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## What's anaplasmosis? What you need to know about this costly cowherd disease

By A.J. Tarpoff Reprinted from Beef Magazine. <https://www.beefmagazine.com>

Of the many diseases that cattle producers must confront and overcome, one is becoming far too familiar. It's anaplasmosis, a bacteria that infects the red blood cells. And once you get it in your herd, it's impossible to get rid of.

Once an animal becomes infected, its immune system recognizes the abnormal red blood cells and removes those infected from the body. Cattle constantly create new red blood cells, but as the disease progresses, the animal can become anemic. The loss of red blood cells leads to a decreased oxygen-carrying ability, which then causes clinical signs.

It usually takes about a month from time of infection to clinical disease, but the range is six to 70 days. Although this disease can be spread at any time, clinical cases are most common during the late summer and early fall when transmission threats increase.

### What are the clinical signs?

Unlike most disease processes, clinical signs usually only occur in adult cattle older than 2 years of age. This is due to younger animals having a greater ability to replace damaged red blood cells.

Many times, the first clinical sign of the disease is dead adult cows or bulls. Animals with clinical disease will have severe difficulty breathing, lethargy and may be extremely aggressive. Abortions, fever, weight loss and icterus (yellowing of mucous membranes) also can occur.

### Treatment options

Acute infections can be treated with injectable oxytetracyclines. Early treatment stalls the infection while the animals regenerate red blood cells. However, in severe cases, simply moving the animals can kill them due to the low levels of oxygen and red blood cell loss.

Animals that recover will become lifelong carriers of the organism. The positive side of this is these animals will have built an immunity and it is rare that carriers would break with clinical disease again. The negative side is these animals will be a reservoir for disease transmission through the herd. As areas become endemic and high rates of early life infections occur, the disease begins to normalize within herds.

### Steps for control

Due to the complexities of this disease, anaplasmosis control practices must have several tiers. Many of these control strategies depend on the area and risk to each individual herd. Having a strong veterinary-client-patient-relationship is extremely important when developing a control plan.

A local veterinarian can help establish risk of infection and determine the realistic cost of the disease to an operation. A true estimation of costs should at least include diagnosed deaths and abortions. It also is important to note that once anaplasmosis has entered an area, eradication becomes obsolete. Control strategies help minimize the number of clinical signs and death loss, but do not prevent infection.

Hypodermic needles are very efficient at transmitting this disease. A 2010 study showed that six out of 10 "clean" animals became infected after needle injections following a positive animal. Changing needles between each animal not only eliminates this transmission, but also helps curb other blood-borne diseases such as bovine leukemia virus.

Any instrument or tool that comes in contact with blood should be cleaned and disinfected after each animal. In addition to needles, examples include ear taggers, tattoo pliers and castration equipment.

**Managing external parasites that transmit the pathogen also should be at the top of the list of control measures.** Certain tick species, mostly the American dog tick, can amplify the pathogen in their salivary gland and, therefore, expose the next cow to a larger amount. Stable flies, deer flies and horse flies also can transmit the organism.

Season-long parasite control typically involves both environmental control and parasiticide use. Proper manure and feed-site management will help decrease the breeding ground for some of these pests. Parasiticides also are targeted to specific pests during certain times of the year. Example modes of application of parasiticides are pour-ons, sprays, dust bags, ear tags, rubs, feed-through IGR or larvicides, and environmental application. A mixture of two or more of these methods often is indicated to obtain season-long protection.

Chlortetracycline (CTC) also can be fed to cattle during the transmission period to help control anaplasmosis. Expectations of the use of this medicated feed often are misunderstood. Feeding CTC will not eliminate the pathogen, but rather reduce the likelihood of a clinical case.

Use of this feed-grade antimicrobial falls under the Veterinary Feed Directive and must be used under veterinary oversight. Consistent consumption and proper delivery is paramount with CTC use. CTC can be delivered to cattle daily, either in a mixed ration or as "hand-fed" mineral. The dose for these usages is formulated for the cows to consume 0.5 mg per pound of body weight per day.

The most reliable delivery mechanism to reach this consumption level would be daily delivery of a mixed feed. However, this is not practical in many pasture settings. Medicated mineral delivery is another option. While mineral delivery may be beneficial to the producer due to labor, inherently it is a less efficient delivery mechanism of the drug. This is mainly due to inconsistent daily intake.

If mineral delivery is utilized, monitoring of consumption is required. For free-choice feeding, there are four Food and Drug Administration-approved propriety formulations available that provide 0.5 to 2 mg per pound of body weight per day. These free-choice approvals account for proper consumption and variations in intake under the free-choice application.

(over)

There is not a fully USDA-licensed vaccine on the market for anaplasmosis. However, there is an experimental vaccine that producers may be able to utilize in some states. Use of this vaccine requires approval from the state veterinarian. While the vaccine does not prevent infection, anecdotal reports show a reduction of clinical signs in at-risk animals when proper label instructions are followed.

To maximize the effectiveness of a control plan for anaplasmosis, it must be multimodal. Consult with the local veterinarian for the best management protocol.

*A.J. Tarpoff is Extension beef veterinarian with Kansas State University*

## **ARE YOU THINKING ABOUT HORN FLY CONTROL? IT'S NEVER TOO SOON TO START BY ADDING ALTOSID®IGR TO YOUR SUMMER MINERAL TUB PROGRAM.**

### **Know Your Enemy**

Horn flies are the most pervasive and costly external parasites of cattle in North America. They're small, black flies, approximately four millimeters long. Infestation levels can increase rapidly - up to 4,000 flies per animal in untreated herds. At their peak, horn flies remain on cattle throughout the day and night. They can generally be found on the backs of cattle, often clustering on the animals' midlines and spreading down their sides.

### **Know the Signs**

The adult horn fly is a biting insect that takes 20 to 40 blood meals per day. The resulting stress interrupts the grazing patterns of cattle, causing them to go off feed and expend energy in an attempt to dislodge the flies. According to university research, calves from badly infested herds gain weight more slowly than uninfested calves and are lighter at weaning by 10 to 25 lbs. If severe infestations are left untreated, cows can go out of condition during the critical breeding period. Horn flies can also cause beef mastitis and hinder future milk production of heifers.

### **Treatment Strategies**

While there are both mechanical (walk-through fly traps or dragging of pastures) and biological (predatory arthropods such as beetles and mites) horn fly control strategies, chemical control strategies have been the most widely used. Techniques for application include backrubbers, dust bags, sprays, dips, ear tags (which can cause resistance), pour-on formulations, controlled-release boluses, and feed-throughs. The proven choice and industry leader, however, is Altosid® IGR, a feed-through insect growth regulator.



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