

HORSE FEED REFERENCE GUIDE



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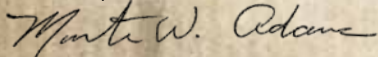
On behalf of Southern States employees at our feed mills and retail operations, as well as our Equine Field Sales and Technical Reps (FSTRs), I want to welcome you to our Horse Feed Reference Guide.

Southern States is committed to quality products for horse owners, and providing the best nutrition information for the health and performance of their horses. We have several areas that we utilize to assist us in achieving these goals:

- Our FSTRs attend training programs and conferences to update their knowledge on an on-going basis. They also attend an annual Advanced Equine FeedMaster course where they may become certified equine advisors by passing the exam for the American Registry of Professional Animal Scientists (ARPAS) and receive continuing education credits toward maintaining their professional accreditation. We also have a program called Basic Equine FeedMaster where our store employees and independent dealers receive an intensive education in all scientific areas of the horse (nutrition, reproduction, anatomy, exercise physiology, plant toxicology, management, vaccinations, parasite control, behavior, breeds and genetics) so they can better provide accurate information to our customers.
- All of our feed mills have a full-time Quality Control Supervisor. Feed ingredients that are utilized in our horse feed formulas are inspected and tested for specific mycotoxins that are known to be problematic in horses. Feed mill employees are enrolled in an annual documented training program. Southern States is the only feed company to have Hazard Analysis Critical Control Point (HACCP) certification at all of their feed mills.
- We are a member of Cooperative Research Farms (CRF), an international group of feed companies that combine financial resources to perform animal nutrition research studies with beef and dairy cattle, horses, poultry and swine. Currently, we have equine nutrition studies ongoing at various universities across the country.

Please use this reference guide and if you need further assistance don't hesitate to contact one of our FSTRs or go to www.southernstates.com for more information.

Sincerely,



Martin W. Adams, PhD, PAS



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CONTROLLED CARBOHYDRATE TECHNOLOGY™



A research based formulation technique that utilizes digestible fiber sources and vegetable oils, in combination with precise grain selection, to create low-starch, low-sugar horse feeds. Lower starch and sugar levels (soluble carbohydrates) have been shown to reduce the risk of insulin resistance, colic and founder. It also promotes proper bone development in growing horses, improved muscle performance and calmer behavior.

BENEFITS OF CONTROLLED CARBOHYDRATE TECHNOLOGY

- Increased safety margin for prevention of colic and founder.
- Reduced incidence of gastric ulcers, excitability, insulin resistance and Polysaccharide Storage Myopathy (PSSM).
- Lowered risk of developmental orthopedic disease (DOD) from elevated blood glucose and insulin levels in growing horses.
- Increased muscle performance due to glycogen sparing from addition of dietary fat.





COOPERATIVE RESEARCH FARMS

We are a partner in the Cooperative Research Farms (CRF) organization, the largest group of privately owned research farms in the world. This partnership enables us to research the latest nutritional and management concepts, review university research and conduct our own feed trials. As a result, our horse feeds incorporate the most advanced nutritional developments.

SOUTHERN STATES FEED DIVISION QUALITY ASSURANCE PROGRAM

- Management commitment and support to quality, as stated in the Feed Division *Quality Assurance Manual*.
- All Southern States feed mills have a full-time Quality Control Supervisor whose time is dedicated to management of the Quality Assurance (QA) programs.
- All mills are certified HACCP (Hazard Analysis Critical Control Point) facilities. This is a modification of the program developed by NASA to prevent food-borne illnesses of astronauts in space. Critical Control Points (CCPs) are established and enforced for bag receiving, bulk ingredient receiving, hand adds, batching system, bagger, warehouse, bulk loadout system and delivery.
- Ingredients are inspected at arrival and before unloading for conformation to ingredient specifications. Inspection includes a check on the prior loads of transportation vehicles to verify ingredients are free of Restricted Use Protein Products (RUPP) or other deleterious inclusions.
- Specified ingredients, known to be at risk, are tested prior to unloading to confirm acceptability. Tests run include mycotoxins (aflatoxin, deoxynivalenol and fumonisin), moisture, density, temperature and brix.
- Ingredient samples are sent to a commercial laboratory for independent 3rd party testing to obtain information used to assure the accuracy of the formulation ingredient matrix.
- Representative samples of all ingredients received are retained for a 3 month period.
- State-of-the-art technology is utilized in Southern States facilities. Key manufacturing systems (e.g. mixing and pelleting) are computerized and automated, reducing potential for operator error and improving product quality. Bar-code systems provide more accurate control of micro ingredients, and robotic pallet stacking systems have been utilized to improve packaging uniformity.
- Products are manufactured according to formulas supplied by the Formulation Department. A PhD Animal Nutritionist monitors formulation activities. Local formulation of products is not allowed.
- Finished products are inspected and computer-generated records are reviewed to assure suitability for sale of all products. Representative samples of all products manufactured are retained for a 3 month period.
- Finished product samples are submitted for assay to assure adequacy of products and compliance with regulatory requirements.

