

Pinkeye – Prevention and Control
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In reality, pinkeye is a sign of eye irritation and not a diagnosis of disease. Even though pinkeye has been recognized for over 100 years, the ideal prevention and treatment still eludes the cattle industry. The typical signs initially seen are young calves with watery eyes. The eye becomes sensitive and the calf squints to avoid light. As the disease progresses, the eyes redden and in later stages the cornea clouds over and the calf becomes blind. The blindness may be temporary if the calf is treated in time. Financial losses range from decreased production to decreased values of a blind calf.

Infectious bovine keratoconjunctivitis (Pinkeye) is an infectious and contagious disease of the bovine eye. The one pathogen that can be isolated from the cornea and will infect other cattle (causing pinkeye) is a bacterium called *Moraxella bovis*. This bacterium has small finger-like projections called pili that have the ability to attach to specific sites on the bovine cornea. After attachment, *Moraxella bovis* replicates and releases toxins that cause damage to the surface of the cornea. This eventually results in an ulcerated area on the cornea. A healthy cornea is less likely to be infected with *Moraxella bovis*, so the current thought is irritation of the eye is necessary before the cornea can be infected. This irritation could be in the form of dust, pollen, grass or weed seeds. Viral infections like IBR virus or bacterial infections like mycoplasma irritate the cornea and allow *Moraxella bovis* to colonize and damage the cornea. During the early stages of pinkeye, cattle are shedding tremendous numbers of bacteria, spreading the disease to any cattle they contact and onto any surfaces of feeders and waters they use. At this stage, flies will also act to spread the disease from infected to uninfected cattle. The cattle face fly has a sponge-like nose (proboscis) and feeds by sponging-up fluids on cattle. The large amount of fluid from an infected eye is heavily contaminated with bacteria and the fly will transmit the infection from one animal to another.

Therefore, there are **three basic elements to address the control of pinkeye**: 1) Eye irritation, 2) Infection with *Moraxella bovis*, and 3) spread of the infection to healthy cattle. We need to approach pinkeye control on all three fronts. **First control eye irritation** by reducing dust in cattle lots, clip tall grass and weeds to reduce seed and pollen irritation, and keep your herd well vaccinated for viruses like IBR (red nose). **Second, reduce exposure and increase immunity** to the bacteria that causes pinkeye. Vaccination with pinkeye vaccine may help but remember the vaccine is not 100%. The vaccine is produced to prevent the pili of the bacteria from attaching to the cornea. The problem is the bacteria mutates easily and changes the structure of its pili. Unless the vaccine used has the specific pili structure, it may not be effective. Cattle that are infected shed large numbers of bacteria to other cattle so they should be treated and isolated from the herd until they recover. **Third control flies** to reduce the spread of the disease.

Treatment for pinkeye is generally effective if cattle are treated early. Treatment will kill or reduce the bacteria that cause pinkeye but will not restore the damage done to the cornea. If the disease is treated early and the damage is not too severe, the eye will generally heal once the infection is treated. If the damage is severe, the cornea will heal with white scar tissue and the animal will be partially to totally blind in the affected eye. Treatment is generally subcutaneous injections in the neck area with long acting oxytetracycline. A subcutaneous injection will result in therapeutic levels of antibiotic in the eye in less than 8 hours. A single treatment for mild cases is adequate but two treatments, 72 hours apart, may be needed for severe cases. Topical eye treatment can be effective but must be applied several times and care must be taken to prevent spread of disease with the syringe or other method of topical application. Patches or third eyelid flaps help to relieve the pain of light exposure to the irritated eye.