FACTSHEET

August 2018

BIOSECURITY SA
PIRSA

JAUNDICE/CIRRHOSIS

Cirrhosis of the liver

Jaundice is the yellowing of body tissues – gums, conjunctiva, and whites of the eyes, organs, fat and skin. It is caused by liver malfunction or from the excessive breakdown of red blood cells. Jaundice is more easily seen in carcases than it is in living animals.

Cirrhosis is the term used when liver cells are severely damaged and replaced by scar tissue.

ECONOMIC CONSEQUENCES

On Farm	At the Abattoir
• **Reduced growth rate/weight loss** – can be significant. • **Deaths**; and • **Cost of management/treatment** – supplementary feeding, holding stock until they have recovered (if sheep are consigned with jaundice losses from condemnations can be significant).	• **Carcass Condemnations** - carcasses showing severe jaundice are condemned; and • **Organ Condemnations** – cirrhotic livers are condemned

WHAT CAUSES JAUNDICE/CIRRHOSIS?

Various toxins cause liver damage resulting in **cirrhosis** and/or **jaundice**. The most common of these in SA are associated with toxic plants/weeds including Potato weed (heliotropes), Salvation Jane, Lesser loosestrife, Caltrop and Panic grasses.

Toxins (mycotoxins) are also produced by fungus and occur most commonly with lupins (Lupinosis) and spoiled or mouldy feed (Aflatoxicosis).

Most commonly **jaundice** is seen with *Mycoplasma ovis (*formerly *Eperythrozoon ovis)* infection, a bacteria affecting red blood cells, and copper toxicity.

Not all sheep infected with *Mycoplasma ovis* will show signs of disease, in some sheep the immune system will clear the infection while it remains in others at such a low level disease it does not cause disease. These animals can act as carriers and can relapse under stress showing signs of disease and are also responsible for spreading disease to susceptible sheep.

Copper toxicity is often secondary to liver damage as this leads to an abnormally high uptake of copper by the liver. Copper is released into the blood stream to cause disease, often when sheep are stressed e.g. due to poor nutrition, yarding, transport, bad weather etc.

WHAT MIGHT BE SEEN ON FARM?

1. **Heliotrope toxicity:**
   - Deaths - seen weeks, months or years after ingestion due to the effects of the toxin or due to secondary associated diseases

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(copper/ammonia toxicity or pregnancy toxaemia). Deaths often occur while grazing lush medic or clover pastures or in association with a stressful event. Sheep will be seen separated from the mob, depressed and with jaundice for 1-2 days before death.
    - Photosensitisation – red, swollen, crusty lesions on the non-wool areas, especially the face and ears (most common when grazing green pasture).
2. **Lupinosis**
    - Reduced appetite, depression, lethargy, jaundice and death within 3 days.
    - Condition loss, weakness, disorientation, stiff gait/hunched back in more chronic cases.
3. **Copper toxicity -** pale gums, jaundice, lethargy. Most sheep die within 3-5 days of initial signs.
4. **Mycoplasma ovis -** illthrift, pale gums, jaundice, death (especially following a stressful event).

TREATMENT

- Consult your vet to assist in diagnosis and management to prevent further/future losses.
- Remove animals from known sources of toxicity immediately.
- Ensure animals showing signs of photosensitisation have access to shade.
- Feed stock affected by lupinosis oats (after gradual introduction) and cereal hay and do not allow access to green pick for 6 weeks (green feed can cause photosensitisation).
- Minimise stress and avoid yarding during recovery.

PREVENTION

1. **Ensure good marking/mulesing hygiene (to reduce the risk of *Mycoplasma ovis*)**
    - Use sharp and clean marking equipment – clean and disinfect regularly to avoid the transfer of infected red blood cells between animals.
    - Use a chlorhexidine based disinfectant e.g. Hibitane and change regularly.

2. **Weed management**
    - Prevent the introduction of weeds - quarantine newly purchased sheep for 7 days; weeds will be easier to control in one paddock if they are inadvertently brought in.
    - Sow certified seed and feed hay/grain from known uninfested sources.
    - Maintain competitive pastures.
    - Control weeds with spray topping, crash grazing, spray-grazing and slashing as indicated and ensure weed control includes laneways/yards and shelter belts; and
    - Provide adequate hay if having to let hungry stock into weedy paddocks.

3. **Lupinosis**
    - Don't allow access to stubbles with less than 40 lupin seeds per m^2 (as this encourages ingestion of lupin stems where the fungus is found).
    - Keep stocking rates low on lupin stubble (<15 per ha).
    - Pre-feed lupins so sheep become accustomed to searching for grain rather than eating stem.
    - Provide good quality hay to hungry sheep on lupin stubble.
    - Avoid grazing heavily pregnant ewes or weaners on lupin stubble.
    - Graze lupin stubbles before cereal stubbles; and
    - Remove sheep from stubble after 10mm or more of summer rain.

FOR FURTHER INFORMATION: contact the Enhanced Abattoir Surveillance Program manager Dr Allison Crawley (Phone: 08 8429 0866 or Email: Allison.Crawley@sa.gov.au), your local veterinarian, livestock consultant or PIRSA Animal Health Officer.

FOR ANY SIGNS OF UNUSUAL OR SERIOUS DISEASE, PLEASE CALL THE ANIMAL DISEASE HOTLINE: 1800 675 888