This feed was produced in a facility certified in the American Feed Industry Association's Safe Feed/Safe Food Certification Program; for details go to: www.safefeedsafefood.org.



SOLUBLE CARBOHYDRATE VALUES OF SOUTHERN STATES® HORSE FEEDS*

HORSE FEED AND FORM	WSC	ESC	STARCH	STARCH + ESC	NSC
Select 12 <i>Textured</i>	8.9%	3.1%	14.9%	18.0%	23.8%
Select 12 <i>Pelleted</i>	5.5%	3.6%	25.5%	29.1%	31.0%
Southern States® Reliance® <i>Textured</i>	5.7%	4.7%	27.6%	32.3%	33.3%
Southern States Reliance <i>Pelleted</i>	12.2%	6.7%	9.9%	16.6%	22.1%
Southern States 11-SIX <i>Textured</i>	7.5%	5.3%	31.3%	36.6%	38.8%
Southern States 11-SIX <i>Pelleted</i>	6.4%	3.2%	21.1%	24.3%	27.5%
Southern States All Grain <i>Textured</i>	8.1%	6.1%	41.2%	47.3%	49.3%
Southern States Hay Stretcher <i>Pelleted</i>	4.2%	4.7%	11.8%	15.8%	16.5%
Southern States Solution <i>Pelleted</i>	5.8%	4.5%	16.0%	20.5%	21.8%
Southern States 14-SIX <i>Textured</i>	11.3%	7.2%	12.0%	19.2%	23.3%
Southern States Triple 10 <i>Textured</i>	10.4%	6.4%	15.5%	21.9%	25.9%
Legends® Show & Pleasure <i>Textured</i>	8.9%	6.9%	22.5%	29.4%	31.4%
Legends Show & Pleasure <i>Pelleted</i>	2.8%	2.8%	23.4%	26.2%	29.1%
Legends Grow & Perform <i>Textured</i>	9.0%	7.0%	26.0%	33.0%	35.0%
Legends Grow & Perform <i>Pelleted</i>	5.7%	4.1%	19.4%	23.5%	25.1%
Legends Mare & Foal <i>Textured</i>	9.5%	7.6%	15.3%	22.9%	24.8%
Legends Mare & Foal <i>Pelleted</i>	6.7%	4.0%	16.6%	20.6%	23.3%
Legends Maturity <i>Pelleted</i>	4.7%	2.3%	14.9%	17.2%	19.6%
Legends Performance <i>Textured</i>	8.6%	5.8%	19.9%	25.7%	28.5%
Legends Performance <i>Pelleted</i>	6.4%	3.7%	6.5%	10.2%	12.9%
Legends Racing <i>Textured</i>	11.5%	7.5%	14.1%	21.6%	25.6%
Legends Fortified Pelleted Rice Bran <i>Extruded</i>	4.6%	5.0%	17.4%	22.4%	22.0%
Legends Omega Plus Fat Supplement <i>Extruded</i>	8.3%	1.1%	20.7%	21.8%	29.0%
Triple Crown® 10% Performance <i>Textured</i>	5.6%	5.6%	33.3%	38.9%	38.9%
Triple Crown 14% Performance <i>Textured</i>	6.3%	5.6%	31.8%	37.4%	38.1%
Triple Crown Complete <i>Textured</i>	8.8%	8.9%	11.8%	20.7%	20.6%
Triple Crown Senior <i>Textured</i>	5.3%	6.8%	6.4%	13.2%	11.7%
Triple Crown Growth <i>Textured</i>	8.3%	7.8%	5.6%	13.4%	13.9%
Triple Crown Training Formula <i>Textured</i>	8.4%	5.1%	14.4%	19.5%	22.8%
Triple Crown Low Starch <i>Pelleted</i>	3.1%	5.6%	10.4%	16.0%	13.5%
Triple Crown Lite <i>Pelleted</i>	4.8%	5.0%	4.5%	9.5%	9.3%
Triple Crown 12% Supplement <i>Pelleted</i>	2.3%	3.6%	21.8%	25.4%	24.1%
Triple Crown 30% Supplement <i>Pelleted</i>	8.0%	9.2%	1.8%	11.0%	9.8%
Triple Crown Safe Starch Forage <i>Chopped</i>	5.0%	3.8%	3.7%	7.5%	8.7%
Triple Crown Grass Forage <i>Chopped</i>	9.7%	8.1%	4.5%	12.6%	14.2%
Triple Crown Alfalfa Forage <i>Chopped</i>	9.9%	8.0%	4.7%	12.7%	14.6%
Triple Crown Rice Bran <i>Extruded Meal</i>	7.0%	9.1%	16.2%	25.3%	23.2%

