Vet Call

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Anaplasmosis

Anaplasmosis is a serious disease that affects cattle in an increasingly larger area of the country. A tiny organism called Anaplasma marginale ***attaches to red blood cells, which leads to destruction of those cells and a decrease in the ability of affected cattle to carry oxygen in their blood. If more red blood cells are destroyed than the animal can replace with new cells, the blood becomes watery, the animal becomes anemic and other signs of infection can occur, including yellow discoloration of the mucus membranes, fever, depression, dehydration and rapid or difficult breathing.***

Infection sources

Sometimes affected animals become excited and aggressive when not enough oxygen reaches the brain. Young animals are often able to recover because they can make new red blood cells very quickly, but older animals do not produce new cells very fast, and they can quickly become very anemic and have very low oxygen levels in the blood leading to severe illness or death.

Anaplasmosis is primarily carried from cattle to cattle by ticks, but the movement of blood from infected cattle to susceptible cattle can also be accomplished by biting flies such as horseflies, or by humans via blood-contaminated needles, dehorning instruments, tattoo pliers or palpation sleeves.

The disease has historically been a problem in the southern parts of the United States, but it has now spread north, requiring cattlemen in many important beef-producing areas to become aware.

In herds that become exposed to the organism, cattle of any age can become infected, but the severity of illness is usually mild in young cattle and increases with age. In cattle that become infected when they are 3 years of age or older, 30%-50% of animals showing signs of the disease are likely to die. If infected cattle are able to survive, they are not likely to have severe problems due to the disease in the future, but they remain a carrier for the rest of their life. In some cases these carrier infections can be eliminated using antibiotic treatment.

The first sign of anaplasmosis in a herd may be the sudden death of adult cattle. If anaplasmosis is identified as a cause of death and disease in a herd, cattle that are obviously sick should be kept as quiet as possible and treated with a blood transfusion to replace red blood cells and/or with an injectable tetracycline antibiotic to kill the organism.

In addition, healthy animals should be moved away from the affected cattle to reduce the risk of the organism being transferred to the rest of the herd by ticks or biting insects, and low levels of tetracycline can be fed in the mineral mix or supplement to provide additional protection to the herd.

For carrier cattle that don't appear sick but that are infected with the anaplasma organism, your veterinarian can plan a treatment protocol using tetracycline antibiotics administered over several days to clear the organism. However, treatment with tetracycline is not effective for all cattle and those animals that are cleared of the organism become susceptible to re-infection.

Minimize losses

The best plan to minimize disease loss due to anaplasmosis depends greatly on a farm or ranch's geographic location and the number of cattle in the area that are infected. In parts of the country where anaplasmosis infection is rare, a strategy to find and treat and/or remove any carrier-animals is recommended. In contrast, in areas of the country where

many cattle are infected, an attempt to remove all carriers from a herd will result in a herd that is susceptible to re-infection and the herd may have greater losses than if other strategies had been used to minimize the disease's effects.

If infected cattle are found in a herd in a part of the country where anaplasmosis is rare, one strategy to minimize disease loss is to test the herd for anaplasmosis infection and to treat any test-positive animals with tetracycline as directed by your veterinarian. This treatment should be at a time of year when the local tick and fly population is the lowest. Because the treatment does not clear infection from every animal, the animals should be tested again about six months after the tetracycline treatment, and if a positive is found at this time, it should be considered a treatment failure and removed from the herd, either by slaughter or by being sold to a herd in an area where anaplasmosis is common.

In contrast, in herds located where anaplasmosis is common, rather than trying to avoid infection, some producers may want to allow infection to occur while the cattle are young in order to minimize obvious sickness and death loss. In some countries young animals are purposefully exposed to the organism allowing them to build immunity at a time in their life when the disease is mild. Although they will be infected for life, they are not likely to suffer severe illness.

The best anaplasmosis control strategy for a particular farm or ranch depends on how likely that herd is to come into contact with the organism.

In some states in the U.S., your veterinarian may be able to obtain an experimental anaplasmosis vaccine that does not prevent infection, but is reported to reduce the risk of clinical signs and death. Producers may also elect to feed low levels of chlortetracycline when the disease is most prevalent to control active infection and use insecticides to control tick and fly populations.

Because the best anaplasmosis control strategy for a particular farm or ranch depends on how likely that herd is to come into contact with the organism, an important component of a control strategy is a plan to deal with replacement animals. If your herd is free of anaplasmosis and the risk of exposure is low, any replacement animal should be tested before being brought into contact with the herd. A test-positive animal should either be culled or isolated and treated with tetracycline and then re-tested six months after treatment.

In contrast, if your herd is infected with anaplasmosis and the organism is common in your area, a test-positive replacement animal is desired, as the greatest health risk is in replacement animals that are not infected with the organism but that will be placed in direct contact with carrier animals. In this situation, one option is purposeful exposure (or vaccination if available) with close monitoring for clinical signs of the disease and quick treatment if disease is detected.

Anaplasmosis control requires a good working relationship with your veterinarian to determine your level of risk and best control strategies. The best control strategy for your herd may be very different from that of your neighbors or cattlemen in other parts of the country.

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