

Small Ruminant Special Edition

CAHFS

CONNECTION

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HOLIDAY SCHEDULE

CAHFS will be closed on **Thursday, July 4, 2013** in observance of Independence Day.

Please contact the laboratory to plan your testing needs

Brain abscesses due to *Trueperella* (formerly *Arcanobacterium*) *pyogenes* occurred in several 2-month-old goat kids. The kids had been dehorned with a hot disbudding iron and a few days later exhibited signs of nystagmus/strabismus, ataxia, facial seizures and depression. The kids responded to aggressive treatment and after one week appeared recovered but relapsed 9-18 days later with neurologic signs and died or were euthanized. One kid was submitted along with swabs from a brain abscess of a second kid. On gross examination, the bone underneath the left horn bud appeared necrotic and a large abscess was present in the right cerebral cortex underneath the area of normal bone. Bacterial cultures from the brain abscesses in both kids yielded *T. pyogenes*. Heat damage to the surface of the brain probably caused the initial signs and provided an environment for bacteria to seed and grow, which resulted in the relapse after an abscess had formed.

Respiratory diseases in sheep and goats. *Mannheimia haemolytica* and/or *Mycoplasma* sp. were the cause of **pleuropneumonia** in one week to 9-month-old goat kids in seven goat herds over a 3-month period this spring. *Mannheimia haemolytica* and *Pasteurella multocida* were found in lung of lambs with pneumonia from two flocks. Copper and/or selenium deficiency were found in all affected animals. Affected animals often had non-respiratory clinical signs such as mild bloat, diarrhea, fever and weakness. Adult dairy goats from one herd died from severe **pleuropneumonia and polyarthritis** due to *Mycoplasma mycoides* subsp. *mycoides large colony* type. Mineral deficiencies, such as copper and selenium, often result in immune suppression and may make animals more susceptible to respiratory infections. Aspiration pneumonia was found in sheep from two flocks experiencing copper toxicosis.

***Clostridium perfringens* type D enterotoxemia and enteritis** was the cause of sudden death in a 56-day-old **goat kid** in a group of 100. Necropsy revealed 500ml of red fluid in the peritoneal cavity, mild hydropericardium, red and dilated segments of jejunum with bloody content and some mucosal necrosis. Epsilon toxin the toxin produced by type D *C. perfringens* was detected in the small intestine contents by ELISA.

A small **Johne's disease** study done at CAHFS Davis evaluating pathology, microbiology and serology found seven of 25 goats had often mild histologic lesions in the intestine and mesenteric lymph node, five of these seven also had some liver lesions. Five of six tested by PCR were positive for *M. avium* ss *paratuberculosis* on mesenteric lymph node and/or intestinal content. The one negative animal only had intestine content tested. Generally, Johne's disease is not detectable by standard tests in goats until after one year of age, but two 11-month-old goats from an infected herd were seropositive, and one was PCR positive on mesenteric lymph node (but not feces) and had marked histiocytosis in the intestinal lymph nodes.

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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at shein@ucdavis.edu.

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Multisystemic abscesses due to *Trueperella* (previously *Arcanobacterium*) *pyogenes* were found in a 1-month-old nursing lamb that developed **posterior paralysis**. Necropsy findings included bilateral fibrinosuppurative pleuritis, multiple lung abscesses, a large abscess in the hilar region of the liver adjacent the vena cava, and **paravertebral and 12th thoracic vertebrae body** abscesses. *Trueperella pyogenes* was isolated from the vertebral, liver and lung abscesses. The initial site of infection is unknown but liver abscessation following damage to the rumen, abomasum or intestine followed by blood borne dissemination of the bacteria to the lung and vertebral body is a possible scenario.

Bovine coronavirus, rotavirus and coccidia were the cause of anorexia, **diarrhea** and death within 3-7 days after weaning in ten percent of the lambs in one flock from which a 4-week-old **lamb** was submitted for necropsy. Enteritis associated with large number of coccidia and colitis suggestive of bovine coronavirus was seen on histopathology. Coronavirus was confirmed by immunohistochemistry, direct electron microscopy and PCR. The bovine-type coronavirus was confirmed by sequencing. The lambs were fed milk from dairy cows and dairy cattle were housed on the property. Coronavirus is very rarely reported in lambs and in this case the evidence suggests the lambs were infected from the cattle.

Oxalate nephrosis from **ingestion of *Rumex* (curly dock)** occurred in a 5-year-old Southdown wether submitted for necropsy. The animal exhibited weakness and heavy breathing prior to death. The gross necropsy lesions included severe pulmonary edema, pale kidneys with red blotches, 1-2 liters of red tinged fluid in the chest and peritoneal cavities and red-black abomasal contents suggesting hemorrhage. The few other sheep in the flock were clinically normal and one other had died. The animals were housed on a pasture with a large percentage of *Rumex* sp. The *Rumex* had been manually removed in previous years but not this year. *Rumex* sp., lambs quarter (*Chenopodium* sp.), sorrels (*Oxalis* sp.) and rhubarb (*Rheum* sp.) and a number of other plants contain soluble oxalates that are rapidly absorbed from the gastrointestinal tract, and bind with serum calcium to form calcium oxalate and cause hypocalcemia. The calcium oxalate commonly precipitates in the kidneys causing renal tubular damage. Toxicosis depends on the rate of consumption and what other feed is consumed. Animals may die acutely or several days later.

Small ruminants are particularly susceptible to the effects of **intestinal parasites**. In many flocks in the U.S., resistance to available anthelmintics has been reported. Fecal egg counts can be useful to determine if resistance is present in a particular group of animals. Testing is performed by submitting feces for parasite egg counts from a test group of 6-10 animals, followed by deworming these animals and allowing them to be housed with the rest of the flock for 2-3 weeks. A second fecal sample from the test group is then submitted for follow-up parasite egg counts. Several flocks have used this protocol to detect **evidence of resistance** to the anthelmintic being used.