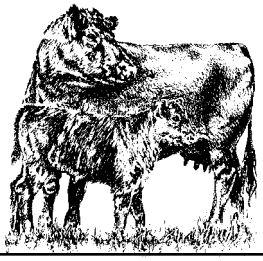

Western Beef Resource Committee *Fourth Edition*

Cattle Producer's Handbook

Animal Health Section 649

Treatment of Sick Calves

V. Michael Lane, D.V.M., M.S.; Marie S. Bulgin, D.V.M; and Bruce C. Anderson, D.V.M., Ph.D.
Caine Veterinary Teaching and Research Center, University of Idaho

Oral fluid therapy is the single most important treatment for calves with simple diarrhea. "Simple" means that the calf is losing excessive amounts of fluids and certain electrolytes from the intestine; there is not a destructive disease outside of the intestine. Therefore, "simple" means there are no complications.

A well-designed oral fluid/electrolyte product given in appropriate quantities will replace the fluids and electrolytes lost in simple diarrhea and prevent excessive dehydration, which is the main cause of death. Not every scouring calf will require oral fluids. Calves that scour but are not depressed, and appear to have normal activity levels, and keep eating regularly, generally don't need treatment. Some dehydrating diarrheas progress so rapidly, however, that treatment is needed at the first sign that the calf's attitude is changing.

Sick calves and their dams should be removed from the herd and placed in the sick pen (see 648). Any calf that shows signs of weakness, depression, or sunken eyes should be treated vigorously. In severe cases, intravenous treatment with the right kind of fluid/electrolyte may be the only effective mode.

Commercial electrolyte solutions are preferred over homemade varieties. Many brands are available but cheaper products are, unfortunately, not as good as the more expensive ones. Examples of good electrolytes include Lifeguard HE®, Biolyte®, Calf Quencher®, Revive®, and Survive®. Usually beef calves will not suck a bottle, that means that the electrolytes must be given via esophageal feeder. The feeders usually hold 2 quarts. Two quarts at least twice a day should be given. Mix electrolytes using warm water according to directions on the package, and do not give with or in milk or milk replacer. Don't add salt, sodium bicarbonate, or sugar. The correct concentration of the electrolyte is important, and it should not be made up stronger or weaker than called for. Many hospitalized calves are sick, not from scours, but from salt poisoning resulting from the addition of extra salt or bicarbonate to an electrolyte fluid or milk. If the calf is not suckling its dam, milk should be given in addition to the electrolytes, but at least 1 hour before or after the electrolytes.

If the calf is too weak to stand, it is imperative to have it rehydrated intravenously (IV). In most situations, it is easiest and actually more cost effective to have a veterinarian (if nearby) do this than to attempt to learn the manual skill and keep the necessary sterile fluids and paraphernalia on hand. Aggressive early oral therapy will usually prevent the calf from needing IV fluid therapy. However, in some instances the disease process works so rapidly, only IV therapy will save the calf. Managers must recognize these life-threatening cases and get veterinary help while the calf can still be saved.

Antibiotics are designed to inhibit or kill bacteria, such as *Salmonella* and *E. coli*, both of which can cause scours. Simple dehydrating diarrhea caused by one type of *E. coli*, for example, occurs in the first 3 days of life. This early *E. coli* scours usually is prevented by vaccinating dams 30 to 45 days before calving season starts. If the cows have not been vaccinated and such an early scours outbreak begins, prevention requires that the newborn calves each be treated orally within the first few hours after birth with an antibiotic such as trimethoprim-sulfa. This should be repeated for a day or two if you can catch the calf easily. Many of the commonly used antibiotic

scour pills and liquids will not work on this particular early scours. In fact, the common bacteria may be resistant to such antibiotics as tetracycline, neomycin, and some of the sulfas present in over-the-counter scours pills and liquids. If your favorite antibiotic is not working, it may be useful to have a diagnostic investigation of your problem with culture and antibiotic resistance studies of any causal bacteria.

Salmonellosis can occur at any time but is rare in beef herds. There is controversial evidence that this disease can be prevented by vaccination but, because it is seen so infrequently in beef herds, vaccination is usually not warranted.

Over 95 percent of the simple scours in beef calves is caused by viruses and protozoa that do not respond to antibiotics. These types of organisms cause an illness that is analogous to human intestinal flu in that the course runs a few days to a week and antibiotics are not effective. Zealous use of scour pills and other products designed to act against bacteria may, in these cases, only serve to upset normal bacterial balances in the intestine, thus worsening the illness.

Supportive therapy is always very important in sick animals. Gut "protectives" such as Pepto Bismol or Corrective Mixture traditionally are thought to be useful to reduce discomfort. People with scouring calves are traditionally committed to "plugging them up." However, drugs such as atropine, scolpalamine, and paregoric that slow or stop the intestinal movement are absolutely not recommended. New products are continuously being developed and veterinarians usually will be good sources for up-to-date information on such products. A relatively warm (40° to 45°F), dry environment with adequate shelter from the cold and wind will make the difference between life and death of the calf in many cases.

Summary

If there is an adequate preventive medicine program, scour problems will be limited to the calves' second week of life. The problem will be due to virus and/or protozoa infections. Antibiotics are not useful in treating these agents. The right type of oral fluids will in many cases be the cornerstone of the treatment protocol. Remove dam and scouring calf from the rest of the herd to a sick pen. Be sure the sick pen has good shelter, water, and loose salt available to the calves. Give dehydrated, depressed calves 2 quarts of electrolytes 2 to 3 times per day and, if they are not suckling, 2 to 4 quarts of milk also. Calves that cannot stand should be delivered to the veterinarian for IV fluids immediately. Oral treatment can be discontinued or reduced as the attitude and activity of the calf improve. Monitor the calf's attitude, not the fecal consistency, to decide when to begin and stop therapy. Keep the sick calves comfortable with dry bedding, wind breaks, and heat lamps if necessary. Consult your veterinarian when questions or complications arise.

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