Values determined by Equi-Analytical Laboratories, Ithaca, NY, reported on as sampled or as fed basis. WSC = water-soluble carbohydrates, ESC = ethanol-soluble carbohydrates, NSC = nonstructural carbohydrates, NSC + Starch + WSC and fructan sugars + WSC - ESC. Choose feeds with low Starch + ESC (simple sugar) values to prevent laminitis, excitable behavior, tying up diseases (PSSM), Shivers, and Developmental Orthopedic Disease (DOD) in growing horses, and to reduce insulin resistance in horses with Equine Metabolic Syndrome and Equine Cushing's Disease. Also, pasture grasses with high NSC values (starch plus simple and fructan sugars or WSC) are more likely to cause laminitis in horses grazing them. All feeds have feed-ingredient formulas and carbohydrate values remain constant.

NUTRITION GUIDELINES FOR LIFE STAGES AND CLINICAL DISORDERS

GROWING HORSES

Foals – Foals should be allowed to nurse or be provided with sufficient high quality colostrum to provide a blood antibody concentration of 800 mg/dl or higher by 12 to 24 hours of age. High quality creep feed should be provided to foals by 3 to 4 weeks of age and fed at the rate of one pound per 100 pounds of body weight daily. Soft, high quality hay should also be provided starting by one month of age. Foals that are creep fed for at least one month prior to weaning may be weaned when the foal is consuming at least 4 pounds of a high quality commercial horse feed and is at least 3 months old (feeding recommendation for light horse breeds).

Recommended Products: Legends® Mare & Foal Textured and Pelleted, Triple Crown® Growth Formula and Southern States® Solution.

Orphan Foals – An orphan foal can be the result of the dam's death, rejection, illness or lack of milk production. Sufficient colostrum should be provided and then a high quality foal milk replacer can be fed to substitute for mare's milk and should be provided for the first 3 months of the foal's life. Foal milk pellets can also be provided or a high quality commercial horse feed can be fed. The weaning process may be started if the foal is at least 3 months of age and consuming at least 2 pounds of foal pellets or 4 pounds of high quality commercial horse feed (feeding recommendation for light horse breeds such as Quarter Horses, Paints, Thoroughbreds, Standard Breds, etc.).

Recommended Products: Mare's Match® Foal Milk Replacer, Mare's Match Foal Pellets, Legends Mare & Foal (textured and pelleted formulas), Triple Crown Growth Formula and Southern States Solution.

Weanlings and Yearlings – Maintain steady growth rate to avoid developmental orthopedic disease (DOD). Use feeds with quality protein sources (soybean meal and guaranteed amino acids), high levels of trace minerals and vitamins, proper levels of calcium and phosphorus and low, controlled starch levels from feeds with fixed formulas. Provide a horse feed with an adequate protein level to meet total dietary protein requirements with available hay or pasture. Total dietary protein levels should be 14% for weanlings and 12% for yearlings.

Growing horses (3 to 12 months of age) should be provided feeds with added fat and digestible fiber and a low level of soluble carbohydrates (sugar and starch), since this has been implicated as a possible cause of developmental orthopedic disease (DOD).

For growing horses with phytitis, use the following feeding programs:

1. Four-Month-Old Weanling (current weight of 371 pounds with mature weight of 1100 pounds). Reduce amount of feed (Legends Mare & Foal or Triple Crown Growth) to 4.0 pounds daily and 5.5 pounds daily of low to moderate quality grass hay with no pasture or turnout. This provides a 25% calorie reduction compared to energy requirements and should result in cessation of phytitis symptoms in 6 weeks. Then the feeding program can be increased to maintain a normal growth rate.
2. Yearling (current weight of 707 pounds with mature weight of 1100 pounds). Reduce amount of feed (Legends Grow & Perform or Triple Crown Growth) to 5 pounds daily and 9 pounds daily of low to moderate quality grass hay with no pasture or turnout. This provides a 25% calorie reduction compared to energy requirements and should result in cessation of phytitis symptoms in 6 weeks. Then the feeding program can be increased to maintain a normal growth rate.

Higher fat feeds with added biotin, lysine, rice bran, flax seed, yeast culture and other digestive aids are recommended for weanlings and yearlings that are prepared for sales (increased weight gain, greater muscle development, improved hair coat and better hoof condition).

Recommended Products: Legends Mare & Foal Textured and Pelleted, Triple Crown Growth Formula, Legends Grow & Perform (textured and pelleted formulas), Southern States 14-Six, Southern States Solution and Triple Crown 14% Performance Formula.

