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PINKEYE PREVENTION & TREATMENT

Last month we discussed fly control methods. One of the important aspects of fly control is decreasing face fly infestations as a method of helping to prevent pinkeye in cattle. Face flies are very efficient at transmitting the pinkeye agent from one animal to the next. Also, calves are much more susceptible to infection with the pinkeye agent and therefore, it is most important to put the fly tags in the calves' ears versus the cows.

Another aid in the prevention of pinkeye is to clip the pastures if grass is too long and headed out. This will decrease much of the irritation to the cattle's eyes that can initiate the beginnings of a pinkeye outbreak. The irritation of dust, plant pollen, or weed seeds will promote the heavy shedding of the pinkeye bacteria (*Moraxella bovis*) by a few "carrier cows" in the herd. These carriers spread the organism by contact and via face flies to the rest of the herd and the susceptible animals will become infected and have clinical pinkeye.

Some vaccines are available for the prevention of pinkeye. One of the problems with current vaccines is that they do not provide protection in all herds and operations. If the strain of the pinkeye agent that is causing you problems is similar to the strains used in the vaccine, then they will probably be helpful—if not they won't be of much benefit. Again, since pinkeye causes more problems in calves it is essential you vaccinate the calves—vaccinating the cows won't do the calves any good. Another problem with vaccination is that you should start the vaccine protocol 6-8 weeks before the pinkeye cases are "scheduled" to start. If you start vaccinating when pinkeye cases are already occurring, it will be 6-8 weeks before the protective effects of the vaccine become apparent.

If pinkeye cases do occur, what are the treatment options? Two professors at UC Davis' School of Veterinary Medicine, Dr. John Angelos and Dr. Lisle George, have researched this topic for many years and this short article contains many of the practical items they have discovered.

First, if you are going to examine the eye for a foxtail or other weed—use disposable latex exam gloves. You can obtain these from your veterinarian or other animal health product source. After you have touched the eye (extracted the foxtail or treated the eye) or nose area, throw the gloves away. They are badly contaminated with the pinkeye bacteria. If you used a halter or nose tongs to restrain the animal, disinfect this equipment. Nolvasan® disinfectant is a good choice for this procedure. For treatment, use disposable needles and syringes.

The pinkeye agent is a bacterium and therefore, antibiotics are indicated for treatment. The question has been, "Which antibiotic, what dose, what route?" The best treatments proven by research in beef cattle are listed below:

1. Long-acting tetracycline (Biomycin® or LA-200®)

Dose: 20 mg/kg body weight (9 mg/lb.)

Route: intramuscularly or subcutaneous (these products are irritating to tissues and should be given sub-Q whenever possible) both are labeled for sub-Q use.
Frequency: Two injections 48 to 72 hours apart.
Label: Both products are labeled for pinkeye and you will not need your veterinarian's prescription if you follow the label instructions.

2. NuFlor® (florfenicol)

Dose: 20 mg/kg body weight (9 mg/lb.)
Route: Intramuscularly
Frequency: two injections 24 hours apart

Alternatively, NuFlor® can be used as single injection for longer action.

Dose: 40 mg/kg body weight (18 mg/lb.)
Route: Subcutaneous
Frequency: one treatment
Label: NuFlor® is not currently labeled for pinkeye and you must have your veterinarian's prescription to use this drug for pinkeye in cattle.

3. Excede®(ceftiofur)

Dose: 6.6 mg/kg body weight **(3 mg/lb.)**
Route: Subcutaneous--on the back of the ear. You will need to get your veterinarian to train you in the proper administration of this drug. It is relatively easy; however, if given incorrectly the drug will kill the animal very rapidly.
Frequency: one injection provides therapy for 7-8 days.
Label: Excede® is not currently labeled for pinkeye and you must have your veterinarian's prescription to use this drug for pinkeye in cattle.

The above treatments are very effective and should be considered the best methods currently available for the treatment of pinkeye in cattle. None of the above methods require any injections into the eye of the cattle. Continued use of tetracyclines in areas with high numbers of anaplasmosis cases can make the cattle susceptible to sickness due to anaplasmosis. Consult with your veterinarian regarding this potential problem. **NOTE: if any antibiotic product is not labeled for pinkeye, you must obtain a prescription from your veterinarian, as this constitutes an extra label use of this product.**

Another treatment option is to give Penicillin as an injection under the white part of the eyeball (the sclera). If you are not expert in this method, have your veterinarian train you on the proper way to administer this treatment. Do not attempt this method without training. To achieve good results, give 1 ml (1 cc) under the sclera of both eyes for at least 3 days. This method achieves good results; but is less effective than the use of oxytetracyclines, NuFlor®, or Excede®. Again, you will need your veterinarian's prescription for the use of penicillin if it is not labeled for use in pinkeye.

For many years Furox sprays or powders (Nitrofurazone, Furox®, Topazone®, NFZ Puffer, P.E. 7, etc.) placed into the eye were used for the treatment of pinkeye. This

method was not as effective as the above methods. However, beginning in 2002 this treatment became illegal for cattle. This is irrespective of whether you have a prescription or not. **Do not use the furacin-type drugs in cattle any more.**

There are some liquids and spray-type products **s**till available for pinkeye treatment. These products only stay in the eye for about 7 minutes before the tears wash it out and therefore, are much less effective than any of the methods described above. As with all treatments that are placed directly into the eye, proper restraint is necessary and the use of disposable latex gloves is recommended.

For many years, treatment with dexamethasone (Azium®) has been popular. Research indicates that when this is given under the sclera, there is no difference in the rate of healing. Therefore, use of this product is not usually recommended.

Keep written records of treatments and results. Discuss these with your veterinarian as your reevaluate pinkeye prevention and treatment plans for the future. Also, if your cattle are copper deficient or selenium deficient, the number of pinkeye cases will be greater and the severity will be worse. Be sure your mineral program is working, as this is important in the animal's immune response to this bacterial pathogen.

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