

# Pinkeye in Cattle

- Learn about the signs of pinkeye in cattle, how it is transmitted, and what you can do to help prevent, control, and treat this infection.



Pinkeye, also known as infectious bovine keratoconjunctivitis, is a bacterial infection on the surface of the eye and the inner surfaces of the eyelids. *Kerato* refers to the cornea of the eye; *conjunctiv* to the pink tissues on the inside of the eyelids; and *itis* to inflammation.

## Infectious Organism(s)

The organism historically and most often associated with pinkeye is the bacteria *Moraxella bovis*. However, diagnostic laboratories have also identified viruses (e.g., bovine herpesvirus) and other bacteria that cause similar symptoms (e.g., *Branhamella ovis*, *Moraxella bovoculi*, and *Mycoplasma bovoculi*).

## Clinical Signs

The first clinical sign of pinkeye is excessive tearing of one or both eyes followed by conjunctivitis (inflammation of the eyelid), photophobia (aversion to light), and corneal ulcers. As the disease progresses, the animal

holds the eye partially or completely closed due to pain and sensitivity to light. If untreated, the cornea (clear surface of the eye) becomes inflamed, turns white, and often develops an ulcer in the middle of the cornea. Depending on the severity of the disease, a white scar may remain in the center of the affected eye and can result in permanent blindness. Affected animals may refuse to eat because of pain or blindness. Pinkeye is primarily a summertime disease, but it can be seen during all seasons of the year and affects all breeds and all ages of cattle.

## Transmission

The bacteria that cause pinkeye are usually carried by a few animals that show no symptoms and are, therefore, not easily identifiable. These animals are then effectively able to (1) introduce the bacteria to a new herd when purchased as replacement animals, or (2) serve as a source to keep the bacteria on the farm and routinely expose susceptible animals to the bacteria. However, most animals that recover from the disease

clear the infection from their eye(s) and do not become carriers. Face flies are responsible for most animal-to-animal transfer of the infectious bacteria associated with pinkeye. They feed on eye secretions of infected animals and then mechanically transfer the bacteria from animal to animal.

## Predisposing Factors

Like many infectious diseases, pinkeye occurs when there is a susceptible host (in this case a nonimmune cow, calf, bull, etc.), an infectious agent (e.g., *Moraxella bovis*), and usually some combination of predisposing environmental conditions favoring infection of the host (irritation of the eye to create tears attracting face flies and facilitating attachment of the bacteria to the eye). Predisposing factors for pinkeye include excessive sunlight, dust, pollen, face flies, weed and grass seeds or awns, etc. Anything causing eye irritation is a predisposing factor for pinkeye. Face flies transmit the bacteria to the eye, and if the eye is irritated, the bacteria can more easily colonize the surface of the eye.

## Prevention and Control

The keys to preventing pinkeye are controlling face flies and eliminating eye irritation:

- Control face flies with appropriate use of insecticides (ear tags, sprays, back rubbers, dust bags, systemic pour-on products, mineral supplements, etc.). For more information about fly control, please refer to Extension publication ANR-2083, "Fly Control for Alabama Cattle Operations."
- Tall grasses and coarse seed heads can irritate the eyes of cattle, so a pasture management plan, including mowing, should be part of an overall pinkeye-prevention program.

- Proper nutrition—low vitamin A, copper, and selenium can predispose and exacerbate pinkeye, so appropriate mineral supplementation is important.
- When possible, provide enough shade so animals can limit their exposure to ultraviolet light without being overcrowded.
- Several pinkeye vaccines are available, but success is variable.

## Vaccination

Pinkeye vaccines are available and, in some cases, are very beneficial. However, there are multiple strains of *Moraxella bovis* in the United States, and vaccines do not protect against all strains. Also, no available pinkeye vaccines protect against *Branhamella ovis*, *Moraxella bovoculi*, or *Mycoplasma bovoculi*. Currently available vaccines can be very helpful, but not always completely protective. To optimize protection, vaccines should always be administered according to manufacturer's directions and completed 4 to 6 weeks before the typical pinkeye season to allow adequate time for development of immunity.

## Treatment

Pinkeye can be successfully treated, but treatment must begin early to reduce the chance of permanent damage to the eye. Multiple products are approved to treat pinkeye in cattle. Contact your veterinarian for specific treatment recommendations in your area.



Soren P. Rodning, *Extension Veterinarian*, Associate Professor, Department of Animal Sciences; Julie A. Gard, Associate Professor, Department of Clinical Sciences; Misty A. Edmondson, Associate Professor, Department of Clinical Sciences; Paul H. Walz, Associate Professor, Departments of Pathobiology and Clinical Sciences; Thomas Passler, Assistant Professor, Department of Clinical Sciences; and Kim Mullenix, *Beef Cattle Systems Extension Specialist*, Assistant Professor, Department of Animal Sciences, all with Auburn University

For more information, contact your county Extension office. Visit [www.aces.edu/directory](http://www.aces.edu/directory).

The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) is an equal opportunity educator and employer. Everyone is welcome!

New Dec 2014, ANR-2227

© 2017 by the Alabama Cooperative Extension System. All rights reserved.

[www.aces.edu](http://www.aces.edu)