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University of Idaho Extension

Over The Wire

A Beef Cattle E-Letter for Area Cattle Producers

Pinkeye Prevention and Control

By: Jim Church
University of Idaho Extension

A Money Loser!

It is estimated that Pinkeye causes over $150 million dollars in losses annually to the cattle industry due to reduced weight gain and lower value of cattle that have lasting eye injury.

The majority of outbreaks occur in the summer so we are currently in the heart of Pinkeye season. It may be too late to plan for prevention this year, but in the future, producers should adopt practices that help prevent the disease from showing up on the ranch.

Know The Enemy!

In order to prevent Pinkeye, we need to review what it is and how it spreads. Pinkeye, also known as infectious bovine keratoconjunctivitis, is caused by a bacterial infection of the eye. The bacteria that causes Pinkeye is called *Moraxella bovis, (M. bovis)*. There are several strains of M. bovis and they are all capable of causing Pinkeye.

The M. bovis bacteria has little hair-like structures around its perimeter that helps it to stick to the conjunctiva of the cornea and cause infection.

Major Causes of Pinkeye:

A paper entitled, *Pinkeye in Cattle*, written by Marie-Pierre Oury, et.al. at the University of Kentucky, stated that face flies were a major vector of the spread of M. bovis. Oury indicated that the feeding of face flies on the eye secretions, causes injury to the conjunctiva, exposing the animal to infection. Oury went on to say that the M. bovis bacteria may remain viable on the wings and legs of the flies for up to four days.

Flies can transport M. bovis rapidly from one animal to another and cause an outbreak of Pinkeye. Controlling flies is critical in the fight to prevent Pinkeye.

As you can see, flies are a major problem when it comes to Pinkeye. Controlling flies is critical in the fight to prevent Pinkeye.

Other causes of Pinkeye include irritation to the eye due to ultraviolet radiation from sunlight. When the eye is irritated, it secretes more fluid which attracts flies that may carry the M. bovis bacteria. This is a problem especially in breeds of cattle that have little pigmentation around the eye.

Another cause of Pinkeye is irritation to the eye from dust, pollen, weed and grass seeds and tall grasses that may scratch the eye and allow the M. bovis to attach and cause an infection.

Poor nutrition can contribute to animals being more susceptible to Pinkeye. Dr. Dee Whittier, DVM, and his colleagues at Virginia Tech University, outlined in a paper entitled; *Pinkeye in Beef Cattle*, that deficiencies of protein, energy, vitamins, (mainly vitamin A), and minerals, (especially copper and selenium) will compromise the immune system of cattle and they will have a harder time fighting off a challenge by the M. bovis bacteria and thus are more susceptible to Pinkeye.

Finally, age and sex can influence the ability of cattle to avoid getting Pinkeye. We all know calves are more susceptible to Pinkeye than cows. Bull calves will get Pinkeye more often than heifer calves. In fact, in a research study conducted in 1975 at the Kentucky Agriculture Research Station, bull calves had a 29% higher incidence of Pinkeye than did the heifer calves.

Prevention and Control

1. Fly Control:

The most effective way to control pinkeye is to have a sound fly control program. There are several methods available to control flies such as dust bags, fly tags, back rubbers and pour-ons.

According to Dr. Dave Sjecklocha, a veterinarian at the Haskell County Animal Hospital in Kansas, the key to fly control is timing. Dr. Sjecklocha stated that many producers put fly tags in at the spring vaccinating and branding time prior to turn out. This can be 60 days prior to the peak fly season and the tags may have lost some of their efficacy. Dr. Sjecklocha recommends that the cows be tagged later in the grazing season when the fly season peaks in order for the tags to be the most effective. He went on to say that tagging the cows is more effective in controlling flies than tagging the calves, but he indicated that tagging both the cows and calves is the best.

