



CONTROLLING PINKEYE IN CATTLE

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Pinkeye is the common name for a disease known in veterinary pathology as Infectious Bovine Keratoconjunctivitis (IBK). It was first recognized as a contagious disease in 1889. The disease is prevalent all over the United States and occurs throughout the world. It is a major economic health problem for the cattle industry.

IBK describes a disease condition which is infectious and causes an inflammation of the transparent cornea, the sclera ("white") of the eyeball, and the conjunctiva, or inside lining membrane, of the eyelids. The disease is most prevalent in the summer but it may occur in any season. In most outbreaks, 10 to 50 percent of the herd may become infected. Infected animals lose weight or have severely reduced rates of gain. Infected dairy cows may drop 25 percent in milk production.

All breeds of cattle are susceptible but pinkeye appears more frequently in animals that have white faces or that lack pigmentation in the area around the eyes. Cattle of all ages may become infected but young cattle are especially susceptible.

CAUSE OF PINKEYE

A bacteria, *Moraxella bovis*, is the infectious agent usually involved. It has been demonstrated that carrier animals have the

organism in their tear ducts and nasal secretions. Even after they have overcome clinical signs of the disease, they may later serve as a source of infection for other animals in the herd. Within the herd, the bacteria is spread by contact and by flies, especially by face flies. The bacteria may be carried by a face fly and remain viable for up to three days but it only survives for a few hours on the house fly. Some immunity against *M. bovis* usually develops after recovery but it is weak, lasts only a short time, and apparently does not protect against other strains of the bacteria.

Ultraviolet radiation from sunlight aggravates the disease. Other mechanical irritants, such as dust, wind, and tall grass stems can produce lesions in the eye and contribute to infection.

SIGNS OF PINKEYE

Pinkeye affects only the eyes. It causes pain, profuse watering or tearing from the infected eye, squinting of the eyelids, and a slight cloudiness of the cornea at the onset. The discharge from the eye has a tendency to mat on the face. The disease progresses rapidly and a white or gray spot may be seen on the cornea below the center of the eye. This spot may develop into a small pimple-like swelling which can lead to a corneal ulcer.

Consult your veterinarian for an accurate diagnosis since there are other eye diseases with similar symptoms. Infectious Bovine Rhinotracheitis (IBR), caused by a virus, presents clinical signs similar to those of pinkeye. There is an effective vaccination program for IBR and it should be included in the herd health program because IBR causes

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other serious problems. A deficiency of Vitamin A may cause symptoms similar to pinkeye.

PREVENTION OF PINKEYE

Preventive efforts should be directed primarily at controlling flies, dust and tall grass in pastures. Pesticides are available for use in ear tags, backrubbers and dust bags for controlling flies. Effective pesticides may also be applied by spraying the animals or by including larvacides in the feed. The larvacide passes through the animal in the manure and kills the fly larvae which develop from the eggs laid in fresh manure. Working areas and corrals should be wet down before being used to prevent dust. Pastures should be clipped periodically to prevent long stems and seed heads from developing on grasses.

Other aids in prevention are to provide ample shade for cattle and to quarantine new animals for several days before introducing them into the herd. The latter prevents incoming cattle from infecting the rest of the herd if they are carrying the disease organism.

Adequate Vitamin A intake will not prevent pinkeye but it does aid in natural resistance. Attention to level of Vitamin A is especially important in winter, late summer and fall, when cattle are on lower quality pastures and especially after prolonged dry periods.

At least two commercial vaccines exist to aid in the prevention of pinkeye. They are effective only against 60-80% of *Moraxella* strains. Results will vary depending on which strain of *Moraxella* is present in your herd. When new strains are introduced in the herd, a formerly effective vaccine may suddenly cease to prevent infection. This explains why vaccination programs vary in effectiveness from herd to herd and year to year.

Consult your veterinarian and

extension agent to develop a strategy for preventing pinkeye in your herd.

TREATMENT OF PINKEYE

In spite of preventive measures taken, most herds will likely have a few animals that will develop pinkeye and must be treated. Most treatment is aimed at providing a localized antibacterial agent and protecting the eye from further irritation. Eye protection is achieved by applying a patch with an adhesive by suturing the eyelids closed, or by housing the animal from sunlight.

Topically applied antibiotics must be administered every 12 hours to be effective, since the tearing process washes the medication out in a matter of hours. A subconjunctival injection provides medication for an extended period. The animal's head should be well restrained. The upper eyelid is rolled back and 1 ml of an antibiotic such as amoxicillin, ampicillin, or penicillin is injected with a syringe and small gauge needle. The needle should be inserted under the superficial layers of membrane inside the upper eyelid. The medication is gradually absorbed over the next two to three days. One treatment is usually sufficient but may be repeated if needed. This treatment should be performed by a veterinarian.

Liquamycin[®] LA-200[®] may be given intramuscularly at the rate of 9 mg/lb of body weight. If treated in early stages of infection, one treatment may be sufficient. A second treatment 3 to 4 days later may be needed for severely affected animals.

Treatment results are enhanced by the application of an eye patch. Be sure it is sealed completely to keep out flies, dust, and sunlight.

PROGNOSIS

The eye of bovines has great healing power. Much of the damage done to the eye by the disease can be

repaired. Further treatment is usually not required but a long period of time may be needed for the body to repair the damage and replace scar tissue. Severe cases of pinkeye or delayed treatment may result in permanent blindness. Therefore, it is important to detect the infection early and begin an effective treatment routine immediately.

ADDITIONAL INFORMATION

For further information about programs and services provided by the North Carolina Cooperative Extension Service:

- Contact the county livestock or dairy extension agents. County office phone numbers can be found in the phone book Government Section (the blue pages) listed within the county section.
- N.C. State University Extension specialists working with dairy cattle, beef cattle, and small ruminants provide resource support for county/area dairy and livestock agents.
- North Carolina Beef Management Handbook is published by the North Carolina Cooperative Extension Service and may be purchased for \$40.00. The handbook is a 3-ring loose-leaf vinyl book containing fact sheets on a wide variety of cattle production topics. After the initial purchase, new and revised fact sheets are mailed at no additional charge through 1996. Checks of \$40.00 should be made payable to: *N.C. State University* (Checks must accompany order) Send your order to:

Beef Management Handbook
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