

Valleywide News



VALLEYWIDE VETERINARY SERVICES

How to Choose a Good Calf Electrolyte

Dr. Elizabeth Martens

Calves with scours are dehydrated, acidotic, low in blood sugar and often hypothermic. If caught early, 2 liters of a high quality oral electrolyte in addition to their normal milk feedings can correct all of these issues. It's important to read the label of your electrolyte product to make sure it has the best ingredients at sufficient levels to correct the effects of the diarrhea.



dosis caused by diarrhea. Acidosis happens to all scouring calves because significant bicarbonate is lost in the diarrhea. In addition, undigested milk in the digestive tract fer-

sodium, potassium and chloride are included in the right quantities in your electrolyte.

A good electrolyte also has an ingredient to help facilitate absorption of the sodium, potassium and chloride in the intestine. This ingredient could be glycine, acetate or propionate. Acetate and propionate are slightly preferred because they have the added benefit that they produce energy when metabolized. They also have been shown to inhibit bacterial growth and promote a more healthy gut environment for healing.

Some sort of base is essential to treat aci-

ments and creates more acid that is not easily cleared from the system. This acidosis makes the calf feel sick, look depressed and lose their suckle reflex. If the calf can still stand and suckle, 2 liters of an oral electrolyte with 60-80 mEq/liter of bicarbonate, acetate or propionate might be adequate without requiring additional IV fluids.

It's important to remember that oral electrolytes alone can only treat mild to moderate cases of scours. Once a calf loses their suckle reflex, doesn't stand well or has blood in their manure, IV fluids are needed.

Oral electrolytes have 3 major roles to play – replenish electrolytes, facilitate absorption and correct acidosis.

Electrolytes are replenished in the form of sodium, potassium and chloride. Dehydration is not simply a lack of water. Water needs to have electrolytes in order to diffuse into tissues and rehydrate cells. Check that

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Recommended Levels:

Sodium 90-130 mM/L

Potassium 10-30 mM/L

Chloride 40-80 mM/L

Base (bicarbonate, acetate or propionate)

60-80 mEq/L

An Update on Pinkeye

Dr. Elizabeth Martens

Pinkeye is an infection, usually caused by a mix of the bacteria *Moraxela bovis*, *Moraxela bovoculi* and several strains of *Mycoplasma*.

Healthy and infected heifer eyes culture *Moraxela bovis* and *bovoculi* at the same rates. The difference between an animal that gets pinkeye and one that doesn't comes down to the animal's immunity and the degree of eye irritation. Immunity comes in the form of good nutrition, lack of parasites and stress, age, and vaccination. Eye irritation may be from flies, blowing bedding or feed, long pasture grasses or even UV light from the sun.

The impact of flies as spreaders of pinkeye bacteria shouldn't be ignored. Flies can carry new, more aggressive *Moraxella* bacteria strains and spread it among animals. They also irritate the eyes at the same time as they introduce new bacteria.

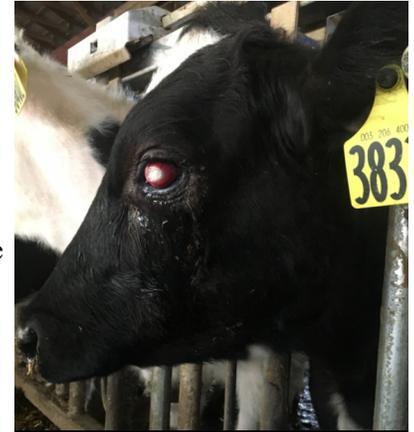
Moraxela bovis has hair like appendages called pili that stick out and grab hold of any damaged part of the cornea, allowing the *M. bovis*, *M. bovoculi* and *Mycoplasma* to crawl inside. Once bacteria gain access into the eye, they send out damaging substances that break down tissue. This is called corneal melting and may be mild or severe.

While pinkeye infections usually resolve on their own, they are extremely painful. Animals with pinkeye have reduced growth rates and a small percentage will end up with permanently damaged eyes. Treatment with antibiotics reduces duration and severity of infections and is highly recommended. Oxytetracycline concentrates in the eye and is usually very effective. Pain control with an anti-inflammatory such as Transdermal Bannamine has not yet been studied but might provide some relief until the corneal ulcer heals.

Vaccination is far from being a silver bullet to solve pinkeye problems on farms, but it does reduce the number and severity of cases. The success of vaccination seems to vary from farm to farm and the key is making sure your animals are fully covered (2 weeks post booster shot) before the age when they start developing infections. There are two methods of vaccination; commercial or autogenous vaccines. Commercial vaccines are readily available and either cover *Moraxela bovis* or *Moraxela bovoculi*. If you only want to give one vaccine it should be against *M. bovis*, even better protection would be from both vaccines given together.

An autogenous vaccine can be created from cultures of the pinkeye bacteria on your farm. A veterinarian would take 2 sterile swabs from at least 3 different animals with active pinkeye. This should be done early in the day and early in the week if possible to

make sure the samples can be shipped directly to the lab on ice. Delays in arrival to the lab can result in overgrowth or contamination and those samples cannot be used to create a vaccine. An autogenous vaccine can protect against several bacteria with one injection and a booster. Costs depends on number of bacteria types included in the vaccine and number of doses. Talk to your veterinarian ahead of time to plan for swabbing, culture, and at least 6 weeks for the lab to produce the vaccine.



Active pinkeye infection

Valleywide Producers Dinner Meeting

***Thursday, April 14th @
6PM***

***Middlebury VFW post
7823***

Speakers:

***Dr. Marissa Horton - Key
Financial Drivers in the
Dairy Industry***

***Dave Erf - Genomics in
the Dairy Industry***

Please RSVP by April 8th

Dinner sponsored by Zoetis



Corneal scar of a healed pinkeye infection