

## Pinkeye – “Infectious Kerato-Conjunctivitis”

Infectious bovine keratoconjunctivitis (colloquially known as pinkeye) is a highly contagious disease that affects cattle of all ages (but especially younger animals) and is a significant cause of morbidity and economic loss in Australian cattle. The disease itself is caused by multiple strains of a bacteria called *Moraxella bovis*, another similar bacteria called *Moraxella ovis*, and a more recently discovered bacteria called *Moraxella bovoculi*.

The major predisposing factor for development of pinkeye is damage to the cornea. The initial damage to the cornea can be caused simply by exposure to UV light, and dusty conditions. Examples of ‘perfect storms’ for pinkeye outbreaks include yard weaning, or cattle being kept in paddocks with long grass during hot, dry weather. Flies act as a major mechanical vector of the disease and controlling flies is a crucial component of managing the disease.

Pinkeye cases initially present with excessive tear production and blinking, then progress to ulceration of the eye, corneal opacity, pink and yellow discolouration of the cornea, then swelling which can lead to rupture of the cornea or eye itself. Animals that recover may be normal, or in a particularly nasty case scarring and permanent blindness can occur.

### **Managing clinical cases**

Prompt management of clinical cases of pinkeye is crucial to getting on top of pinkeye outbreaks. Very early cases (where excessive tear production and blinking are the only signs) can be managed purely with topical preparations of cloxacillin (Opticlox). These cases generally need 4 treatments over 2 days. Blanket treatment of an entire mob of cattle with oxytetracycline can also be performed to help prevent spread.

Any cases that are more advanced (ulceration and discolouration seen) warrant antibiotic treatment and patching. In these more severe cases treatment can either be topical (Opticlox) or injected subconjunctivally (a mix of penicillin and dexamethasone). Subconjunctival injections can seem a bit confronting but they are deceptively easy to perform and in the long run it may be more economical for a vet to teach you how to perform them rather than have a vet come out every time it needs doing. Patches can be as simple as a square cut out of an old pair of jeans, held over the eye with Liquid Nails or a similar adhesive. The adhesive will wear away over the following weeks and will fall off in the paddock after the infection is resolved. Patches serve to protect the eye from further damage from UV light and dust and help to prevent spread of the bacteria by keeping flies out of the eye.

In the most extreme of cases, surgical removal of the eye is warranted. Surgery is indicated when there is a complete perforation of the cornea and prolapse of the iris, or there is a rupture of the eyeball itself. Eye removal is a relatively simple surgery performed in a standing animal with local

anaesthesia of the eye. The procedure costs between \$400 and \$500 depending on antibiotic choice and procedure time and is definitely worth considering to ensure you end up with an animal that is fit to load.

Other treatment considerations:

- Avoid tetracycline sprays (Alamycin and Terramycin) as the aerosol in these products can actually make ulcers worse and inhibit healing.
- When using Opticlox, make sure you apply the product behind the third eyelid, there are plenty of cases where treatment fails because a producer applies the product directly to the ulcer, and then the third eyelid comes across and wipes it away.

### **Preventative measures**

Preventing pinkeye outbreaks is (as you already know) difficult, but the pillars of prevention are dust management, fly control, and vaccination.

**Dust management:** Managing dust is easier said than done, however you can make a big difference by setting up some sprinklers in your yards to wet the dust down prior to bringing stock in. This is particularly important when stock may be in yards for a long period of time (for example yard weaning). Managing feed length and pasture growth stages is also

important, as grazing tall, flowering grasses results in a lot of pollen in the air which can irritate eyes.

**Fly control:** Control of flies is crucial in preventing spread of pinkeye throughout the herd. Applying a pour-on fly control product to animals at the beginning of problem periods can significantly reduce the frequency of cases. An ideal strategy would be to apply a product of this type to all animals on the property, and then to any new animals bought as soon as they are unloaded. Suitable fly control products available on the market at the moment are:

- Cooper's Easy-Dose
- Demize (by Elanco)
- DeltaFly Easy-dose

Your preferred rural merchandise stockist should have one of these products in stock or be able to order one in for you.

**Vaccination:** Vaccination is of limited use in a number of circumstances. There are at least 39 strains of *Moraxella bovis* that can cause clinical disease in cattle as well as *Moraxella ovis* and *Moraxella bovoculi*. The current commercial vaccine (Pilliguard by Cooper's Animal Health) only covers 3 strains of *M. bovis*. It is also ideal to vaccinate cattle 3-6 weeks before the pinkeye 'danger period' starts, which is generally mid-September.