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Animal Health Fact Sheet

PINKEYE

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Pinkeye is the common term for Infectious Bovine Keratoconjunctivitis (IBK). This terminology describes a disease condition of cattle which 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 have been documented in calves of 17 pounds, with one eye affected and 30 to 65 pounds when both eyes were infected. The incidence 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 as inapparent carriers of M. bovis after they overcome the clinical signs of infection and later 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.

Other disease conditions which must be differentiated from pinkeye include "red-nose" (IBR-Infectious Bovine Rhinotracheitis) and foreign bodies such as awns from June grass, or foxtail. The affected eyes will not heal until these foreign bodies are removed.

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 can result in an explosive herd outbreak.

SIGNS

The peak incidence usually occurs in July-August. This coincides with the conditions listed above. 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 are available and have been shown to be very 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 while for others two doses must be given (2–4 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. It is also recommended that the breeding herd be vaccinated at this same time, prior to 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 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 aid in reducing the fly population and also in keeping them away from the eyes. However, with repeated use, the development of a resistant fly population has occurred. 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 of dust and clipping of old pasture to aid in preventing eye injuries. Provision of shaded areas will aid in IBK prevention as well as making the cattle more comfortable.

TREATMENT

The goals of treatment are to protect the eye and provide a localized antibacterial which can act against the bacteria involved. Eye protection could be achieved by bandaging, but is very difficult, so other methods are used. Applying a patch over the eye with adhesive to stick it to the hair works well and a piece of denim applied with rubber cement is usually adequate. Patches are available commercially which are ready to apply. 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 preferably 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 2–3 days and provides a constant source of medication. One treatment is often sufficient but it can be repeated after 2–3 days, if necessary.

A single intramuscular injection of a long acting form of oxytetracycline has also been shown to be an effective treatment. The M. bovis organism is usually sensitive to this antibiotic and the specific formulation will maintain an effective blood level for 3 days.

It is claimed that intramuscular injections of whole blood, plasma, condensed milk or other products aids the healing process. Any beneficial effect is evidently due to non-specific stimulation of the body's immune mechanism to a foreign protein. Acute anaphylactic shock is a potential hazard with repeated use of these products.

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

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