# Knocking down pinkeye

INFECTIOUS BOVINE KERATOCONJUNCTIVITIS, also known as pinkeye, is a highly contagious infection of the surface of the eye or cornea and the inner lining of the eyelids or conjunctiva. The disease tends to affect young naïve or stressed animals and is much less commonly found in mature animals.

Pinkeye is a very costly disease because it is highly contagious and extremely painful. Feed intakes can be severely diminished during outbreaks which will negatively affect weight gains in young stock and milk production in lactating heifer and cows.

Moraxella bovis is the principal bacteria responsible for pinkeye, the bacteria has hair like projections called pili which allow it to attach to the cornea of the eye. Damage to the cornea allows the bacteria to attach much more easily. Common sources of corneal damage include the sun's UV light and exposure to dust, long grass or hay.

Once attached the bacteria damages the cornea causing pain which results in tearing, squinting and increased sensitivity to light. As the disease progresses the damage becomes more pronounced and the cornea can become filled with edema resulting in a blue colour change and decreased eyesight. If the disease progresses to rupture the eye will be permanently blind.

Several treatment options are available including topical treatment of the eye, injections under the conjunctiva, intramuscular injections, and in severe cases the third eyelid can be sutured over the eye. Unfortunately most of these treatments will involve milk and meat withdrawals so selecting the right one for you should be discussed with your herd veterinarian. The key to any treatment program is diagnosing early, at the tearing stage and treating animals immediately.

The less damage done to the eye by the bacteria, the less time the eye will need to heal which will decrease the negative effects of disease on growth and production and minimize the expense of treatments and withdrawals; for these reasons monitoring closely for squinting and tearing is very critical. Fortunately Moraxella bovis is fairly sensitive to antibiotics. Unfortunately pinkeye can be complicated by the presence of other more resistant pathogens such as Moraxella boviculli, Chlamydia, IBR and Mycoplasma. Therefore culturing the eye may be beneficial to diagnose the causative agent especially when disease is severe or resistant to treatment.

Once recovered from pinkeye animals are typically resistant to reinfection for several years to life resulting in the typical pattern of outbreaks that occur every 3-5 years on farms and only sporadically in between. Vaccination can be very effective if the vaccine contains the pathogen responsible for the outbreak. When the outbreak is complicated by pathogens not available in routine vaccines an autogenous vaccine can be produced with the help of cultures collected by your veterinarian.

Besides vaccination, a good control program includes good nutrition; ensuring energy and mineral supplementation are optimal to support a healthy immune system. Flies are a very significant vector for disease spread; Moraxella can live on the feet of flies for several days therefore good fly control programs are critical, especially ones that control face flies.

There are multiple ways to knock down fly populations including sprays, pour-ons, ear tags, traps and manure treatment programs. The final part of a prevention program is to protect the cornea from damage. Providing shade to minimize UV damage, keeping pastures clipped to minimize scratching of the eye by long grasses, and minimizing dust exposure will all help to prevent the damage that improves the pathogens ability to adhere to the eye surface.

There is a lot that goes into minimizing the costs of a pinkeye outbreak, incorporating prevention with early diagnosis and treatment can make a big difference to the bottom line when dealing with bovine keratoconjunctivitis. D

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