

### Electrolytes for Horses Revisited - New Dyna-Spark™!

by Judy Sinner, Gold Director, WA

*Beverly Gray says: "What changes did I notice with the Dyna-Spark™? Definitely, improved performance, rapid recovery at each check, excellent hydration, sustained energy and incredible healthy appetite as well as drinking volumes of water. This Electrolyte procedure was perfect for Paladin. Keeping in mind that every horse is an individual and electrolyte dose can vary with temperature, humidity, distance, speed of the horse, terrain and conditioning.*

*Thank you again for another incredible DYNAMITE® Product."*

Electrolytes are nothing more than minerals, primarily sodium and potassium, ideally with some added calcium and magnesium.

If a horse is on a good bioavailable mineral program like the DYNAMITE® supplements, and has free choice access to a good salt, the electrolyte situation usually takes care of itself.

The exceptions might be endurance horses who sweat continually over a 50-100 mile ride, horses racing and eventing in extreme heat/humidity conditions, or dehydration from an illness. Anhidrosis (inability to sweat) and refusal of water especially in winter, would be other indications that **Dyna-Spark™** should be used.

Hal Schott, DVM, writing in *USA Equestrian*, June 2002, cites studies done at Michigan State University on strategies to get horses to drink more water during strenuous exercise periods. In a 60 km (36 miles) treadmill test, horses without electrolyte supplementation lost about 50 pounds and drank only 3 gallons (about 25 pounds) of water during rest periods. Horses given salts drank 5 to 6 gallons of water, replenishing their entire weight loss and sweat loss.

The electrolyted horses also began to drink earlier in the test, than those who did not receive supplemental salts. The recommendations based on this research would indicate the advisability of electrolyte formulas for horses exercising more than an hour or two in hot, humid climates.

When we evaluate most commercial electrolyte formulas, we find them to be nothing more than refined and processed salt (sodium chloride), commonly at a rate of more than 50%. Then another 10-20% will be potassium, and the remainder other minerals, almost always in an inorganic (unusable) form.

Some commercial entities also add bicarbonate of soda in an attempt to neutralize the acid which is the by-product of exercise. Many electrolytes contain

dyes and artificial flavorings, which are not conducive to keeping a clean liver in a running horse. And, the wide variation in the formulas is truly amazing, each one claiming to be the best electrolyte. Sugar is another additive commonly found in electrolyte formulas.

Most formulas are arrived at by scraping sweat from the horse and analyzing the minerals therein. But guess what? That is much like taking the exhaust from your car, analyzing it, and then putting one of those elements back into the gas tank! Auto exhaust is a by-product of combustion, just as sweat is a by-product of exercise. There is a process of transmutation that takes place, whereby under great heat, one mineral actually becomes another. So if you can put back the transmuted mineral instead of the original one, you may be creating an imbalance.

We need to address how the body maintains the fluid (electromagnetic) balance in the cellular batteries. Each cell in the body is in fact a mini-battery, bathed in an electromagnetic soup rich in the trace elements that trigger bioelectrical impulses.

There is a great article titled, *The Value of Real Salt* that is also in this manual where we learn that:

"A simple transformation of elements, sodium to potassium, supplies our most vital needs...Proper balance in the body is achieved by maintaining a relatively high potassium content inside the cell and a correspondingly high sodium concentration in the fluid outside the cell. The concentration of salt diminishes in the blood as sodium transmutes into potassium...The potassium will be replenished quickly through the process of transmutation of sodium to potassium." Heat is absorbed in this process, thereby helping to cool the body. The reverse process (potassium to sodium) actually releases and generates heat.

Now you can see why sweat will be high in potassium, and why you would not want to feed a higher potassium electrolyte mix to a horse.

The function of salt in the body is to attract water, and if anti-caking agents and flow improvers (usually in the form of aluminum silicate) have been added, then salt is no longer able to perform its function in the body and becomes harmful instead. Likewise questionable is the addition of bleaches, inorganic trace minerals and all sorts of other stuff that are not for the nutrition of the body.

Clearly, we see the importance of salt as an electrolyte. But not just any salt! To paraphrase a famous line, "if it pours when it rains, that's not good." You see, the function of salt in the body is to attract water, and if anti-caking agents and flow improvers (usually in the form of aluminum silicate!) have been added, then salt is no longer able to perform its function in the body and becomes harmful instead.



Also questionable is the addition of bleaches, inorganic trace minerals and other chemicals that are not for the nutrition of the body.

**DYNAMITE® NTM Salt™** is pure, natural, unrefined and unprocessed, in a loose form that animals can eat easily. Here is a key point: salt blocks are appropriate for cows, but not for horses. Have you ever been licked by a cow? It'll take the skin right off your face, like the coarsest grade of sandpaper. Have you ever been licked by a horse? It's downright slimy. Those smooth, slimy tongues can't make a dent in the salt block if they are really salt hungry, especially if it is hung up on the wall at an uncomfortable angle. Then the horse, in frustration, resorts to chomping off a corner and eating a big chunk. That was more than was really wanted, so next comes a big drink of water, which flushes out more sodium than the horse intended, then it's back to chomping on the salt block, drinking, chomping, etc. Soon the stall is flooded, the horse is miserable, the stable manager gets disgusted and takes away the salt, with dire consequences.

Salt should never be force-fed in a ration. Read that statement again. Many barns forego salt blocks and feeders, and just throw a handful into the ration (usually table salt). This can result in tying up, excessive thirst with flushing of other minerals, or salt deficiency for some animals.

The solution?

Call 1-800-JEFFERS and ask for their two compartment mineral feeders. They cost about \$3.00 each, and are great for hanging in the corner of a stall or paddock. Each holds two minerals, so ideally, get two for each horse and free choice **NTM Salt™**, **Izmine™**, **1 to 1** and **2 to 1**.

Which leads us right into **Izmine™** as an electrolyte. Containing more than 70 minerals, **Izmine™** is a great natural electrolyte in a naturally chelated form with the amazing capability of balancing the body's electromagnetic field.

Jim recommends the ideal basic electrolyte program to be the four free choices as listed above. We would have a lot of **Dynamite®** race horses running even better if they each had these products in their stalls at the track. The endurance horses likewise, so that they can replenish between rides and training rides. On the endurance trail, a successful strategy before the advent of **Dyna-Spark™** has been to use a little **NTM Salt™** and **Izmine™** mixture in applesauce and syringe it into the horse at vet checks.

Bev Gray, who has won the Outlaw Trail 165 mile ride three years running on Omner and just qualified for the USET ride in Spain on Paladin, also feeds **H.E.S.™** from the saddle and at the stops for extra energy and minerals.

Now, we have the ultimate electrolyte—**Dyna-Spark™**!! Organic blackstrap molasses, natural trace mineral salt, and balanced mineral chelates specifically chosen to address mineral deficiencies and muscle imbalances resulting from strenuous exercise.

Endurance use calls for 2 ounces administered 24 hours before the race, and then 2 ounces at each checkpoint before feed and water, and again at the finish of the race. **Dyna-Pro™** may be added if fed within 24 hours. For eventing or flat racing or a hard ride in high humidity, give 2 ounces 12-24 hours in advance, and repeat at the finish of the workout. For general dehydration, give 2 ounces a day until the situation is resolved.

The bottom line on electrolytes is to let the horse's natural instincts dictate what they need by supplying them with free access to the natural products **NTM Salt™** and **Izmine™**, **1 to 1** and **2 to 1 Free Choice™**. These help to contribute to the body's alkalinity as well. Use **Dyna-Spark™** as needed for specific instances of electrolyte depletion and stress.