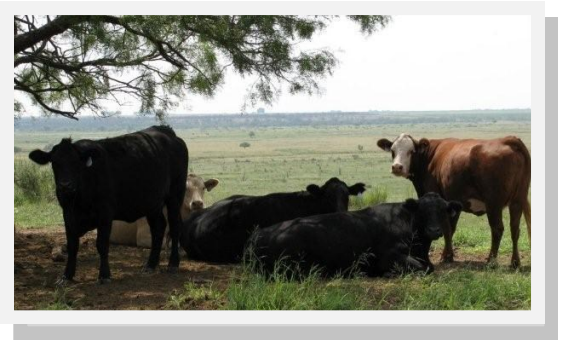
It is recommended that producers switch the class of drugs used each year. In fact, Dr. Whittier from Virginia Tech recommends that if pyrethrins were used one year, use organophosphates the next year. This will help avoid the possibility of the flies developing resistance to the insecticides.

2**. Build immunity with a Pinkeye vaccination:**

Some producers have given their calves a Pinkeye vaccination at branding and turnout time to provide immunity against a Pinkeye infection.

This practice has shown some success, but some areas have been disappointed with the immunity due to the fact that there are over 20 strains of M. bovis. If the vaccine doesn't have the strain that is in your area, you won't have immunity.

Dr. Whittier also points out that the M. bovis bacteria is always mutating and thus, the vaccination may not work. Contact your local veterinarian for more information on this vaccine.



Providing shade can prevent Pinkeye by reducing eye irritation from direct sunlight.

3. Select for eye pigmentation and provide shade:

Cattle breeds with little to no pigmentation around the eye may have more Pinkeye problems due to increased irritation to the eye caused by ultraviolet radiation from the sun. Producers should select for eye pigmentation. Cattle that have pigmentation around their eyes have a reduced chance of getting Pinkeye, however, even breeds that are pure black can get Pinkeye.

Providing shade during the peak fly season and when it is hot can help reduce eye irritation and Pinkeye. The shelter doesn't have to be fancy, just a way for cattle to get out of the direct sunlight. It also helps with cattle comfort and gain.

4. Clip tall grass and weeds:

Every publication that I read on this subject prior to writing this letter, recommended that tall plants be clipped or mowed to reduce eye irritation and thus reduce Pinkeye. There is no question that this would help, it is just not practical in this part of the world. Our pastures and ranges are rugged and steep and the cost of trying to clip areas that you could get a mower on is too expensive to justify. So, I will pass this on, but I realize very few of you can do this.

5. Help cattle develop a strong immune system through proper nutrition and a vaccination program:

Cattle may have the ability to fight off a challenge by the M. bovis bacteria if their immune system is healthy. A healthy immune system can be achieved when cattle are receiving a diet that meets their nutritional requirements. If the pasture is of poor quality, protein supplements may be needed. Cattle also need to have free choice access to a good mineral and vitamin supplement.

Vaccinating for recommended diseases in your area, especially IBR and BVD, will help keep the cattle healthy and reduce the possibility of Pinkeye. Contact your veterinarian for a list of recommended vaccinations.

Treatment:

Dr. Dee Whittier outlined the four stages of Pinkeye. In Stage I, the eye waters and is sensitive to light. Stage II, has the same signs as Stage I but an ulcer spreads across the cornea. In Stage III, the ulcer covers the cornea and inflammation spreads into the inner eye. In Stage IV, the ulcer is completely through the cornea and the iris may protrude through the ulcer.

Early treatment is the key to healing. It is recommended that you consult with your veterinarian for suggested injections and treatments.

Summary:

Anyone that has been in the cattle business for very long has dealt with Pinkeye and you are aware of the disease and how to control it. I wrote this letter to provide you a review of the causes and how to prevent and treat this condition. Hopefully this will be useful as we enter into the heart of fly season and with it Pinkeye. Managing for prevention and then treating early at the first sign of an infection, is the key to reducing losses caused by Pinkeye.

Good luck and here's to hoping that you have no Pinkeye the remainder of the summer and fall.

Contact Information: Jim Church, 320 West Main, Grangeville, Idaho 83530; email: jchurch@uidaho.edu; phone: 208-983-2667.

References:

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