

# Pinkeye

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Pinkeye, or infectious bovine keratoconjunctivitis, is an infectious and contagious disease that affects the eyes of cattle. It is characterized by reddening and inflammation of the lining or conjunctiva of the eyelid and eyeball. It is primarily a summertime disease but is seen during all seasons. Pinkeye affects all breeds of cattle. It is much more common in pastured cattle than in feedlots.

Pinkeye is found in cattle of all ages but primarily young animals. The causative agent is the bacterium Moraxella bovis. (Doug: look up Dr. Rosenbusch's work on Mycoplasma and pinkeye. Should add something here about that!) Cattle often carry Moraxella bovis but are immune to actual infection and do not show disease. Young animals have low immunity to M. bovis and are the most susceptible. They are usually on pasture where they may not be observed every day. Pinkeye is spread by direct or indirect contact with infected cattle. Face flies are a major vector for animal to animal transfer of the infectious agents. They feed on eye secretions from infected animals and transfer the bacteria from animal to animal.

Irritation of the eye is a major predisposing factor to pinkeye. Sunlight, dust, pollen, weed and grass seeds or awns are major eye irritants. Irritation causes primarily inflammation that allows the M. bovis organism to invade the tissues and multiply. Infectious bovine rhinotracheitis (IBR) and Mycoplasma bovoculi may also cause eye diseases. IBR causes conjunctivitis and a thick yellowish discharge but does not affect the cornea. Eye lesions caused by Mycoplasma bovoculi are similar to Moraxella bovis infection. The specific infectious agent can be determined by submitting eye swabs or scrapings to a diagnostic laboratory.

## **Clinical signs:**

The first clinical sign of pinkeye is excessive tearing of one or both eyes. As the disease progresses, the animal holds the eye partially or tightly closed. If untreated, the cornea (clear surface of the eyeball) becomes inflamed and turns white. The cornea may ulcerate. If ulceration is severe a permanent scar may form. As healing begins, blood vessels migrate toward the ulcer. A white scar may remain in the center of the affected eye. The scar may resolve over time. The disease course is usually 4 to 8 weeks. Damage to the affected eye may result in permanent blindness. The animal may refuse to nurse, graze, or drink because of pain and/or blindness. Affected calves often lose weight. Reduced weaning weight is common. In addition to treatment and labor, this is a major cost of pinkeye. Injury of the eye must be differentiated from infectious causes. Careful examination of the eye is necessary to determine if injury has occurred.

## **Treatments:**

Pinkeye treatment can be successfully treated, but it must begin early, when calves first show signs of disease, and it must be repeated until healing is complete. Prompt

treatment is important to reduce the chance for permanent damage to the eye. It should be based on recommendations from the herd veterinarian. Treating pinkeye normally requires rounding cattle and holding in a pen or corral for intensive, often daily, therapy. Antibiotic sprays and powders may be applied directly to the eye. Sprays must be applied several times a day. Powders may cause added irritation to the eye and delay healing.

Protecting affected eyes from sunlight and flies is helpful. One form of protection is eye patches. Putting the animal in a darkened shed may also help. Some veterinarians suture the third eyelid over the damaged cornea to protect the eye. Antibiotics are sometimes injected directly into the conjunctiva. If an outbreak is caught in the early stages, treatment of the entire herd with injectable long-acting oxytetracycline injection often stops or dramatically reduces an outbreak. Isolate infected animals to help prevent transmission to the rest of the herd. Consult the herd veterinarian for proper treatment recommendations.

### **Control:**

Prevention is more rewarding and cost-effective than treatment. Good face fly control is an important part of most pinkeye control programs. Fly control should include different strategies throughout the summer. Some producers utilize insecticide ear tags. Rotating the type of insecticide from year to year is advised. Most fly tags last for approximately 5 months but lose effectiveness over time. Poor fly control may result in late summer if tags are inserted too early in the year. Insecticide dust bags or “face mops” are helpful but must be placed where animals will contact them on a daily basis. Fencing off watering tanks or salt/mineral feeders so that cattle must pass through a dust bag is one way. Sprays can be used, but cattle must be gathered up and sprayed on a regular basis for good control.

Eliminating eye irritation is also part of good control programs. Seed heads of grasses and weeds, along with pollen, cause extensive eye irritation. Cattle graze close to the ground where mature plants may cause eye irritation. Mowing reduces eye irritation. In the fall and winter, feeding hay in wagons may lead to eye irritation because cattle must reach up to eat.

Several pinkeye vaccines are available. Veterinarians report variable success with these products. In herds where pinkeye is a frequent problem, vaccination well in advance of the pinkeye “season” is recommended, so that immunity is established prior to exposure. Consult with a veterinarian to develop control strategies for your herd.

### **Beef Quality Assurance**

Prevention and control of pinkeye is of major importance in producing a quality product. Pinkeye normally does not cause high mortality but can cause severe economic losses to the cattle industry due to market discounts, reduced feed efficiency, and weight loss. Market discounts may be \$50 per head or more. A blind calf is difficult to handle and can result in carcass damage.

Treating pinkeye increases the risk of drug residues and carcass blemishes. Most pharmaceuticals used in treatment are irritating to muscle tissue. Make sure the volume at each injection site is no more than 10 ml. All injections, including pinkeye

vaccination, should be anterior to the shoulder blade. minimal. Follow label directions when treating pinkeye.