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Electrolytes for calves: They're not all the same

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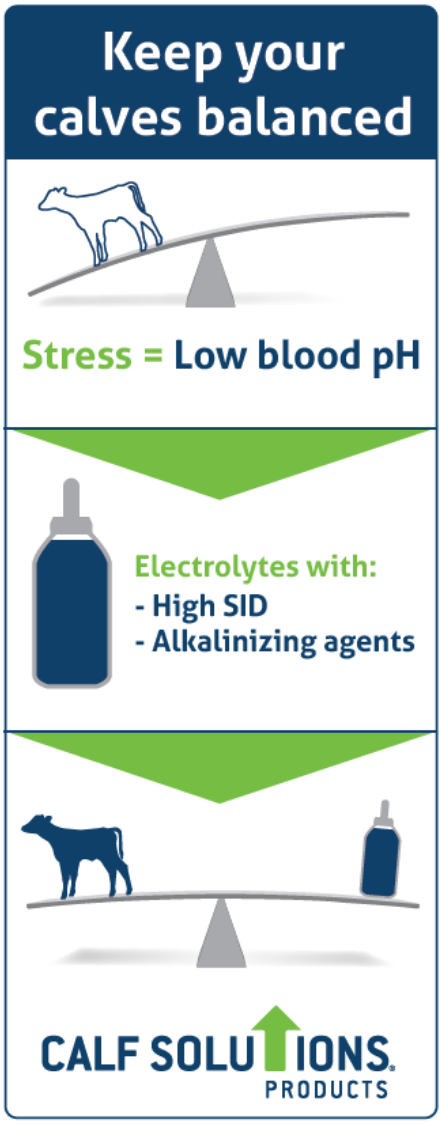
"To me they're all the same." It is a common thought farmers may have when choosing electrolytes for calves. With so many calf electrolyte products available, it's hard to know where to start looking.

When it comes to selecting electrolytes for calves, start by looking at the ingredients label. The ingredients, listed from highest to lowest concentration, are key in deciding which calf electrolyte products are best for your calves.

Some electrolytes include ingredients outside of the recommended levels by university experts. Review these five key factors before selecting electrolytes for calves:



1. Reliable energy source to combat calf health issues

When you have a sick calf, it will naturally pull any energy available to help combat what's making it ill, putting the calf at risk for lower average daily gain. A dehydrated calf needs an energy source to correct hypogly cemia and negative energy balance.

One of the most common energy sources in calf electrolyte products is dextrose, which is also frequently used intravenously to rehydrate animals. However, a calf cannot meet its energy needs with only an electrolyte, which is why it is recommended to keep a calf on a milk ration during calf health issues.

Electrolytes for calves with high levels of dextrose can bring harm to calves by slowing down gut movement, which could result in a bloated calf. If they already have calf scours, it can worsen their symptoms.

2. Strong ion difference (SID)

When a calf scours, a large amount of sodium and potassium are lost, which can result in metabolic acidosis – a drop in blood pH. A calf is not able to correct acidosis without intervention. For moderate acidosis, calf electrolyte products with a high SID formulation can help balance the loss.

Some common electrolyte ingredients to achieve a high SID include:

- Cations: Mostly sodium and potassium along with small amounts of calcium and magnesium
- Anions: Mainly chloride, but should also include a D or L isomer of lactate depending on the stage and cause of calf scours[1]

If the metabolic acidosis is too severe, oral antibiotics cannot make the correction alone and the calf will need intravenous therapy.

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3. Electrolytes for calves containing an alkalinizing agent

Alkalinizing agents are more commonly known as buffering agents used to achieve optimal blood pH levels. One of the most common alkalinizing agent ingredients you'll find in calf electrolyte products is sodium bicarbonate, mostly because it helps counteract acidosis.

Other ingredients you may see on an electrolyte label include acetate and propionate, both alkalinizing agents with several benefits. These buffering agents help facilitate sodium and water absorption, produce energy when metabolized and they don't alkalinize the abomasum or interfere with milk clotting in the abomasum.

When selecting electrolytes for calves, look for alkalinizing agents including a combination of bicarbonate, propionate and acetate.

4. An electrolyte absorption component

When you have a dehydrated calf with calf scours, the digestive system becomes compromised from decreased absorption. For example, sodium cannot be absorbed unless it is linked to absorption of glucose or a neutral amino acid such as glycine.

Acetate and propionate can also improve sodium absorption. The process of absorbing sodium helps rehydrate the calf by replenishing total body fluids. [1]

5. Osmolality and dairy calf health support

Osmolality is a term used to measure the level of solids in a solution. Look for calf electrolyte products with a range of 350 to 700 mOsm/L.

If there is an osmolality greater than 700 mOsm/L, the calf scours could get worse or they could experience abomasal bloat in calves because of the delayed emptying of the stomach[1].

Paying close attention to these five areas will make it easy to choose the best electrolytes for calves. Quality calf electrolyte products that meet these standards will help get your calves back on track.

Calf Solutions® TheraCalf® Plus electrolytes for calves help support calf health issues such as calf scours and dehydration.

[1] Geof Smith. 2009. Treatment of Calf Diarrhea: Oral Fluid Therapy. Veterinary Clinics of North America Food Animal Practice. 25(1): 55-72.