

Electrolytes Replacement Supplements and Rehydration.

There is a great deal of confusion surrounding electrolyte replacement supplements - What is an electrolyte replacer? When should you feed one? What is the best preparation?

This information sheet will look at the basic requirements of the horse and what is currently being marketed as an electrolyte replacer.

What are electrolytes?

Electrolytes are a collection of mineral salts found in blood plasma, which are responsible for many functions in the horse's body, including thirst and fluid balance. Sufficient levels should be provided in a natural diet but, if a horse is lacking in these vital mineral salts, it will try to seek them out from other sources including feeding on mud or tree bark. A continual lack of electrolytes in the diet is detrimental to health, will affect performance and is linked to an increase in conditions such as Tying Up.

When should you feed electrolytes?

When horses work they lose important electrolytes through sweat, the main two being Sodium and Chloride (the constituents of salt). Potassium, Calcium and Magnesium are also lost at lower levels.

Horses in low levels of work sweat occasionally, but still need some replacement Sodium and Chloride, and this can be achieved by the addition of basic table salt to the feed or by providing a salt block in the stable or paddock. Horses in medium to hard work need higher levels of salt, along with the other electrolytes that are lost through heavy sweating and electrolyte replacers have been produced to provide this. To establish the required content of an electrolyte replacer, a trial was conducted using the sweat taken from horses in training. This sweat was analysed and the exact levels of electrolytes present were recorded. This information was then used to produce a product that provides the correct mix and levels of replacement electrolytes. The product produced as a result of this trial was **Apple Lytes**.

Electrolytes Replacement Supplement – Granules or Solution?

As stated above, the main electrolytes lost through sweating are Sodium and Chloride and it is therefore essential to have salt as the base of any electrolyte replacement supplement, along with the correct levels of Potassium, Magnesium and Calcium. Most horses like the taste of salt, but some horses may find it less palatable than others and to ensure palatability for all horses, a small amount of flavouring or scent can be added. Effective electrolyte replacement is best achieved by including in the feed a granular product with minimal sweetening.

By contrast, products with high levels of sweeteners and/or in liquid form are much less effective due to their much lower electrolyte concentration. In these cases, it would therefore be necessary to feed very large quantities of the products to achieve the necessary level of electrolytes. As an example, racehorses in competition have been assessed to require 40 – 60 grams of salt per day, which cannot be achieved with a high sweetener and/or liquid based supplement. Consequently, liquid and heavily sweetened products should not be used as electrolyte replacement supplements.

Providing replacement electrolytes during competition.

Endurance is really the only discipline that requires the re-hydration and replacement of electrolytes during the competition, while the horse is still working. Replacing electrolytes in this way must be done carefully as giving a high salt solution to a

dehydrated horse before it has drunk enough water will draw water from the blood, and dehydrate the horse further. Horses at this level of work should have a good salt-based electrolyte replacement added to their feed on a daily basis and **Apply Lytes Paste** used during competition to 'top up' the electrolytes being lost, with care being taken to ensure that the horse is also being fully hydrated.

Summary

By taking in to account exactly what electrolytes the horse loses through sweat, you can effectively provide adequate replacement and supplementation.

Electrolyte Replacement – DO

- Use a salt-based (Sodium Chloride) supplement.
- Feed granular electrolytes on a daily basis if the horse is sweating.
- Look for the key electrolytes as the ingredients – Sodium, Chloride, Potassium, Magnesium and Copper.
- Feed high salt solutions to the horse before hydration.

Electrolyte Replacement – DON'T

- Use a supplement high in Dextrose.
- Feed liquid electrolytes as an electrolyte replacement.
- Be impressed with a long list of ingredients, they will not add any benefit to electrolyte replacement.

Rehydration

Regaining electrolytes and water lost through sweating, although intimately linked, should be looked at as separate issues.

Dehydration is a very serious condition and, if left, can lead to death. During and after competition it is very important to rehydrate a horse quickly but correctly and there are supplements available to encourage the horse to drink, whilst providing very low levels of electrolytes.

Drink More will encourage the horse to increase its intake of fluid, whilst providing low levels of Sodium and Potassium along with Copper, Manganese and Zinc. This combination will aid hydration and speed up recovery.

“Post-exercise restoration of fluids and electrolytes should be treated as separated issues. Replacement of electrolytes should be achieved through feeding. It is not possible to replace the amount of electrolytes using a liquid supplement.”

Dr. David Marlin, Centre for Equine Studies, Animal Health Trust.

