



Beef Cattle Handbook



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Pinkeye

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Pinkeye is the common term for Infectious Bovine Keratoconjunctivitis (IBK). This terminology describes a disease condition of cattle that is infectious in nature and causes an inflammation of the transparent cornea, the sclera ("white") of the eyeball, and the conjunctiva (inside lining membrane) of the lids.

The economic effects of a herd outbreak can be severe. Reduced average weight gains of 17 pounds have been documented in calves with one eye affected, and 30 to 65 pounds when both eyes were infected. The incidence of pinkeye is usually higher in calves, but breeding-age animals are also affected.

Cause

A bacteria (*Moraxella bovis*) is the infectious agent usually involved. It may be transferred from cow to cow by several methods, especially by flies and specifically the face fly. The organism *M. bovis* may be carried by the face fly and remain viable for up to 3 days, but it only survives for a few hours on the house fly. Some animals remain inapparent carriers of *M. bovis* after they overcome the clinical signs of infection. Later they can serve as a source of infection for a herd outbreak. An animal recovering from pinkeye usually develops some immunity against *M. bovis*, but this immunity is relatively weak and of short duration. Cows usually have more resistance to infection than calves.

Blowing dust and ultraviolet radiation from sunlight may cause enough irritation to initiate pinkeye in a herd, and, if combined with a face fly infestation, this can result in an explosive herd outbreak.

Signs

The peak incidence of pinkeye usually occurs in July and August. This coincides with the conditions listed earlier. It is also the period when cattle are out on pasture and very difficult to handle for individual treatment. The clinical signs of infection include wetness of the face due to excess "tearing" from the affected eye, squinting of the eyelids, reddening of the conjunctiva, and the occurrence of an ulceration on the transparent cornea, which results in a discoloration or loss of transparency of the cornea. Blood vessels may also become evident within the cornea. The specific signs evident depend on the stage to which the disease has progressed.

Prevention

Commercial vaccines now available have been shown to be beneficial in the prevention of pinkeye. Although some animals may still be affected with IBK, the incidence is much lower in vaccinated than in unvaccinated animals. Some vaccine products are effective with a single initial dose. For others two doses must be given 2 to 4 weeks apart for initiation of immunity. Follow specific label directions. The calves can be vaccinated in the spring when handling them for branding, dehorning, etc. The breeding herd should also be vaccinated at this time, before the beginning of "fly season." The vaccine can be used in the face of an outbreak, but it will be much less effective then. Many of the animals will already have been exposed and will be in the incubation stage when vaccinated, so they will still be affected with IBK before they develop an adequate immunity.

Control of flies, especially the face fly, is another

important preventive technique that should be considered. Use of ear tags impregnated with insecticide is of benefit. These help reduce the fly population and also help keep them away from the eyes. However, with repeated use of pesticides, a resistant fly population has developed. This makes it necessary to rotate the pesticide used. Insecticide dust bags to control flies on the animals and feed-through products that kill the face fly larvae in the manure pats should also be considered.

Proper pasture management will aid in IBK prevention. This involves control dust and clipping old pasture to aid in preventing eye injuries. Provision of shaded areas will aid in IBK prevention and will also make the cattle more comfortable.

Treatment

The goals of treatment are to protect the eye and provide a localized antibacterial that can act against the bacteria involved. Eye protection can be achieved by bandaging, but is very difficult, so other methods are used. Applying a patch over the eye with adhesive that sticks to the hair works well, and a piece of denim applied with rubber cement is usually adequate. Patches are also available commercially. The eyelids can be closed by suturing, or the third eyelid (nictating membrane) can be pulled across the eye and sutured in position. Each of these methods protects the eye from sunlight, dust, and flies, and prevents their interference with the healing process.

The challenge in using antibacterial products is to get one to remain in the eye for a sufficient period of time. The tearing process will wash any free medication out of the eye in a matter of hours. If the eye is just treated topically the medication should be repeated at least every 12 hours.

A subconjunctival injection is an excellent method for providing an extended period of medication from each treatment. The animal's head is well restrained, the upper eyelid is rolled back, and approximately 1 ml of an antibiotic or antibiotic and cortisone mixture is injected with a syringe and needle. The needle is directed under the most superficial layers of membrane covering the white of the eyeball (sclera) or the inside of the upper eyelid. The medication is gradually absorbed from

this site over the next 2 to 3 days and provides a constant source of medication. One treatment is often sufficient, but it can be repeated if necessary.

A single intramuscular injection of a long-acting form of oxytetracycline (LA-200; Pfizer) has also been shown to be effective. The *M. bovis* organism is usually sensitive to this antibiotic. This specific formulation will maintain an effective blood level for 3 days.

The eye of the bovine species has great healing power and can repair much damage that may occur to it. When excess tearing has stopped, it usually indicates the repair process is well underway. Further treatment is generally not required, but a long time may be needed for the body to repair previous damage and to replace scar tissue.

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