Two Year Olds – Increase digestible energy intake from added fat and digestible fiber, control or limit starch intake and provide sufficient levels of calcium, phosphorus and magnesium for bone remodeling. Total dietary protein level should be between 10 and 12%.

Recommended Products: Legends Performance (textured and pelleted formulas), Legends Racing, Legends Grow & Perform (textured and pelleted formulas), Southern States Solution, Southern States 14-Six, Triple Crown 14% Performance Formula, Triple Crown Complete Formula and Triple Crown Training Formula.

Pleasure Horses – Feed according to age and activity level to maintain desired body condition. Total daily feed intake (hay/pasture and concentrate) should be 2.0 to 2.5% of body weight, with at least 1.0% of this amount as forage (hay/pasture). Increase protein levels for more active horses, with a maximum dietary protein level of 12% for hard-working horses.

Feeds with added soy oil, biotin, rice bran, flax seed, yeast culture, organic trace minerals and other digestive aids are recommended to improve hair coat and hoof condition and reduce stressful conditions in the horses' hindgut (found in Legends and Triple Crown Horse Feeds).

Recommended Products: Southern States Reliance® Textured and Pelleted, Southern States 11-Six (textured and pelleted formulas), Southern States All Grain, Legends Show & Pleasure (textured and pelleted formulas), Triple Crown Low Starch and Triple Crown Complete Formula. If feeding rate is less than four pounds daily, switch to Triple Crown Lite. For limited pasture or hay feeding, use Southern States Hay Stretcher, Legends Maturity (pelleted formula), Legends Performance Low Carb Formula (pelleted), Triple Crown Complete Formula, Southern States Solution and Triple Crown Low Starch.

Brood Mares – Maintain proper body condition at all times with feed well fortified with vitamins and minerals. Feed slightly above maintenance requirements for digestible energy and protein until last trimester of pregnancy, and then increase dietary protein to at least 12% through foaling and early lactation. Use supplement pellet (Triple Crown 12% or 30% Performance Supplement, depending on protein level of hay) if less than four pounds daily of feed is needed to maintain good body condition.

Recommended Products: Legends Grow & Perform, Legends Mare & Foal, Triple Crown 14% Performance Formula, Southern States Solution, Southern States 14-Six, Triple Crown Growth and Triple Crown 30% Performance Supplements.

Stallions – Feed a low, controlled starch diet with added fat to maintain body condition and decrease colic risk and hyperactivity. Provide a feed highly fortified with vitamins and minerals during breeding season. Added fats with high omega-3 fatty acid content (from added flax seed and fish oil) can improve sperm quality in older stallions. Maximize feeding of good quality hay and pasture to maintain good body condition. Provide a dietary protein level of at least 12% during the active breeding season.

Recommended Products: Legends® Performance Textured and Low Carb Formula (pelleted), Legends Grow & Perform (textured and pelleted formulas), Southern States® Solution, Southern States 14-Six, Triple Crown® Growth Formula, Triple Crown 14% Performance Formula and Triple Crown Training Formula.

Older Horses – Provide high calorie intake from feeds with added fat and digestible fiber to maintain good body condition with reduced hay consumption. Control starch levels (starch and simple sugar content less than 18%) to minimize insulin resistance and colic risk and provide a dietary protein level of 12%. Provide processed hay (chopped hay or hay cubes) to allow consumption by older horse with reduced dentition.

Feeds with added soy oil, biotin, rice bran, flax seed, yeast culture and other digestive aids are recommended to improve fiber digestion, hair coat and hoof condition (added to Legends and Triple Crown Horse Feeds).

Recommended Products: Triple Crown Senior Formula, Legends Maturity and Southern States Solution.

Performance Horses – Maximize caloric intake and muscle function with high fat, controlled starch diets and high levels of antioxidants (vitamin E, vitamin C and selenium) to maintain active muscle tissue and immune system function. Increase nutrient utilization with digestive enzymes, yeast culture, organic trace minerals, probiotics and lecithin compounds. Good quality hay should be fed to maximize caloric intake. Provide additional electrolytes, two to four ounces daily for hard-working, heavily sweating horses. For timed events where excess weight can be a problem, limit hay to only 1.0% of body weight for 3 days prior to competition and feed hay in smaller, more frequent portions (reduction of 2% body weight).

Recommended Products: Legends Performance (textured and pelleted formulas), Legends Racing, Southern States Triple 10, Southern States 14-Six, Southern States 11-Six (textured and pelleted formulas), Legends Show & Pleasure (textured and pelleted formulas), Legends Grow & Perform (textured and pelleted formulas), Triple Crown 14% Performance Formula, Triple Crown Training Formula, Triple Crown Complete Formula, Triple Crown Rice Bran Oil Plus, Legends Pelleted Rice Bran and Legends Omega Plus.

