



Anaplasmosis

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Overview

Anaplasmosis is a disease of cattle caused by the blood parasite *Anaplasma marginale*. This organism infects red blood cells, which leads to anemia. This disease is endemic in most, if not all, of Louisiana, meaning that it occurs regularly and is basically native to the area. Anaplasmosis causes economically significant losses due to deaths, abortions, decreased milk production and loss of body condition.

Transmission

Anaplasmosis is transmitted by insects or people. Horse flies, deer flies and some species of ticks are the main insect vectors. Spread by stable flies, horn flies and mosquitoes is unlikely except during severe infestations. People can spread anaplasmosis through reuse of needles and improper cleaning of instruments during dehorning, castration or tattooing. In one study, if a needle was used on a carrier animal, the next animal had a 60% chance of getting infected if the same needle was used.

Clinical Disease

Once the *Anaplasma* organism infects a susceptible animal, it usually incubates in the body for three to five weeks before the animal gets sick. Cattle younger than 2 years of age rarely show any signs, even if they become infected. Cattle more than 2 years old have more severe illness and are more likely to die. Cattle that survive infection are usually infected for life. These carrier animals then become a source of infection for other cattle.

Anaplasmosis cases can occur at any time of the year, but summer and fall are most common. Some of the common signs are fever, weakness, depressed attitude, decreased appetite, weight loss, decreased milk production and a white or yellow color to the gums, white of the eye or vulva. Aggressive behavior is also common, especially in beef cattle. Abortions may occur in females, and temporary infertility can occur in males. Animals with severe disease may die. Animals that survive may take several weeks to regain strength and weight. Infected animals with less severe signs or no signs at all can have

drops in milk production and infertility or embryonic death. This leads to decreased numbers of calves born and decreased weaning weights, both of which add to the financial impact of anaplasmosis. In endemic areas, some herds may only suffer these less-noticeable problems without having the obvious illness and deaths. This makes the disease harder to recognize, but financial losses can still be severe.

Diagnosis

If anaplasmosis is suspected, producers should contact their veterinarians to confirm the diagnosis. Other diseases, such as “red water” (caused by a *Clostridium*) and leptospirosis, can appear similar. Deaths from toxic plants are also more common in the fall and can be confused with anaplasmosis, as can many other diseases. A necropsy should be performed on any dead animal to try to determine the cause of death.

Treatment, Prevention and Control

Treatment, prevention and control decisions are not straightforward and depend on several factors, including the prevalence of the disease in the herd, biosecurity risks and herd goals.

Currently only injectable oxytetracycline is approved for treatment of clinical anaplasmosis. By the time cattle are recognized as having clinical signs, they may be so sick that treatment is too late to be effective. The stress of moving and restraining for treatment may also lead to the demise of the animal, making the decision to treat difficult. Recognizing clinical signs early and low-stress handling are key to treatment success.

Herds in endemic areas like Louisiana face constant potential for exposure, and total prevention or elimination of the disease from a herd is not always realistic. The goal is to control the disease to minimize clinical and subclinical disease and production losses. Practices that could potentially spread the disease, such as reusing needles, should be eliminated. Disinfecting needles is not very effective and is not recommended as it damages products being administered. Controlling ticks and flies will also decrease spread of the disease.

Supplying tetracycline products in feed or mineral supplements during peak transmission times may reduce the likelihood of clinical cases. These products require a

prescription (veterinary feed directive) from a veterinarian. A vaccine is also available in Louisiana and research is underway that may lead to more vaccines in the future. The use of tetracycline in feed, minerals or vaccinations depends on the prevalence of carrier animals in the herd, so testing is recommended before designing a control program. If a high percentage of the herd is positive, then preventive measures may not be cost effective.

Producers should talk to their veterinarian about testing the herd and developing control strategies, including introducing new animals that may be naive to anaplasmosis.