FineFix.

Tick the samples above that you have collected and send this page with the samples.

Labelling, forms, packaging and transport of samples



Sample labelling

Label all samples like the picture at right. Make a list of all samples on the submission form. It's a good idea to label the jars before you start the post-mortem.

Sample packaging

Tape the lids onto any containers. Double-bag the samples. Keep fresh samples separate from fixed samples. Pack fresh samples with an icepack (don't freeze them).

Forms

Complete the tick list of samples collected and the history form and attach it to the outside of the package in a plastic bag.

Now it is ready for transport to your vet or DPIRD office.

More information:

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Important disclaimer