



Put a stop to the pain of **pinkeye**.

Pinkeye is a highly contagious disease that doesn't spare cattle or the bottom line. Having the right products and approach in place can help producers successfully mitigate its damaging effects.

Why it's important to keep your eye on pinkeye.

Pinkeye is caused by bacterial pathogens that infect the surface of the eye. The pathogen *Moraxella bovis* is covered in hairlike structures called pili, which allow it to attach to the eye and colonize. This creates an opportunity for another pathogen – *Moraxella bovoculi* – to come in and cause inflammation. If left unaddressed, the cornea may develop a sore, resulting in pain and possible blindness. Once pinkeye is established in a few animals, face flies all but ensure its rapid spread.

Pinkeye impacts everything from calving to weaning weights and market value.

- Affected beef cattle can cost as much as \$337 per animal.¹
- Post-weaning cattle had lower performance with reduced average daily gain, 365-day weight and final weight.²
- At auction, calves with pinkeye often bring \$10 less per hundredweight than their herdmates.³

Pinkeye that's left unchecked can be economically devastating:

30-40 lbs.

Affected calves are 30-40 pounds lighter at weaning compared to healthy calves.¹

\$352 per head

In dairy cattle, milk lost due to antibiotic use can cost \$352 per head.²

A THREE-PRONGED APPROACH IS THE KEY TO PREVENTION.

Before pinkeye rears its head in your herd, there are a series of steps you can take to control this costly disease.

Did you know?

Moraxella bovis has long been understood to be both the initial and major cause of pinkeye. However, a recent study found up to 80% of cases include *M. bovoculi* along with *M. bovis*.⁴

STEP 1: VACCINATION

The most effective option will be one that is able to stimulate antibody production in tears, limit infection and reduce the severity of lesions.

Plan to vaccinate three to six weeks prior to the onset of pinkeye season.

See how pinkeye vaccines from Merck Animal Health stack up.

Whether you're just looking for pinkeye prevention or a more comprehensive option, here's a quick look at how they compare.

	Presentations	Dose	Booster Dose	Route of Administration	<i>Clostridium chauvoei</i> (Blackleg)	<i>C. septicum</i> (Malignant edema)	<i>C. novyi</i> Type B (Black disease)	<i>C. sordellii</i>	<i>C. perfringens</i> Types C & D (Enterotoxemia)	<i>Moraxella bovis</i> (Pinkeye*)	<i>Moraxella bovoculi</i>
BOVILIS® PILIGUARD® PINKEYE	10-dose 50-dose	2 mL		SQ†						X	
BOVILIS® 20/20 VISION® 7 WITH SPUR®	10-dose 50-dose	2 mL	2 mL, 3-4 weeks later	SQ†	X	X	X	X	X	X	
MORAXELLA BOVOCULI BACTERIN	10-dose 50-dose	2 mL	2 mL, 21 days later	SQ†							X

*Infectious bovine keratoconjunctivitis
†Subcutaneous injection

STEP 2: FLY CONTROL

Pinkeye spreads quickly through bacteria-carrying face flies. They can travel long distances between herds and expose cattle to many different strains.

There are several management practices that can help reduce flies' capacity to spread pinkeye:

- **Treat cattle of all ages** with a long-lasting and easy-to-administer insecticide.
- **For calves and cows** (dairy cows under 21 months of age), apply one fly tag in each ear in addition to a low-volume pour-on.
- **Remove popular breeding grounds** for flies such as manure and other wet areas.
- **Be sure to use an insecticide** that works on a wide variety of surfaces in and around livestock facilities.
- **Use additional measures as needed**, such as back rubbers, oilers and other devices.

Compare insecticides from Merck Animal Health.

Available in a wide variety of formulations, fly control can be customized to fit your production system.

	Dose	Active Ingredients	Horn Flies	Face Flies	Control Time
ULTRA BOSS® POUR ON	3 mL/100 lbs. of body weight, up to 30 mL per animal	5% permethrin 5% piperonyl butoxide	X	X	Horn flies: 8 weeks Also controls back flies, face flies, mosquitoes and ticks
ULTRA SABER™ POUR ON	10 mL for cattle < 600 lbs. 15 mL for cattle ≥ 600 lbs.	5% piperonyl butoxide 1% lambda-cyhalothrin	X	X	90% control of horn flies for 7+ weeks ⁵ Horn fly levels kept below economic threshold for up to 15 weeks ⁵
DOUBLE BARREL® VP TAGS	2 ear tags	14% pirimiphos methyl 6.8% lambda-cyhalothrin	X	X	Horn flies: up to 5 months Face flies: up to 5 months

STEP 3: ENVIRONMENTAL MANAGEMENT

Pasture Management

Pollen, seed heads, dust and UV light all cause irritation, allowing pinkeye organisms to attach to the eye. These irritants also cause the eye to water, which attracts flies. Regular mowing, dust control and shade (natural or man-made) are measures that can be taken to cut down on these irritants.

Facilities Management

Eliminating debris such as wet, rotting hay, straw, feed, silage and manure will also help with prevention. Premise sprays can be used in facilities and hutches to knock down flies during calves' critical growing cycle.

IT TAKES THREE.

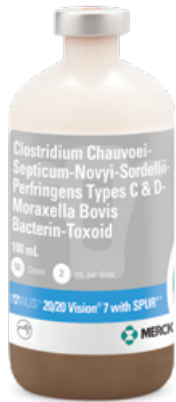
Leaving out even one of these three steps can compromise the entire control effort.

Vaccination, fly control and environmental management all work together to help achieve maximum protection from pinkeye – sparing both your cattle and your ROI. Talk to your veterinarian or Merck Animal Health sales representative for help selecting the right pinkeye prevention solutions for your herd.

Merck Animal Health has the right solutions in place to help prevent pinkeye.

PINKEYE VACCINES

**BOVILIS®
20/20 VISION® 7
WITH SPUR®**



**MORAXELLA
BOVOCULI
BACTERIN**



**BOVILIS®
PILIGUARD®
PINKEYE**



INSECTICIDES

ULTRA SABER™

*Pour-on insecticide for
beef cattle and calves*



DOUBLE BARREL® VP

Insecticide ear tags



ULTRA BOSS®

*Pour-on insecticide for cattle,
sheep, goats and horses*



¹Arnold M, et al. Infectious Bovine Keratoconjunctivitis (Pinkeye) in Cattle. University of Kentucky College of Agriculture. 2012.

²Merck Pinkeye Quantitative Survey, 2021, Farm Journal, Lenexa, KS.

³Bartos A. Culturing pinkeye lesions: *Moraxella bovis* vs. *Moraxella ovis*. *Bovine Veterinarian*. 2002.

⁴Pinkeye in cattle. Mississippi State University Extension Service. POD-02-14.

⁵Data on file, Merck Animal Health.