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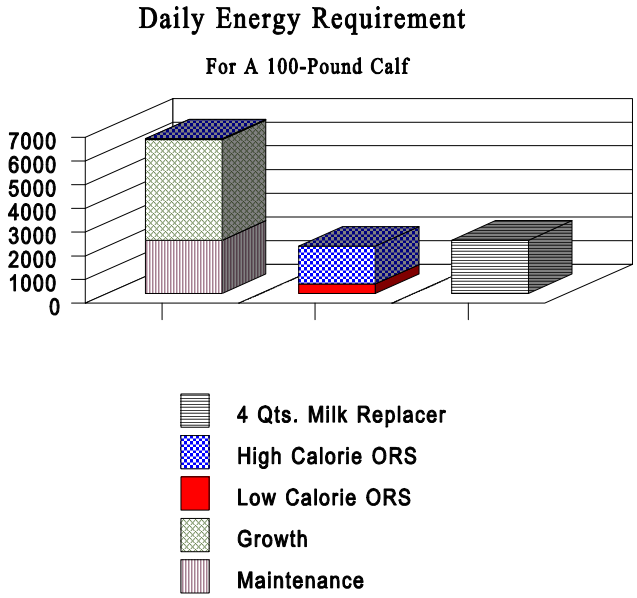
TECHNICAL INFORMATION FOR TODAY'S FEED PROFESSIONAL

# SCOURING CALVES NEED MILK, TOO

If you haven't already, it's time to update your treatment protocol for scouring calves. Several research studies conducted over the past five years have shown the benefits of feeding milk to scouring calves in addition to electrolytes.

Feeding milk in addition to an oral rehydration solution can improve body condition without worsening the scours.




You may have withheld milk from scouring calves before, believing that a calf loses its ability to digest milk when scouring and that undigested milk would only worsen the diarrhea. But, in light of these new research findings, the old method was probably wrong. Feeding milk in addition to electrolytes should become the new standard for treating scouring calves. Here's why:

## Extra Calories

According to Sheila McGuirk, professor of large animal medicine at the University of Wisconsin School of Veterinary Medicine, electrolytes contain only about half of the calories a calf needs for body maintenance and growth. Scouring calves, especially in the winter, need additional energy to combat the scours and to maintain body temperature. A scouring calf that only receives electrolytes will still be dehydrated and can lose body condition fast.

This lack of nutrient flow causes the villi (wave-like hairs that absorb nutrients) in the small intestine to slowly shut down and stop absorbing nutrients. When this occurs, recovery time will be extended. Electrolytes were designed to rehydrate the calf and restore the chemical balance to help prevent secondary problems such as metabolic acidosis. They were never intended as a complete nutrient source.

**A scouring calf can lose 5-10% of its body weight from watery feces in one day.**

### Fluid Needs

Water makes up approximately 75% of the total body weight of a baby calf. A scouring calf can lose 5-10% of its body weight from watery feces in one day. In most cases, when a calf with scours dies, the calf actually dies from dehydration and loss of electrolytes, not from the infectious agents which triggered the scours.

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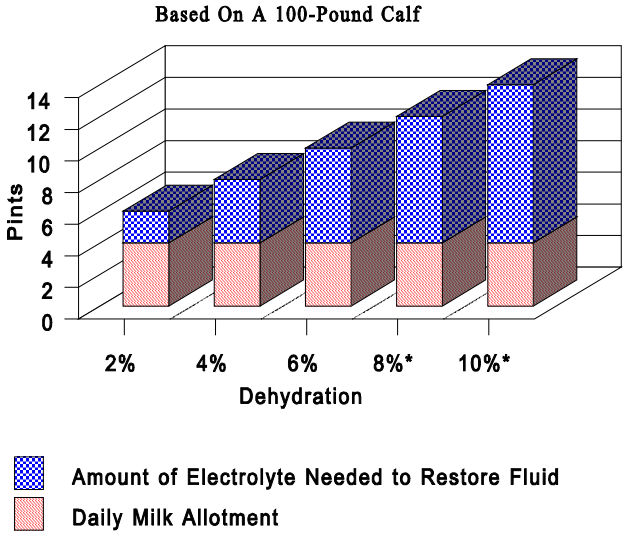
## Determining A Scouring Calf's Fluid Needs




**These calves need intravenous fluid therapy from a veterinarian.*

**Treatment Protocol:**
A scouring calf should receive its feeding of milk first. Then 15-20 minutes later, feed it the amount of oral rehydration solution needed to restore the fluid balance. If the calf is unwilling to drink the oral rehydration from a bottle, use an esophageal feeder to deliver the necessary fluids. Another option is to split the feedings into three or four smaller feedings throughout the day. This encourages the calf to drink more liquids on its own.

For the calf to survive, it needs to receive enough fluids to replenish what has been lost from the scours, plus meet normal body maintenance. A 100 pound calf that loses 5% of its body weight to scours in one day will need 13-15 pints of fluids to meet its fluid needs for that day. See the cart above. Electrolytes, fed in addition to a normal allotment of milk, can meet the calf's needs.

## Research Results

University of Illinois research reported in the March 1994 issue of *Journal of Dairy Science* illustrated the positive correlation between feeding milk and electrolytes to scouring calves.

In that study, calves which received electrolytes in place of milk for the first two days of treatment lost an average of 2.2 pounds. During the next five days of treatment, milk was slowly reintroduced and the calves gained an average of 1.5 pounds. By contrast, calves which received their normal allotment of milk (10% of body weight), plus electrolytes to match their percentage of dehydration, gained an average of 3.3 pounds.

Fecal scores used to rate the severity of diarrhea were similar for both groups of calves during the seven-day trial, says Jim Drackley, associate professor of dairy nutrition at the University of Illinois. Even when scouring, calves have sufficient ability to digest and use milk without worsening the diarrhea.

Calves which do not receive enough energy will try to compensate by breaking down body fat. Baby calves have less than one 1% body fat. When body fat cannot meet their needs, calves will start to break down muscle tissue to use the protein as energy. Despite having recovered from the scours, calves put in this negative energy situation often do not achieve the same growth and performance as other calves the same age.

## Economics

By improving the health of your calves, you will receive an economic return. The National Dairy Heifer Evaluation Project, completed by the USDA's National Animal Health Monitoring System, found that of all dairy heifers born alive or moved onto the farm, 8.4% died. Of this death loss, 52% was attributed to scours.

You can evaluate this loss two ways: The cost of a baby heifer calf at $100-$125, or the cost of a replacement

heifer at $1200-$1500. Either way, the cost adds up. And anything you can do to reduce your heifer death loss, especially due to scours, should improve your bottom line.

The advantages are clear. Calves which receive milk in addition to electrolytes have better body condition at recovery , and contrary to traditional belief, milk does not prolong or worsen scours. With these benefits in mind, you should definitely consider adopting this change.

Source:
Dairy Herd Management, Scouring Calves Need Milk, Too. December, 1995.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