HEALTH 4 WEALTH

Australian Government
Department of Agriculture, Water and the Environment

animalhealth AUSTRALIA

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AUSTRALIAN MEAT PROCESSOR CORPORATION

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PNEUMONIA

KEY MESSAGES

1. Pneumonia is a complex disease syndrome involving infectious pathogens, commonly bacterial and viral, changing environmental conditions, co-mingling and poor immune system as a result of stress.
2. It is the largest cause of morbidity and mortality in beef feedlots.

What is pneumonia?

Pneumonia is an infection and inflammation of the lungs caused by both viral and bacterial pathogens that interact with each other to create disease. Pneumonia in cattle is a complicated disease with multiple factors that can impact its onset and/or course. Pneumonia often occurs following the interaction of stress (i.e. handling, transport) and an infectious agent (bacteria, virus). Pathogens that cause pneumonia in cattle are not transmissible to people and are in fact normal flora of the oropharynx of cattle.

Inflammation and infection can spread to the chest cavity lining; this is referred to as pleurisy. However, the most common presentation is bronchopneumonia.

How is it caused?

The presence of pathogens alone is often not enough to cause the disease. Stress from the animal's environment often initiates pneumonia, including transport, dietary change, mixing of new cattle into the herd, changes in weather, weaning and respiratory irritants such as dust, ammonia or reduced ventilation. These animals therefore have a suppressed immune system, allowing bacteria or viruses to overcome it.

Common pathogens are bacterial, such as Mycoplasma, Mannheimia and Pasteurella and viral, such as bovine herpesvirus 1 (BHV-1 or IBR), pestivirus (BVDV) and parainfluenza virus type-3 (PI-3).

Disease on farm

Types of pneumonia on farm:

- 'Summer' pneumonia: slow onset pneumonia and often has no outward signs other than a decline in weight, growth rate and a potential mild cough. It is most commonly seen during warmer months.
- Rapid onset pneumonia: will show signs of fever (>39.5C), depression, reduced feed intake, shallow and rapid breathing, coughing, extended head and neck and mucus from the nose. Animals that do survive often continue to grow poorly as a result of bronchopneumonia or subsequent pleurisy.

The economic consequences of pneumonia are due to weight loss (often rapid), reduced growth in weaners, death or permanent lung damage and cost of treatment. It lowers cattle daily weight gain by an average of 100 grams a day, creating potential high production losses if not diagnosed and treated early.

Picture at the abattoir

Chest cavity and valuable rib meats may be condemned with severe pneumonia or pleurisy, therefore resulting in a loss of carcass weight. In some cases, whole carcass condemnation may occur if there is evidence of the disease still being in the acute stage as evidenced by septicaemia, haemorrhaging of blood capillaries

(petechial haemorrhage) and polyserositis (inflammation of the lining of the lung cavity and abdomen). There may also be contamination of other carcass parts by spillage from abscesses or pleurisy, leading to increased trimming.

Treatment

Animals suspected on-farm with pneumonia should be isolated in a well-ventilated area that is protected from excessive hot or cold temperatures, with easy access to water and feed. Consultation with a veterinarian is recommended. They will recommend appropriate treatment for the animal which may include antibiotics and anti-inflammatory drugs.

Prevention

Strategies for prevention should be aimed at minimising the negative effects of stressors that may increase susceptibility to infection, as well as reducing pathogen exposure and transmission.

No single management practice can prevent pneumonia, due to its complex factors impacting onset. Many points that should be taken into consideration to prevent pneumonia include:

- Avoid moving stock in extreme conditions: heat, cold, very dusty
- Avoid overcrowding in all situations: grazing, stockyards, transportation
- Avoid immediate and sudden diet changes
- Minimise the mixing of herds
- Provide appropriate shelter from extreme conditions
- Ensure continual access to clean water
- Separating affected animals from non-infected.

There are vaccines available for the pathogens (both bacterial and viral) that are thought to contribute to bovine respiratory disease. These are more likely to be used in feedlot situations than on farm.

Pneumonia

Source: MINTRAC