

Magnesium for horses often receives little attention in equine nutrition. For example, you will rarely see it listed in the analysis on a feed bag. Despite this, it could easily be argued that no other mineral has as many important functions for supporting the best health in horses.



The biochemistry is complicated but basically the energy locked into your horse's food is transformed and stored as high energy bonds between phosphate molecules. The highest energy form is ATP, adenosine triphosphate. Magnesium is required to stabilize and store ATP. Without it, all cells would die.

Magnesium is also required for all genetic material, DNA and RNA, to function and be transcribed. You can't get much more basic to survival than that.

Science has so far identified over 300 enzymes that require magnesium to function. Virtually any body function you can think of requires adequate magnesium at some step along the line.

[Magnesium the mighty mineral for your horse. Do you need to supplement this mineral?Click To Tweet](#)

While calcium (last week's blog) is often a major trigger/facilitator of body reactions, magnesium's function is more often to moderate and regulate. This shows up clearly in the

signs and symptoms of magnesium deficiency.

Low magnesium is a very common cause of behavioral issues such as hypersensitivity to sound or touch and irritability.

In other species, magnesium deficiency has also been clearly identified as both a cause and effect of insulin resistance.

Muscular irritability manifested as twitching in muscles, increased muscle tone, even elevated blood levels of muscle enzymes and signs of tying up can also be caused by magnesium deficiency. With extreme deficiency, weakness results because of the key function of magnesium in maintaining ATP stores.

Magnesium is present in all equine feeds but levels vary considerably. Acidic soil conditions often result in much magnesium being washed out of the soil by rain. Whole grains, brans, germs and alfalfa tend to have the highest levels but this can be offset by high calcium levels which may compete for absorption.

The only way to determine how much magnesium supplementation may be needed in your horse's current diet is by diet analysis, especially hay analysis. In general terms, if you suspect a muscular, insulin resistance or behavioral issue with your horse may have a component of inadequate magnesium intake try supplementing with 5 to 10 grams of elemental magnesium per day.

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