Western NSW Cattle Deaths- 3D syndrome

General information

January 2015

A syndrome with the key signs of drooling and diarrhoea leading to death (3D Syndrome) has been reported by graziers in the Mossgiel/Hay/Ivanhoe area of NSW. Cases were first reported in 2006 and again in 2009 and 2013. Mortalities usually run for 1 to 2 weeks; begin in November or December, and then cease often following good rain. In a few herds, mortalities have continued into January to March.

Combined losses across all properties where 3D syndrome has been investigated is in the hundreds though not all deaths were due to 3D syndrome. Samples have been tested for exotic viruses and all tests have been negative. At this stage, the cause of 3D syndrome has not been identified. Work is continuing to determine the cause. Further investigations of cattle with signs consistent with 3D syndrome are important in order to assist in determining the cause. The pattern of disease seen on affected properties and the extensive range of testing for infectious agents indicates that it is not caused simply by the presence of a transmissible agent. As there is no evidence that the disease is being spread from property to property, there is no reason to place restrictions on the movement of cattle on account of 3D syndrome.

This factsheet provides general information to farmers. A separate factsheet for vets shows autopsy findings that would assist them in investigating cases to determine if 3D syndrome is the likely cause of death.

On affected properties, owners have reported:

- Mild illness initially - “off colour”
- Prefer to lie down (sternal recumbency)
- Drooling
- Diarrhoea: minor with variable dung on tail; sometimes with mucus or blood
- Minor clear tear flow from both eyes in some
- Noisy breathing in a small number
- Move to lateral recumbency, and into a partial or complete coma. Convulsion reported in a few
- Generally no or little struggling prior to death
- Deaths - generally 1-5 days after first noting sick; some longer
- Nearly all affected have died
- Stock in good to very good condition; small weight loss in a few
- Cattle feel hot and if temperature measured, increased (40-42°C)
- Affected animals are often, but not always, reported close to water or in shade. Some are found standing in dams without increased respiratory rate
- Cattle affected – 3D syndrome typically occurs in cattle 5 months or older

On properties where 3D syndrome has occurred, cases of diarrhoea in calves up to 3 months of age has also been seen. Calf diarrhoea is caused by a variety of agents and is regarded as a separate disease.
Cattle Deaths with Drooling and Diarrhoea (3D) Syndrome General information

Figure 1 - Affected 8 month old calf
- Scouring smeared about perineum, sides of hindquarters, and on tail;
- Good condition; died several hours later. High fever (42°C). No tear flow

Figure 2 - Affected aged cow
- Drool from mouth
• Clear tear flow from eyes (dust adhering to tears)
• Minor clear discharge from nose (dust adhering to discharge)
• Ears down slightly; unhappy
• Minor hindlimb weakness
• Small dag

Photo G Curran

Figure 3 - Yearling steer dead for 3 hours.
• No major changes noticeable; no scuffing of ground.
• The steer was in good condition.
• Rectal temperature 42°C

Farmers noticing cattle that could have some or all of the changes noted are encouraged to contact their Local Land Services District Veterinarian or their private veterinarian. If located in the Western Division, they should contact their Local Land Services Ranger or NSW DPI Veterinary Officer or their private veterinarian.

It is important that cattle that could have these signs are investigated. This is because:
• Signs exhibited by cattle include signs of serious exotic diseases. It is important that early detection of exotic diseases occur to limit the impact.
• Examining affected cattle on different properties and studying conditions on the properties will assist in determining the cause of this syndrome.

Additional information (including pictures of autopsies on affected animals) is available in the *Cattle Deaths with Drooling and Diarrhoea (3D) Syndrome - Information for Vets* factsheet.