

Tech Specs

Pinkeye Shield® XT4

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Protection Against *Moraxella bovis*

Broad-spectrum coverage against the leading cause of pinkeye.

ONE DOSE

Pinkeye Shield XT4 is approved for one-dose administration, with no booster dose necessary the first year. The convenient 2 mL dose provides ease of administration.

EFFECTIVE AND RELIABLE

Pinkeye Shield XT4 contains four inactivated field isolates and is adjuvanted with the exclusive Xtend® SP for optimal antigenicity.

ECONOMICAL

Vaccination with Pinkeye Shield XT4 helps to prevent costly pinkeye outbreaks, saving producers both time and money.

PINKEYE SHIELD XT4

INDICATIONS: This product has been shown to be effective for the vaccination of healthy cattle against pinkeye caused by *Moraxella bovis*. The duration of immunity for this product has not been determined. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

ADJUVANT: Xtend SP

DIRECTIONS: Shake well before using. Administer 2 mL intramuscularly in the neck. The need for annual booster vaccinations has not been established for this product; consultation with a veterinarian is recommended.

PRECAUTIONS: Store out of direct sunlight at 2° to 8° C (35° to 46° F). DO NOT FREEZE. Do not mix with other products, except as specified on this label. This product has not been tested in pregnant animals. In case of human exposure, contact a physician. Use entire contents when first opened. Do not vaccinate within 60 days prior to slaughter. Transient swelling may occur at the site of the injection. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains thimerosal as a preservative.

VLN/PCN: 196/2772.00

TECHNICAL DISEASE INFORMATION

Infectious Bovine Keratoconjunctivitis (IBK), commonly known as pinkeye, is an economically important cattle disease with worldwide distribution. One of its causes is a bacteria, *M. bovis*, that is easily transmitted from animal to animal by flies that feed on eye secretions of infected animals. Clinical signs of pinkeye include sensitivity to light, lacrimation, conjunctivitis, corneal opacity and corneal ulcers, which may affect one or both eyes. Most affected animals will recover within 3 to 4 weeks, but some animals will be permanently blinded. Pinkeye by itself is not a fatal disease, but it may indirectly cause death if an affected animal is blinded to the extent that it is unable to find food or water. Pinkeye affects 10 million calves annually.¹ One study showed a 17 lb weight loss when one eye was affected and up to a 65 lb loss when both eyes were involved.¹

One important factor contributing to virulence is the presence of pili. The pili are structures that attach to the corneal surface, enabling them to defeat the host immune system and cause disease. Different strains of *M. bovis* have different types of pili that contain different antigens.²

Pinkeye is a seasonal disease, with most cases occurring in late spring, summer and early fall. This coincides with the time of year having the most sunlight exposure. The ultraviolet light in sunlight acts on the *M. bovis* organisms to make them more of a risk factor.³

All ages of cattle can be affected by pinkeye if they have not developed immunity, but the disease is most common in calves. After an animal is infected, it develops immunity. Recovered animals may carry and shed the bacteria in their lacrimal secretions for more than one year, which explains how the disease can be carried over in a herd from year to year.⁴ First symptoms of the disease are lacrimation or tearing and light sensitivity, which progress to corneal cloudiness and corneal ulcers. In severe cases the eyeball may rupture or abscess, causing complete and irreversible blindness.

Other diseases that can cause conjunctivitis, such as Infectious Bovine Rhinotracheitis (IBR), other bacteria and some strains of *Mycoplasma*, can be confused with pinkeye.

Other bacteria, *M. ovis* and *M. bovoculi*, appear to be emerging as other causes of pinkeye. These agents may co-infect the animal along with *M. bovis*, making the disease more difficult to control. With no licensed products approved for *M. ovis* or *M. bovoculi*, consider using an autogenous or custom vaccine specifically made for the affected herd.

If affected animals are detected early and treated aggressively, they will usually recover with minimal or no permanent eye damage; however, treatment is expensive and time-consuming. Animals that have had pinkeye often lag behind the rest of the herd in performance. Pinkeye Shield® XT4 can be administered to animals to help prevent the disease. Animals should receive a single 2 mL dose intramuscularly, which produces immunity against the devastating effects of pinkeye caused by *M. bovis*.

**FIGURE 1. PINKEYE SHIELD XT4 EFFICACY STUDY
AVERAGE DAILY CLINICAL SCORE⁵**

	Vaccinates (n=18)	Controls (n=18)
Average per animal	1.52	4.16
Average per eye	0.76	2.08

P < 0.01

Animals were observed daily for a total of 7 days. Eye lesions were graded on a scale of 0 to 6, with 0 being normal and 6 being severe lesions with blindness. Pinkeye Shield XT4 vaccinates showed significant levels of protection following challenge with virulent *M. bovis* organisms.

To learn more about Pinkeye Shield XT 4, contact your herd health veterinarian, Elanco sales representative or technical consultant, or visit Elanco.us

The label contains complete use information, including cautions and warnings. Always read, understand and follow the label and use directions.

¹ Troutt F, Schurig G. Pinkeye: facts and figures. *Anim Nutr Health*. 1985;28-35.

² Brown MH, Brightman AH, Fenwick BW, et al. Infectious bovine keratoconjunctivitis: a review. *J Vet Intern Med*. 1998;12(4):259-66.

³ Boileau M, Giedt EJ, Lalman D, et al. Pinkeye. Oklahoma Cooperative Extension Service. October 2016.

⁴ Whittier WD, Currin J, Currin N. Pinkeye in beef cattle. Virginia Cooperative Extension. 2009.

⁵ Elanco Animal Health. Data on file.