

NEW  
SERIES

# Post-Mortem Pneumonia (AIP)

BY JOHN MADAY AND FEEDLOT HEALTH MANAGEMENT SERVICES

This month, we are excited to introduce our new Post-Mortem Series, in partnership with Feedlot Health Management Services, Okotoks, Alberta.

Feedlot Health's large team of professional consultants serve feedlots and calf growers in Canada, the U.S., Mexico, Brazil, Kazakhstan and elsewhere, representing about 4 million head per year. For more information about Feedlot Health, see our lead feature beginning on page 6 of this issue.

Working with crews at client operations, Feedlot Health conducts

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post-mortem exams on all feedlot and calf-grower mortalities, using a standard protocol for recording the animal's history, digital images and post-mortem

findings. The group compiles images and post-mortem findings in a central database, for review by the professional team, as an educational tool and to track disease trends within an operation or across their client base.

Each issue of *Bovine Veterinarian* will feature a representative photo (or several images) illustrating a common, or uncommon, feedlot disease or condition.

## From the experts at Feedlot Health Management Services

These images show a calf-fed heifer that had been on feed for 130 days, with no previous treatment history, when first treated for signs of respiratory distress on May 24. The feedlot pulled the calf again on May 27 for retreatment and again on May 29, but the heifer died May 31.

The team diagnosed this case as a representative example of atypical interstitial pneumonia (AIP), a costly and frustrating syndrome that affects feedlot cattle in North America.

## PATHOGENESIS:

While the exact pathogenesis of feedlot AIP has not been explained, epidemiology and sampling projects suggest a metabolic (or digestive disease) component. Some aspects of the disease are similar to the well-described disease in mature cows, acute bovine pulmonary edema and emphysema (ABPEE, or "fog fever"). However, ABPEE does not explain the pathogenesis of feedlot AIP.

## EPIDEMIOLOGY:

- More commonly observed in cattle later in the feeding period than early in the feeding period.
- Seems to happen more frequently in the summer months (June through August) than other times of the year, but this is confounded by days on

The open-chest view shows diffuse distribution of lung lesions and the characteristic patchy appearance.

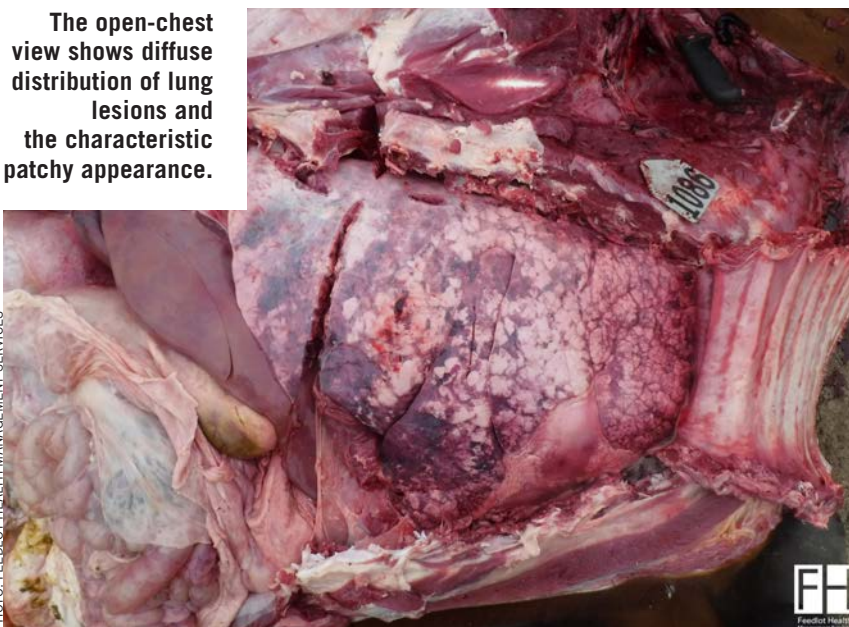


PHOTO: FEEDLOT HEALTH MANAGEMENT SERVICES



This cross-section image shows characteristic dark red to purple, rubbery lobules.

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feed and lower occurrence of other causes of death.

- More commonly seen in heifers than in steers.

#### ANTE-MORTEM CLINICAL SIGNS:

- Open-mouth breathing (dyspnea), frothing of saliva, the head and neck extended and an open shouldered stance.
- Breathing is shallow and rapid.
- Typically, absence of cough and fever (<104°F).
- Ante-mortem diagnosis is acute interstitial pneumonia or acute respiratory distress, the exact cause of which might be challenging to determine in the live animal as it is difficult to differentiate this disease from other lower respiratory tract issues that can cause acute respiratory distress, even when using clinical history and signalment (days on feed, previous treatment history, etc.).

- Case fatality rates can be upward of 50% in animals with AIP.

#### MANAGEMENT:

- General management/treatment typically centers around treatment with potent anti-inflammatory drugs and/or salvage slaughter.

#### POST-MORTEM LESIONS:

- A post-mortem examination is paramount in order to correctly identify the cause of death and confirm AIP.
- Upon initial observation of the open thorax (see Fig. 1), typical findings most often include: a characteristic patchy appearance with intermixed hyperinflated and reddened lobules, lungs that fail to collapse, smooth parietal pleura without the presence of fibrin, and diffuse distribution of lesions throughout the lung, although

lesions might tend toward a more caudal-dorsal distribution.

- Upon observation of the parenchyma on cut-sections of lung (see Fig. 2), typical findings often include: a characteristic patchy appearance with intermixed hyperinflated and reddened lobules, rubbery lobules that fail to collapse and foam extruded from the airways

Additional lesions that may be present include: pulmonary edema observed as lobules separated by pale yellow interlobular edema, subpleural and interlobular and/or bullous emphysema, and occasionally mediastinal or subcutaneous emphysema (shoulder, neck, back). **BV**

For more information about Feedlot Health Management Services, visit their website at [feedlothealth.com](http://feedlothealth.com)