Draft Horses – Feed a low controlled starch diet to minimize colic risk with well-fortified vitamin and mineral content due to lower feeding rate than light horse breeds. Provide grass hay instead of alfalfa hay for horses with maintenance needs to provide fewer calories for prevention of excessive body condition.

For growing draft horses provide a diet with low soluble carbohydrate (sugar and starch) content. A supplement pellet (Triple Crown 30% Performance Supplement) or vitamin/mineral supplement (Equi/Min Horse Mineral) may need to be added to the overall feeding program to increase nutrient density because of reduced grain feeding rate to maintain proper growth rate, especially if the daily concentrate amount is four pounds or less. Avoid excessive calorie intake and high starch diets.

For horses with Polysaccharide Storage Myopathy (PSSM) and for horses affected with shivers, feed a diet with low soluble carbohydrate content, high digestible fiber content and high fat content. Added dietary fat or

vegetable oil may be necessary for prevention of symptoms. Alfalfa and alfalfa/grass hays are preferred due to a lower soluble carbohydrate content than most grass hays. Avoid small grain hays such as ryegrass, wheat, oat, barley, and brome due to higher soluble carbohydrate content.

Recommended Products: Southern States Solution, Southern States 14-Six, Southern States 11-Six (pelleted and textured formulas), Legends Performance (textured and pelleted formulas), Legends Racing, Legends Maturity, Legends Fortified Pelleted Rice Bran, Legends Omega Plus, Triple Crown Low Starch, Triple Crown Growth Formula, Triple Crown Complete Formula, Triple Crown Senior Formula, Triple Crown Rice Bran Oil Plus, Triple Crown Training Formula and Triple Crown 30% Performance Supplement.

Ponies and Miniature Horses – Feed a low soluble carbohydrate diet with moderate fat levels due to high incidence of insulin resistance and easy weight gain. High levels of vitamin and mineral fortification are needed due to reduced feeding rates. Supplemental feed products with lower feeding rates and more concentrated vitamin and mineral levels provide for requirements without excessive caloric intake. Weight management programs with reduction of hay or pasture may be necessary. There are feeding recommendations for miniature horses and ponies that can be found in the reference section of this publication.

Recommended Products: Triple Crown Lite, Triple Crown 30% Performance Supplement, Triple Crown Safe Starch Forage, Legends Mare & Foal (textured and pelleted formulas), Legends Grow & Perform (textured and pelleted formulas) and Southern States Solution.

Equine Metabolic Syndrome (EMS) and Equine Cushing's Disease (ECD) – Horses affected with Equine Cushing's Disease (ECD) may be insulin resistant with elevated blood glucose and/or blood insulin levels. Feed a low soluble carbohydrate (starch + ESC) diet for horses with ECD and EMS fortified with high levels of antioxidants (vitamin E, C and organic selenium) to support immune system function, especially for ECD horses. CRF research has found that glycemic responses (post-meal blood glucose and insulin concentrations) of horses consuming pelleted concentrates with 16-17% starch content were significantly lower than horses receiving pelleted concentrates with 27-28% starch content. In another CRF study, horses receiving pelleted grain concentrates that were 8% and 20% starch content (11% and 23% starch + ESC, respectively) had similar glycemic responses. This same study found blood glucose and insulin concentrations were not significantly increased until starch levels were 32% and 44% (35% and 47% starch + ESC, respectively). The conclusion of this study was that horse feeds with 20% or less starch are safe for nutritional management of horses with insulin resistance and laminitis.

Supplementation with magnesium (2 grams per 100 lbs of body weight) and chromium (1 mg per 100 lbs of body weight) for horses exhibiting severe insulin resistance has been recommended. A diet with less than 20% soluble carbohydrate content (starch plus ethanol soluble carbohydrates or ESC) in both hay and horse feed is a conservative recommendation. A dietary soluble carbohydrate content of less than 10% for very sensitive cases where occurrence of laminitis is severe has also been followed with some success. Horses with insulin resistance, chronic laminitis and obesity should be kept off lush pastures, muzzled while on pasture, or managed with limited hay in a dry lot. Routine exercise and turnout are essential recommendations, as they will help to decrease insulin resistance and normalize blood glucose and insulin levels.

Recommended Products: Triple Crown Low Starch, Triple Crown Senior Formula, Triple Crown Safe Starch Forage, Legends Low Carb Formula Performance (pelleted), Triple Crown 30% Performance Supplement and Triple Crown Lite (30% and Lite for obese horses, ponies, miniature horses and "easy keeper" horse breeds).

