

Epidemiological factors associated with gross diagnosis of lung pathologies in feedlot mortalities

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Introduction

Bronchopneumonia (BP) and acute interstitial pneumonia (AIP) are commonly identified lung pathologies in feedlot cattle at treatment or death. Bronchopneumonia with an interstitial pneumonia (BIP) was recently described as an emerging lung pathology. Due to recent introduction of BIP diagnosis, little is known about epidemiological factors associated with this pathology and if it differs from AIP and BP. This study aimed to identify epidemiological factors associated with BIP, AIP and BP at necropsy.

Materials and methods

Systemic necropsies ($n = 402$) were performed at 6 feedyards in the U.S. High Plains region. Necropsy technicians and a veterinarian determined gross lung diagnoses. Cohort and individual data, including sex, days on feed (DOF), arrival weight, number of pulls, number of antibiotic treatments, number of anti-inflammatory treatments, and feedlot diagnoses at treatment time were added to the dataset. Generalized linear mixed-effects models were used to evaluate potential risk factors' association with lung pathologies.

Results

Heifers had a higher probability of AIP gross diagnosis than steers ($P < 0.05$). Cattle treated one time with antibiotics had a higher probability of AIP gross diagnosis compared to cattle treated ≥ 3 times ($P < 0.05$). Cattle with only 1 antibiotic treatment had a higher probability of BIP gross diagnosis than cattle treated ≥ 2 times ($P < 0.05$). Cattle that died between 150-200 DOF had a higher probability of BIP gross diagnosis than cattle that died between 0-100 DOF ($P < 0.05$).

Significance

Risk factors associated with BP, AIP and BIP differed, and these differences should be investigated further to enhance lung disease diagnosis and treatment of feedlot cattle.

