Electrolytes for the Performance Horse

The Educated Horseman: Health Series

Electrolyte supplementation is vital for the overall health and athletic ability of a performance horse. Electrolytes help control multiple physiologic processes within the body, including muscle contraction, thirst regulation, nerve function, blood pH and hydration. Sweating is your horse's primary method of thermoregulation.

During performance events, horses may lose a large quantity of sodium (Na+), potassium (K+) and chloride (Cl-) through sweat. Electrolyte imbalance caused by prolonged exercise or sweating can lead to fatigue, muscle weakness, reduced performance, dehydration and, in extreme cases, even death. Therefore, it is crucial that your performance horse begins any athletic activity hydrated with properly balanced electrolytes to ensure peak performance.

The best source of electrolyte replacement is a fortified grain, which will provide enough sodium (Na+) and chloride (Cl-). A good quality hay will contain adequate potassium (K+) for the idle or light-worked horse.

Research has shown, however, that athletic horses benefit from additional electrolyte supplementation before and after competition. Horses supplemented with electrolytes prior to an exercise bout were able to perform 33 percent longer than horses who were not given electrolytes. Although it is beneficial to provide electrolytes prior to exercise, complete recovery does not occur until 20 hours following athletic performance.

Providing water alone to a horse with electrolyte imbalances will only further dehydrate your horse. Therefore, it is important to continue electrolyte supplementation following exercise to restore your horse to its optimal performance level.

Many electrolyte products are available; however, when choosing one for your horse, make sure the sodium chloride (salt or NaCl) and potassium chloride (KCl) are the first two ingredients. Many believe that the addition of sugar (dextrose) into the formula will increase the electrolyte uptake. Research has shown, however, that electrolytes containing sugar did not change the rate of water or ion uptake when compared to a solution without sugar. It is also important to note that if you choose a formula containing sugar for ease of administration, you will not meet the salt recommendations without feeding abnormally high doses.

The easiest way to administer additional electrolytes is to add it to your horse's water; however, always provide an additional source of clean drinking water until your horse becomes adapted to the taste. You also can mix electrolytes with feed or dose them with an oral syringe by adding a small amount of water. Some research suggests that mineral and salt blocks may create a taste aversion because of their high concentrations and therefore may not be the optimal source of sodium for athletic horses.

Electrolytes are essential nutrients for athletic horses. Quality hay and grain will provide adequate electrolyte balance for a lightly worked horse, but additional electrolyte supplementation is necessary for animals expected to perform at higher levels. Performance horses have specific nutritional needs to sustain their career, and electrolyte supplementation is one way to ensure the success and overall health of your horse.

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