INDUSTRY

Preventing Pinkeye in cattle

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Dr John Angelos inspects a cow for pinkeye

Pinkeye is most common in summer months

Pinkeye – or infectious bovine keratoconjunctivitis – is the most common eye disease of cattle in California and throughout the U.S. Pinkeye causes both economic losses to cattle producers as well as pain and suffering in affected animals that negatively impacts overall animal welfare. Caused by infection of the cornea with Moraxella bovis (M. bovis) bacteria, pinkeye results in painful corneal ulcers and inflammation of the eye and skin surfaces lining the eye (conjunctiva).

Another organism, Moraxella bovoculi (M. bovoculi), first reported in 2007 by Professor John Angelos and his research team at the UC Davis School of Veterinary Medicine (UCD SVM), is also frequently isolated from cattle with pinkeye. At this time M. bovoculi has not been proven to cause pinkeye, however, it is possible that this organism is a risk factor for the disease.

If not properly treated, corneal infections can result in corneal scars or even eyeball ruptures leading to permanent blindness. Pinkeye is most common in summer months with increased exposure to sunlight, and dry, dusty conditions. Plant awns such as foxtails can also predispose to disease by getting caught in the eye and damaging the cornea. Flies also increase the chances of exposure and spread of M. bovis bacteria by feeding around the face and eyes of affected cattle and then transferring infected eye fluids to other animals. The disease can also be spread by humans, particularly when they are not wearing disposable gloves or applying disinfectants to halters or other objects involved in handling affected animals.

Professor John Angelos has spent more than 15 years researching causes and potential treatments for this costly disease.

“Controlling pinkeye in your herd can be a challenge” said Angelos. “It’s important to practice preventative measures like

vaccination before there is an outbreak."

Dr. Angelos cites some common signs of disease and offers cattle producers these tips on prevention:

Common Signs:

- Excessive tearing
- Frequent blinking or squinting
- Decreased appetite due to eye pain
- Corneal ulceration and cloudiness
- Potential blindness or eye rupture
- Can affect one or both eyes
- Younger cattle typically more susceptible

Tips on Prevention:

Fly control: Controlling flies should help to reduce the risks of disease spread between animals in a herd. Traditional methods have included the use of insecticide-containing ear tags, dust bags, and systemically- or topically-applied parasiticides.

Practice good sanitation/hygiene: To avoid inadvertently spreading infective bacteria between animals, use of disposable gloves is recommended when handling pinkeye-affected cattle. These gloves should be changed or at least disinfected between animals. In addition, consider changing clothes or disinfecting plastic aprons and halters between cattle. One commonly used disinfectant is 10% household bleach made by mixing one part of regular strength household bleach to nine parts water (or ~1-1.5 cups regular strength bleach per gallon of clean water). If using concentrated bleach you will only need ~1/2 cup per gallon of clean water. This mixture should be made fresh daily to maintain effectiveness. Also, bleach becomes less effective when it becomes heavily soiled with dirt or manure and other organic material. For that reason it may need to be refreshed more frequently, depending on use and working conditions.

Promote optimal health and immunity & vaccinate before there's a problem: According to Dr. Angelos, vaccination is the main crux of prevention, although producers can still experience variable results with today's vaccines. When vaccinating animals, it is important to vaccinate well in advance (ideally at least four weeks) of the anticipated summer onset of pinkeye in your herd, so that cattle will have enough time to mount an effective immune response following vaccination. Because young animals tend to be most affected, it is critical that young stocks are part of the vaccination program. Finally, it is important to make sure that cattle have adequate levels of trace minerals such as copper and selenium for a properly functioning immune system. Dr. Angelos and his team continue to do research at UCD SVM to develop better pinkeye vaccines that will be more effective than currently-available vaccines.

Treatment:

According to Angelos, M. bovis is susceptible to a wide variety of antibiotics; however, only two are specifically labelled for

the treatment of pinkeye: tulathromycin and oxytetracycline. Other antibiotics are known to be effective, but the use of these drugs for pinkeye treatment is considered “off-label,” according to Angelos, who stressed that all treatment programs should be overseen by a herd veterinarian who can assess the situation and recommend the best treatment protocol.