

Dairy News

September 2019

Dr. Scott Wiley is leaving Dairyland Veterinary Service:

I will be leaving Dairyland Veterinary Service after 27 years because of health issues. September 30th will be my last day of work. The decision has been a difficult one for me to make. I love the work, people and cattle. It has been my great pleasure to work with what I consider some of the best dairy people in the country. Thank you for allowing me to work on your dairies and for the many positive memories you all have given me. You will be missed. I will continue to live in the area and will see some of you. Best wishes to each of you and your families.

Dr. Scott Wiley



Calf Diarrhea

Calf scours is responsible for 68% of calf deaths before weaning. Diarrhea leads to dehydration, acidosis, negative energy balance, and an electrolyte imbalance. Acidemia (acidic blood), septicemia (blood infection), hyperkalemia (high potassium), hypothermia, and malnutrition are responsible for the calf deaths we see.

Myths of Calf Diarrhea

Myth 1- All oral electrolytes are created equal

The ideal electrolyte will supply sufficient sodium, agents that facilitate intestinal absorption of sodium and water, provide an agent to correct acidosis, provide energy to correct energy imbalance, and facilitate a healthy GI environment.

- Sodium- Sodium concentration should be between 90-130 mM/L
- Potassium- Potassium concentration between 10-30 mM/L
- Chloride- Chloride concentration between 40-80 mM/L
- Contain an agent to correct acidosis such as bicarbonate, acetate, or propionate
- Contain an agent such as acetate, propionate, glycine, or alanine to absorb sodium and water
 - Acetate and propionate are preferred agents because they produce energy, inhibit growth of Salmonella, and stimulates absorption of sodium and water in intestine
- Have an osmolality of 400-500 mOsm/L
- Does not contain psyllium (dietary fiber)
 - Psyllium hinders absorption of sodium and glucose

Examples of good electrolytes that are sold through Dairyland Veterinary Service are Diaque, Epic, and Bluelite Replenish.

	Diaque	Epic	Bluelite Replenish
Sodium Concentration	90	92	90
Amino Acid	Glycine	Glycine	Glycine
Osmolality	377	360	400
Alkalinizing Agent	Bicarbonate and acetate	Acetate	Acetate and propionate
Psyllium?	No	No	No

Myth 2- Withholding milk will make diarrhea resolve faster

Research has shown that calves not only gain weight faster, but that the diarrhea resolves faster while keeping calves on milk during scours. At most, one feeding can be skipped if the calf is depressed, but milk should be resumed within 12 hours. Electrolytes do not have enough energy to sustain calves, who already have poor body reserves in the first place.

Myth 3- Prebiotics/Probiotics are effective in treating calf diarrhea

Recent research looking at the efficacy of prebiotics and probiotics in treating calf diarrhea showed no difference in scour days, days treated, or amount of oral electrolytes received in calves that did/did not receive prebiotics. There has been evidence that yeast cell wall extract does help with Salmonella; calves given the yeast extract had reduced intestinal colonization of Salmonella and a shorter duration of shedding after infection.

Myth 4- Subcutaneous fluids are just as good as IV fluids for resuscitating calves with diarrhea

Fluids given under the skin increase the plasma volume at a much slower rate than fluids given intravenously- the delayed absorption of SQ fluids makes it a poor choice to resuscitate calves with diarrhea and acidosis. A study showed that oral electrolytes increased blood pH and glucose concentration at a faster rate than both IV and SQ fluids. However, it is important to know that if a calf is down and non-responsive due to acidosis it will require an IV to correct its severe acidosis.

- Dr. Michael Burchard

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