

## Why Use Electrolytes

### Electrolyte Supplement Basics

Electrolyte supplements are an important part of an animal health product portfolio because raisers need to replenish nutrients and fluids to their animals during times of stress and illness. Knowing why electrolyte supplements are important, along with a basic understanding of common ingredients will help you recommend the right product for your customers.

### When and Why to Recommend an Oral Electrolytes Supplement

Electrolyte supplements containing electrolytes, energy and amino acids are designed to help replenish fluids and lost nutrients. Electrolytes found in electrolyte supplements can be positive ions, negative ions or minerals and help the body maintain fluid balance. Fluid balance, whether intracellular (inside cells) or extracellular (between cells) happens when each body compartment contains the right concentration of electrolytes and water. Areas of the body where fluid balance is important include the heart, brain, eyes, lungs, kidneys, joint fluids, gut...well you get the idea. An electrolyte supplement should be fed during times of stress or illness and when an animal needs additional water to maintain fluid balance.

### Fluid Imbalance Can Occur When Animals are Stressed or Ill

Common Stressors include:

- Environmental changes
- Transport
- Exposure to new animals
- Management procedures –dehorning, castrating, or vaccination
- Crowding
- Temperature extremes
- Reduced feed intake

Illness such as scours (diarrhea) can trigger dehydration, or fluid imbalance. Scours has two main causes--nutritional or pathogenic.

Nutritional scours can be caused by:

- Inconsistent feeding—variability of nutrients fed, inconsistent feeding schedule
- Poor quality milk, milk replacer or feed
- Consuming excessive amounts of milk, milk replacer or feed
- Unsanitary conditions or feeding equipment
- A sudden change in diet

Types of Pathogens that cause scours include:

- Bacterial-- E. coli, Salmonella, Clostridium
- Viral-- Rotavirus, Coronavirus
- Protozoal-- Coccidia, Cryptosporidium

### Proper Hydration Helps Immune Response

There are more cells in the gut for immunity than in any other area of the body. Therefore, animals need a healthy digestive tract to maintain a healthy immune system. Proper hydration results in a more robust immune response when animals are challenged.

However, when animals are overcome with illness and become dehydrated, electrolyte therapy helps to restore fluid balance and nutrients lost. Did you know, by the time you see watery scours, a calf may have already lost 5-7 pounds? If you pinch the skin on the side of the neck and it either “tents” or “creeps back into place”, the animal already needs electrolytes.

## Common Electrolyte Supplement Ingredients:

- **Electrolytes** are blends of acids, bases or salts; such as sodium, potassium, calcium, magnesium, and chloride. They are fed in measured amounts to improve the acid-base balance. Sodium is the main electrolyte found in body fluids and is involved in fluid balance and blood pressure control.
- **Dextrose** (Glucose) provides high energy; aids in maintaining body condition and transporting sodium to the cell level.
- **Sodium Bicarbonate** is an alkalizing agent. Metabolic acidosis can lead to acidemia (low blood pH), which can be deadly. Other alkalizing agents may be present.
- **Direct Fed Microbials (Probiotics or DFM's)** provide large amounts of beneficial "bugs" or microbes that help to combat the negative effects of stress by preventing pathogenic organisms (bad bugs) from taking over the gut. They assist in stimulating the animal's own normal immune system. Probiotics also recolonize the gut with good microbes following depletion by antibiotics or disease.
- **Prebiotics** are plant fibers that nourish beneficial bacteria in the digestive tract.
- **Glycine** is a non-essential amino acid shown to help enhance absorption of glucose.

## Electrolyte Management Suggestions for Feeders:

- Choose an electrolyte that contains a balance of the above ingredients to ensure your animal gets support to hydrate itself even if on antibiotic therapy.
- Always feed electrolytes separate from the milk or milk replacer, as the animal needs the additional fluid and energy. Remember to offer electrolyte therapy along with clean, fresh water.
- If severe dehydration occurs, intravenous therapy may be required, so consult your veterinarian. These recommendations are no substitute for advice from your vet.

Animals need to maintain fluid balance, and electrolyte supplement therapy can help replenish electrolytes, energy and fluids for animals in need. Suggest raisers keep electrolytes on hand.