

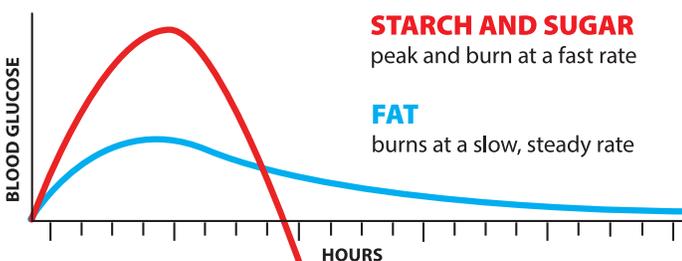
Dietary fat's role in managing muscle myopathies and metabolic challenges

Dietary energy dictates body condition and performance capabilities in horses. Many horses face specific restrictions on the type of energy they can safely utilize. If insufficient energy, or the wrong kind of energy is provided, both health and performance can suffer. Concentrates that are high in starch and sugar do not supply the appropriate form of energy to horses suffering from muscle myopathies or challenged by metabolic syndrome. Energy derived from fat serves as an appropriate alternative.

Benefits of fat as an energy source

- Allows for a decrease in the volume of concentrate consumed by providing 2.25 times more energy than simple carbohydrates or proteins.
- Decreases lactic acid accumulation and reduces incidence of muscle myopathy.
- Minimizes the risk of GI tract imbalances by reducing the opportunity for simple carbohydrates to overwhelm the hindgut.
- Reduces the incidence of hormone spikes that stress metabolic pathways.
- Supports the proper absorption of the essential fat-soluble vitamins A, D, E and K.

Replacing all or a portion of starch- and sugar-laden concentrates with WeightGainWise[™], a high-fat supplement, helps patients attain optimal performance levels, maintain condition, and remain healthy.



Dietary considerations for patients suffering from metabolic disorders

A better understanding of how the horse's digestion system works has revealed that balancing forage intake with concentrate intake is critical when feeding starch/sugar sensitive horses. Concentrates high in starch/sugar should be fed in limited amounts. Horses suffering from metabolic disorders where insulin sensitivity is a problem respond well to diets high in fat.

Fiber is the most important part of the daily diet. Significant fiber intake from good quality fresh pasture and dried grasses (hay or hay cubes) is imperative. Multiple research trials have demonstrated that when a portion of the starchy grain is replaced with a high-quality fiber source, parameters such as glycemic response are lowered. Horses suffering from metabolic disorders benefit significantly from a slower and lower spike in blood sugar.

Recommendations

Offer 1.5% to 2% of the horse's body weight in good quality fiber each day. Manage pasture carefully by clipping at proper levels, and schedule turnout to reduce exposure to high fructose levels. Restrict pasture when needed. Choose hays with nonstructural carbohydrate (NSC) values of 10% to 12%. When necessary, hay can be soaked to further reduce sugar levels.

Avoid feeding concentrates that contain grains high in starch and sugar; instead, look for feeds that contain fermentable fiber, such as molasses-free beet pulp and soy hulls, combined with a vitamin and mineral pellet and a fat source. When additional energy is needed to maintain weight or support performance, add 4 to 8 ounces of WeightGainWise to the diet. Performance horses in particular will find it hard to maintain weight and perform at optimum levels without additional energy in their diets. WeightGainWise was designed specifically to address this energy crisis by providing 2.8 Mcal per lb of digestible energy.

If no concentrates, or less than the recommended levels of concentrates are fed, provide a vitamin and mineral supplement such as NutrientWise™ daily. If necessary, molasses-free beet pulp can be used as a carrier for daily supplements.

Dietary considerations for patients suffering from RER (tying up) or PSSM (glycogen storage disease)

Excessive starch intake has been implicated as a factor in muscle conditions such as polysaccharide storage myopathy (PSSM) and recurrent exertional rhabdomyolysis (RER). These problems are worsened by high-grain diets. Replacing energy derived from simple carbohydrates with that derived from fat provides the necessary calories to support high-intensity exercise.

Recommendations

Good quality fiber should be the basis of the diet. Aim to provide 1.5% to 2% of a horse's body weight in fiber per day. Horses struggling with muscle disease do better on grass or oat hay. Select a hay with 12% or less nonstructural carbohydrate (NSC) content for horses with PSSM. For PSSM and RER horses, if alfalfa is fed then it should be mixed with grass or oat hay at a rate no greater than 50%. Manage pasture carefully by clipping at proper levels, and schedule turnout to reduce exposure to high fructose levels.

When it is necessary to feed concentrates to exercising horses or hard keepers, choose formulas containing ingredients high in fat and fermentable fiber instead of those containing starch and sugar. It is best not to feed more than 5 pounds of concentrate in a given meal. If additional energy above that which is provided by hay and concentrates is required to support performance or maintain condition, supplement with 4 to 8 ounces of WeightGainWise.

In the case of easy keepers, when no concentrates, or less than the recommended levels of concentrates are fed, it is important to provide a vitamin and mineral supplement such as NutrientWise daily, along with adequate fiber. During cold weather, or when exercise becomes more demanding, condition can be maintained in easy keepers by adding WeightGainWise to the current diet. Supplement at the rate of 2 to 4 ounces per day. If necessary, molasses-free beet pulp can be used as a carrier for daily supplements. Monitor the weight of easy keepers regularly to reduce the risk of obesity, especially when utilizing a high-fat supplement.

Additional vitamin E and selenium are beneficial to horses challenged by RER/PSSM; however, selenium can be toxic if overfed. Most commercial feeds and vitamin/mineral supplements already contain some selenium. It is vital that you know how much selenium is in the horse's current diet before adding more. On the other hand, vitamin E can be fed at levels as high as 10,000 IU per day without negative effects. Nutritionists recommend that 3,000 IU to 5,000 IU of natural vitamin E be provided daily to hardworking horses. When muscle issues arise, the levels prescribed can be higher. Hay and other dried fiber sources do not contain much vitamin E. Commercial feeds might provide some vitamin E, but typically only maintenance amounts or less. Supplement with Elevate® W.S. or Elevate® Concentrate to maintain necessary vitamin E levels.

RER/PSSM horses should always have free-choice access to a block salt. When a horse is working hard enough to sweat, a balanced electrolyte such as ElectrolyteWise™ should be provided. As with all horses, a continuous supply of fresh, clean water is essential.

Supportive supplements for horses with muscle myopathies and metabolic challenges

WeightGainWise high-fat supplement

A source of high-quality fats, direct-fed microbials, and lecithin

NutrientWise vitamin and mineral supplement

Low-calorie source of natural vitamins and chelated minerals

Elevate family of natural vitamin E supplements

Highly bioavailable, natural source vitamin E

