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## Bovine

**Actinobacillosis** was diagnosed in an 8-year-old Angus cow submitted for necropsy due to severe weight loss associated with a swollen muzzle, which had crusting and raised lesions, giving it a hippopotamus-like appearance. Grossly, the subcutis of the muzzle was markedly distended by fibrosis and edema, and there were multiple, tan, friable masses throughout the skin. Microscopically, sulfur granules with Splendore-Hoeppli material and bacteria were present within the areas of necrosis. *Actinobacillus* sp. was isolated from the skin. *Actinobacillus lignieresii* is the causative agent of wooden tongue in cattle, but it has also been associated with regional lymphadenitis, as well as this hippo-looking face presentation. The bacteria typically gains entry through a wound in the oral cavity, but a cutaneous form of disease has also been described.

**Mastitis** led to the death of a 2-year-old Jersey cow 12 days after calving with dystocia, and presenting with ketosis and mastitis. She subsequently lost weight and developed respiratory signs with no response to treatment before death. At necropsy, there was severe mastitis with necrotic sequestra in all four quarters, and pleuritis with multiple embolic firm nodules in all lung lobes. *Trueperella pyogenes* and *Escherichia coli* were isolated from three quarters, and *Listeria monocytogenes* was isolated from the fourth quarter of the mammary gland. Fungal hyphae were present in the pulmonary and pleural lesions but not bacteria were isolated from the latter, which may have been due to antibiotic therapy.

## Pig

**Polyserositis and pneumonia** due to *Glaeserella (Haemophilus) parasuis*, *Streptococcus suis*, *Pasteurella multocida* and porcine reproductive and respiratory syndrome virus (PRRSV) resulted in the death of two, 8-week-old pigs. At necropsy, the heart, pleura and peritoneal cavities were covered with fibrin, and there was pneumonia. The causative bacteria were isolated from the lung and trachea, and the lung was positive by PCR for PRRSV.

## Small Ruminant

**Congenital goiter** was detected in triplets from a farm experiencing late-term abortions and dystocia. A 4-year-old Boer doe carrying triplets died suddenly from pregnancy toxemia two weeks before kidding. Previously aborted kids were described as having “swollen necks” which prevented normal parturition. Enlarged thyroid glands (goiter) were evident in all three fetuses at necropsy. Most common causes of goiter are iodine deficiency, ingestion of goitrogenic plants, iodine toxicity, and hereditary familial causes. In this case, the owner reported having run out of the iodine containing salt blocks.

## Wildlife/Other Mammalian

Adult **heartworms** were found within the right ventricle of the heart in a sick juvenile, female bobcat. Multiple vessels, including those in the lungs and the mesentery also had microfilaria. Cats and dogs contract heartworm after being bitten by an infected mosquito. Unlike the infection in dogs, heartworms have a shorter lifespan in cats, and fewer of the worms mature into adults.





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Several squirrels were found dead in a backyard. Postmortem examination of one of them revealed a pasty, greenish material in the stomach. This material was identified as **bromadiolone, a potent anticoagulant rodenticide** which is sometimes used for pest control. This substance has recently been banned for use in California.

**Pseudorabies** was the cause of death in two adult dogs that participated in a feral pig hunt competition in Texas. During the competition, the dogs were fed raw liver from the pigs that they had hunted. After arriving back home in California, the dogs began showing neurologic signs, including extreme pruritus, blepharo-spasm, facial tremors, teeth chattering and pyrexia. No significant gross findings were observed, but histologically, non-suppurative encephalitis and ganglioneuritis was seen. The brain, tonsils, and myenteric ganglia were positive for pseudorabies by immunohistochemistry.

Pseudorabies is still present within the feral pig population throughout the United States, and it can be readily transmitted to domestic animals through nose-to-nose contact, and through ingestion of raw organs or meat from infected pigs. Pseudorabies can infect several animal species, both domestic and wild.

**Hepatic lobe torsion** was the cause of death of a 2-year-old, female-spayed pet rabbit that was submitted with a suspicion of rabbit hemorrhagic disease. The animal had an acute onset of disease with pale mucous membranes, mild hypothermia, low respiratory rate, and blood around the rectum. On necropsy, the caudate lobe of the liver was twisted around the hepatic hilum, enlarged, firm and dark-red. Microscopically, the liver had marked, centrilobular coagulative necrosis with hemorrhage. Hepatic lobe torsion is common in rabbits and may lead to acute onset of lethargy and abdominal pain, or sudden death, which may raise suspicions of rabbit hemorrhagic disease or other infectious conditions with a rapid disease course.

## Poultry and Other Avian

**Highly Pathogenic Avian influenza (HPAI) H5N1** was detected in intestinal content submitted from a bald eagle that was found seizing before death in Ohio. Microscopically, there was meningitis, hepatitis and myocarditis. The H5N1 strain has also been detected in bald eagles in 14 other states, but has not been detected in California to date. Wild birds can be infected with HPAI, often showing no signs of illness and can carry the disease to new areas when migrating, potentially exposing domestic poultry to the virus. APHIS' wild bird surveillance program provides an early warning system for the introduction and distribution of avian influenza viruses of concern in the United States.

**Pasteurella multocida septicemia (avian cholera)** caused the death of multiple pheasants from a commercial farm with a 10% increase in mortality over one week. Two out of four birds submitted had pin-point tan foci scattered throughout the liver that correlated microscopically with regions of necrosis with intralosomal bacteria. *Pasteurella multocida* was isolated from liver of all four birds. Avian cholera is a significant disease of domestic and wild birds. In poultry, a major source of *P. multocida* infection is chronic carriers, in the form of recovered birds or birds with subclinical infection. Although outbreaks of avian cholera in ring-necked pheasants (*Phasianus colchicus*) have been reported, the potential for these birds to become chronic carriers is unknown.