Colic and Laminitis (Dietary Related) – Control soluble carbohydrate intake and provide additional calories from fat and digestible fiber sources. Limit pasture consumption during spring and fall seasons due to high levels of plant starches and sugars (especially fructans in cool season grasses). Avoid small grain hays and pastures (oat, rye, wheat and barley) and fescue due to greater sugar content than other cool-season grasses (timothy, orchardgrass, and bermudagrass) and alfalfa and grass/alfalfa mixed hay.

Recommended Products: Legends® Low Carb Formula Performance (pelleted), Legends Maturity, Legends Racing, Southern States® Solution, Triple Crown® Low Starch, Triple Crown Safe Starch Forage, Triple Crown Senior Formula and Legends Performance (pelleted) for horses with a history of chronic colic and/or laminitis. Triple Crown Lite for horses with excessive body condition or easy keepers. Triple Crown Senior Formula and Legends Maturity for older horses (>20 years of age). Triple Crown Complete Formula, Triple Crown Training Formula, Legends Performance (pelleted) and Legends Racing for horses in heavy training and competition.

Tying Up Diseases – Tying up can occur in any breed of horse and there are many causes. The most common cause is sporadic tying up, which occurs in horses that are exercised beyond their level of fitness. This is usually seen when horses are not regularly exercised and then are overworked. Other causes of sporadic tying up may occur from electrolyte and hormonal imbalances, overfeeding without regular activity, and vitamin E and selenium deficiencies.

Tying up disease, which is also called Polysaccharide Storage Myopathy (PSSM), is an inherited autosomal dominant metabolic muscle problem that is found in many horse breeds. Horses with PSSM have symptoms including exertional rhabdomyolysis or tying up, muscle tremors and gait abnormalities. A genetic mutation causes unregulated glycogen formation in the muscle of horse with Type-1 PSSM. This mutation is in a gene called GYS1 and it is responsible for the accumulation of excess glycogen in muscle cells and symptoms of PSSM in affected horses.

Type-1 PSSM occurs in Quarter Horse, Paint, Appaloosa, Morgan, Tennessee Walker, draft purebreds and crosses, and a small percentage of warm blood breeds. Type-2 PSSM is the form of tying up disease that affects most warm blood breeds, Arabians, Thoroughbreds and Standard Breds. The cause for Type-2 PSSM has not been discovered but is also due to a genetic mutation or defect. A genetic test for diagnosis of Type-1 PSSM is available using a hair root or blood sample for horse breeds known to have the GYS1 mutation. A muscle biopsy test can also be used for diagnosis of tying up disease, and further genetic testing will determine if it is Type-1 or Type-2 PSSM. Both types of PSSM cause symptoms which include elevated blood serum levels of aspartate aminotransferase (AST) and creatine kinase (CK) enzymes, muscle stiffness and cramping, myoglobinuria, sweating and increased heart rate when exercised (all symptoms of exertional rhabdomyolysis), profuse sweating, muscle tremors, poor performance, difficulty in backing, hind limb weakness and abnormal gait.

Horses affected with Type-1 PSSM respond well to a low-starch diet. Use the Starch plus Ethanol Soluble Carbohydrate (ESC) values available to find a low soluble carbohydrate feed for a horse with Type-1 PSSM. Select a feed with less than 18% starch plus ethanol soluble carbohydrate (ESC) for horses with Type-1 PSSM. Horses affected with Type-2 PSSM also respond to a low soluble carbohydrate diet but the results are not as consistent. Use the same feed selection guidelines for Type-2 PSSM horses as for Type-1. Also consider adding more vegetable oil (lowers glycemic response) to the feeding program, and the use of calming agents (magnesium oxide or thiamin) if symptoms in Type-2 PSSM horses do not totally subside. Because of the additional calories provided by vegetable oil, the feeding rate may be so reduced (less than four pounds daily) that a supplement pellet with a lower feeding

rate (Triple Crown Lite or Triple Crown 30% Performance Supplement) and greater nutrient density may be required to meet the vitamin and mineral requirements due to the low rate of concentrate provided due to the large amount of oil or other fat source that is fed.

With tying up diseases, feeds that are based on digestible fiber and fat with low soluble carbohydrate content are recommended. Alfalfa and alfalfa/grass hays are preferred due to lower soluble carbohydrate content than most grass hays but also likely contain more calories on an equal weight basis, so they may need to be fed at a lower rate to avoid obesity. Supplementation with additional vitamin E (1,000 to 2,000 IU daily) and selenium to meet 150% to 200% of daily requirements has also been recommended for tying up diseases and shivers.

Recommended Products: Triple Crown Low Starch Formula, Triple Crown Lite Formula, Triple Crown 30% Performance Formula, Triple Crown Rice Bran Oil Plus, Triple Crown Senior Formula, Triple Crown Safe Starch Forage, Legends Performance Low Carb Formula Pelleted, Legends Maturity, Southern States Hay Stretcher, Legends Fortified Pelleted Rice Bran and Legends Omega Plus.

