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SUMMER DOCTORING

This summer will be full of many high priority activities for ranchers in California. Squeezing the last bit of available moisture out for irrigation and stock use, getting that extra cutting of hay in the barn, and watching the markets closely to decide when to sell calves or cull cows. All these things will be a priority this drought year.

One thing we can be sure of, however; is there will be cattle to doctor. Somehow, animals with pinkeye or foot rot will work their way into our busy schedules. So I thought I would spend a little time reviewing good treatment options for these two problems.

If pinkeye cases do occur, what are the treatment options?

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, another animal health product source, the pharmacy, or Costco. 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 and then dispose of them when finished.

The pinkeye agent is a bacterium and therefore, antibiotics are indicated for treatment. The question has been, "Which antibiotic, what dose, and what route?" The best treatments proven by researchers at UC Davis (Dr. George and Dr. Angelos) 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 treated 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 can achieve acceptable 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.**

There are some liquid and spray-type products **s**till marketed for pinkeye treatment. These products only stay in the eye for about 7 minutes before the tears wash them 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 necessary to prevent further spread of the pinkeye organism.

For many years, treatment with dexamethasone (Azium®) has been popular. Research indicates that when this is given under the sclera with penicillin, there is no difference in the rate of healing. Therefore, use of this product is not necessary. The use of Banamine® does help with the pain caused by pinkeye and this drug can be prescribed by your veterinarian as an adjunct to antibiotic therapy.

What about foot rot cases?

Another common condition that often necessitates the use of antibiotics in cattle is "foot rot" or what is medically termed *interdigital phlegmon.* It is an infection of the soft tissue between the claws (digits) of the feet and is caused by two anaerobic bacteria (these are bacteria that grow in the absence of oxygen), *Fusobacterium necrophorum* and *Bacteroides melaninogenicus*. These bacteria are common in the environment and *F. necrophorum* is present in the rumen and feces of normal cattle. *Fusobacterium necrophorum* is the same agent that causes liver abscesses in dairy cattle and feedlot calves. Once these bacteria invade the skin of the foot, they rapidly cause the condition we recognize as foot rot.

The appearance of foot rot is fairly typical and begins as a swelling of the skin between the claws. This swelling usually occurs within 24 hours of the onset of the infection. The toes become separated due to the swelling and the skin appears reddened. The foot is very painful and the animal can be quite lame at this time. A fissure or crack develops along the swollen area for part or all of the length of the space between the toes (the interdigital space). Yellow to grayish tissue extends from this crack and the lesion has a characteristic foul odor. The British call this disease “foul of foot” which is very descriptive. The area around the coronary band can be swollen and red. Affected cattle can have a mild fever, refuse feed, and be mildly to severely lame. Also, it is common for affected cattle to lose a considerable amount of weight during a bout with foot rot. If the foot rot lesion does not heal satisfactorily, very serious problems can develop. The structures just beneath the skin of the foot include the bones of the foot, the tendons and joints of the foot. If these underlying structures are invaded by bacteria-particularly the joints, bones, or tendons--therapy is very difficult and the chances of recovery are low.

Treatment of foot rot is relatively straightforward and if instituted early is usually successful. Two types of antibiotics labeled for foot rot therapy are listed below:

1. 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

2. 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.

Other antibiotics that can be effective include penicillin, ampicillin, or sulfa drugs. Many of these are not labeled for foot rot and will require your veterinarian's prescription and an extended withdrawal time. If the animal does not improve (with noticeably less lameness) within a day or two or if deeper structures of the foot become infected, consult your veterinarian immediately.

One preventive measure for foot rot is to insure that damage to the feet of cattle is minimized. This includes making sure cattle do not have to be in muddy areas for extended periods of time. Limit coarse stubble grazing to cooler times of the year and limit contact with gravelly or rocky areas. Some of these problems may not be avoidable under practical conditions. Feeding organic iodine (ethylenediamine dihydriodide; EDDI) can help prevent foot rot. The EDDI should be fed at 10-15 milligrams per head per day. EDDI fed in loose salt mixes works very well, however; EDDI *should not* be fed in salt block formulations as it does not seem to be available to the cattle.

Keep written records of treatments and results. Discuss these treatment ideas with your veterinarian as your reevaluate prevention and treatment plans for the summer. Also, if your cattle are copper deficient or selenium deficient, the number of pinkeye and foot rot 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.

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