CHROMIUM

For Healthy Metabolism

KemTRACE® Chromium is a breakthrough technology for Equine Metabolic Syndrome and performance horses, now included in ALL Poulin Grain® Equine feeds.

KemTRACE® CHROMIUM

All E-TEC®, EQUI-PRO® and Decade® feeds are now fortified with KemTRACE® Chromium

What is Chromium?

Chromium is an essential trace element for horses, playing an important role in supporting healthy metabolism of carbohydrates in the diet. As a component of Glucose Tolerance Factor (GTF), chromium helps activate insulin receptors, improving glucose uptake in the cells, and helping to maintain normal blood sugar levels. In short, chromium puts glucose to work where it is most effectively used by the horse for immune function, growth, performance and overall health.

As leaders in animal nutrition, we take care to include only technologies with proven merit and efficacy, adding the most outstanding value to your horse's feed. Chromium is found in differing amounts in everyday feedstuffs, but the ability to benefit the horse varies greatly among sources.

KemTRACE® Chromium is a highly bioavailable, organic source of chromium propionate, backed by millions of dollars and decades of research, and the first FDA approved product of its kind on the equine market.

What is Glucose?

Carbohydrates (starches and sugars) and fats supply the bulk of the energy in a horse's diet. During digestion, carbohydrates are broken down into glucose, which the body's cells depend on to fuel normal function, growth and performance. Approximately 60% of a horse's daily intake is utilized for basic life functions such as digestion and respiration, then the remainder of glucose is stored as glycogen in the liver and skeletal muscle, or used for the horse's secondary needs such as growth, performance, and immune function.

The horse's hierarchy of energy use

But before the glucose can be utilized for these functions, it must be mobilized from the horse's blood supply, into the body's tissues. This is where insulin and chromium come in.

How Do Insulin and Chromium Work?

Insulin, a hormone produced by the pancreas, is the "gatekeeper" allowing glucose in the bloodstream to enter the cell and be used for energy production[1]. Chromium improves insulin function by increasing receptor activation eight fold[2], improving glucose uptake by the cells, and helping to maintain normal blood sugar levels. Maximizing the cells' glucose use allows the horse to utilize the energy provided in the diet more effectively for body upkeep, health, growth and performance.

Chromium Effects on the Metabolic Horse:

Chromium function in the horse

Equine Metabolic Syndrome (EMS) is a term used to describe horses with metabolic and hormonal disorders, often identified by obesity, insulin resistance, and laminitis. "Easy keepers" and thrifty breeds such as ponies are often predisposed. Insulin resistant horses have elevated blood glucose levels for extended periods, due to insulin's decreased ability to transfer glucose into the body's cells. In response to elevated blood glucose levels, the body continues to produce insulin, attempting to mobilize this glucose into the body's tissues. The high prevalence of insulin in turn, often leads to laminitis.

Chromium improves insulin sensitivity, helps to clear glucose from the blood stream, and may improve health of horses suffering from EMS. Added Chromium is ideal for horses with elevated blood sugar that do not respond to a low sugar/starch diet.

Chromium Effects on the Performance Horse:

- **Improved Immune function:** immune cells are completely reliant on glucose for energy[3]. Increased glucose uptake by cells may help improve the horse's ability to mount an immune response.

- **Reduced stress:** Stressors such as extreme weather, diet changes, travel, exercise, disease, training, and competition trigger cortisol production, and in turn cause aggressive behavior, suppressed immunity, and increased risk of gastric ulcers, colic, or diarrhea[4]. Chromium reduces levels of the stress hormone cortisol, reducing negative impacts of stress on the horse[5].

- **Improved Performance:** Horses with low muscle glycogen levels due to intense exercise, prolonged, or consecutive days of training or competition can show fatigue and impaired performance[6]. By increasing glucose uptake in skeletal muscle cells, and replenishing glycogen stores, Chromium may improve the horse's overall performance, and reduce the onset of exercise related fatigue. Research also shows evidence that chromium supplementation may help some horses with chronic exertional rhabdomyolysis, also known as "tying up", by clearing blood glucose, and making glycogen storage and use more efficient in the muscle tissue[7].

KemTRACE® Chromium is now included in all Poulin Grain® equine feeds.

E-TEC® EQUI-PRO® Decade

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