Shivers – Shivers is a neuromuscular disease with symptoms that are similar to tying up disease and stringhalt. It occurs mainly in draft horse breeds, but other breeds can be affected. Symptoms of shivers include involuntary spasms of the muscles in the hind limbs and tail. The most characteristic symptom is one of the hind limbs being suddenly raised and trembling or "shivering" being observed for a few seconds to a few minutes along with the tail becoming suspended and trembling as well when the horse is made to back up, move over or a hind limb is raised for cleaning or shoeing. There are no elevated blood serum levels of CK and AST that occur in Type-1 and Type-2 PSSM. A feeding program (hay and grain) with less than 18% starch plus ESC and supplementation with thiamin (vitamin B1) is recommended to reduce excitability.

Recommended Products: Triple Crown Low Starch, Triple Crown Safe Starch Forage, Triple Crown Senior Formula, Triple Crown Rice Bran Oil Plus, Triple Crown Lite, Triple Crown 30% Performance Supplement, Legends Performance Low Carb Formula Pelleted, Legends Maturity and Southern States Hay Stretcher.

Stringhalt – Stringhalt is a neuromuscular condition that causes spasms and hyperflexion of one or both rear legs. The cause is unknown and recommended treatments have been tenectomy of the lateral extensor digit and removal of a portion of the hind limb muscle or the use of anticonvulsant drugs like phenytoin for chronic cases. Also, Botox (*Clostridium botulinum*) injections into the hind leg muscles of horses severely afflicted with stringhalt have shown a reduction in symptoms. Nutritional recommendations include a dietary feeding program (hay and grain) will less than 18% starch plus ESC and supplementation with thiamin (vitamin B1) for reduced excitability.

Recommended Products: Triple Crown Low Starch, Triple Crown Safe Starch Forage, Triple Crown Senior Formula, Triple Crown Rice Bran Oil Plus, Triple Crown Lite, Triple Crown 30% Performance Supplement, Legends Performance Low Carb Formula Pelleted, Legends Maturity and Southern States Hay Stretcher.

Recurrent Airway Obstruction and Inflammatory Airway Disease – Horses with heaves or Recurrent Airway Obstruction (RAO) tend to be older and have respiratory difficulty at rest (increased respiratory rate and effort, coughing and excessive mucus). Inflammatory Airway Obstruction (IAD) affects younger horses, such as those in training, that don't show respiratory distress at rest but may cough, have

increased mucus in the respiratory tract, and have reduced performance. Both of these conditions are caused by inhaled allergens from the horse's environment and result in obstructing the normal flow of air in the lungs. The obstruction is caused by a combination of muscle spasms of the bronchial walls of lung tissue, narrowing of the bronchial walls due to thickening of tissue due to inflammation and the presence of fluid and mucus in the bronchial passages. The likely cause is an inflammatory response of the lung tissue to exposure to dust, pollen, molds and bacterial toxins.

The most important treatment is to reduce inhaled irritants like dust and mold from the environment. Ideally, affected horses are turned out at all times and are never stabled or fed indoors. Horses on pasture can develop pasture-associated obstructive pulmonary disease, especially during warm summer months that are likely due to pollen allergies. If affected horses are stabled, replace straw bedding with wood shavings, or provide pelleted wood bedding or processed paper-based bedding material to minimize dust.

Dietary treatment is to reduce the amount of hay fed to reduce dust exposure by utilizing high-fiber complete feeds. Complete feeds with a high fiber content based on beet pulp or soy hulls, with a crude fiber guarantee of at least 15% can be fed safely for extended periods with a minimum of hay (0.5% of body weight daily). Feed high quality hay soaked in water, chopped hay or hay cubes (90% less dust than baled hay). Reduce environmental dust and mold by increasing ventilation in the stall and provide for as much turnout as possible. Complete feeds or supplements containing higher levels of omega-3 fatty acids (found in flax seed and fish oil) competitively inhibit activity of the cyclooxygenase enzyme, which is necessary for eicosanoid or prostaglandin production, and can be helpful in decreasing inflammation of the lung tissue. Supplementation of vitamin C (2 to 10 grams daily), increased amounts of vitamin E (1,000 to 2,000 IU above daily requirement) have also been recommended to improve immune response.

Recommended Products: Triple Crown® Senior Formula, Triple Crown Complete Formula, Triple Crown Low Starch, Southern States® Solution, Triple Crown Chopped Alfalfa Forage, Triple Crown Chopped Grass Forage, Triple Crown Safe Starch Forage, Triple Crown Alfalfa Cubes, Triple Crown Timothy/Alfalfa Cubes, Legends® Racing, Legends Performance Low Carb Formula (pelleted), Southern States Solution, Legends Maturity and Legends Omega Plus.

Hyperkalemic Periodic Paralysis (HYPP) – A horse suspected of being N/H or H/H should be on a low potassium diet. Select feed and hay with low potassium content (1.2% or less). Oats may be fed with a supplement pellet (Triple Crown 30% Performance Supplement) or a high fiber feed (Triple Crown Senior, Triple Crown Complete or Legends Maturity) can be fed along with a limited amount of hay. Avoid potassium-containing electrolytes and mineral supplements, as well as molasses, orchardgrass hay, alfalfa hay (baled, cubed or pelleted) or wheat bran, as they contain high levels of potassium.

Recommended Products: Triple Crown Low Starch, Triple Crown Training Formula, Triple Crown Senior Formula, Triple Crown Complete Formula, Legends Maturity, Legends Performance Textured and Pelleted and Triple Crown 30% Performance Supplement.

Excitable Behavior – The exact mechanism or cause for excitable behavior in the horse is not known. Horses can exhibit excitable behavior that are overfed and under worked, as well as horses that are stabled for long periods of time compared to horses allowed to graze for 16 to 18 hours daily, which is their normal activity. Horses may also exhibit stereotypic behaviors such as cribbing, wood chewing and stall weaving as a means to relieve stress. Feeding large amount of grain is associated with increased gut acidity. High grain diets may cause pain due to increased gut acidity and ulcer formation, which can serve as a stimulus for stereotypic

behavior. Feeding large amounts of grain can also lead to starch overload in the hindgut and can result in serious metabolic disorders such as colic, laminitis and insulin resistance. Reducing starch and adding fat to the diet has resulted in lowered blood glucose and insulin levels and calmer behavior has been observed in the horse.

Select a horse feed with a low level of soluble carbohydrates and based on digestible fiber sources such as beet pulp, soy hulls, rice bran and alfalfa meal. A 10% addition of oil to a concentrate feed has been shown to reduce glycemic response in the horse compared to the same feed ingredients without added oil. Also, the addition of oil or fat to the diet has resulted in less excitability in horses challenged with a quantifiable "spook" test. A CRF study with exercising horses showed that horses consuming a pelleted feed with 30% soluble carbohydrate content (starch + ESC) had a significant reduction in post-exercise resting heart rate that was attributed to less excitable behavior compared to horses receiving textured and pelleted feeds with over 40% soluble carbohydrate content (starch + ESC). This same study also showed significantly higher respiratory rate during exercise for horses fed the textured concentrate with over 40% soluble carbohydrate content (starch + ESC).

Recommended Products: Triple Crown Low Starch, Triple Crown Senior Formula, Triple Crown Training Formula, Triple Crown Safe Starch Forage, Legends Maturity (pelleted), Legends Racing, Legends Performance (pelleted), Southern States Solution, Legends Fortified Pelleted Rice Bran, Legends Omega Plus and Triple Crown Rice Bran Oil Plus.

Equine Protozoal Myelitis (EPM) – EPM is a neurological disease. Diagnosis of EPM is based upon finding antibodies, or more recently, a DNA detection test from blood or cerebrospinal fluid. A feed low in soluble carbohydrates with a high content of digestible fiber and fat is recommended since there is an increased incidence of diarrhea as a side effect of treatment. High quality forage is indicated also as weight loss is a common symptom of horses afflicted with EPM. High levels of folic acid and vitamin E should be present in the feed, or added as supplements to help rebuild damaged nerve and muscle tissue. Vitamin E supplementation up to 10,000 IU per day has been recommended also to assist with reduction of symptoms, similar to recommendations for Wobbler's Syndrome. A horse feed with quality protein (soybean meal as protein source) and high levels of limiting amino acids (lysine, threonine and methionine) is also recommended to rebuild damaged muscle tissue.

Recommended Products: Triple Crown Senior, Triple Crown Growth, Triple Crown Training Formula, Legends Grow & Perform Textured and Pelleted, Southern States Solution and Legends Performance Textured and Pelleted.

Gastric Ulcers – Higher intensity levels of training and competition are correlated with an increase in the incidence of ulcers. Horses suffering from ulcers should be treated immediately. Allowing the horse to be turned out and graze 24 hours daily will help to alleviate ulcers as the stress level will be reduced and increased saliva production will help reduce stomach acidity and prevent further damage. Fermentation of fat and fiber will not produce lactic acid, selection of a horse feed with high levels of fat and digestible fiber and low levels of soluble carbohydrates will reduce fermentation and acid production in the stomach and small intestine where ulcers form.

Providing enough hay in the diet is important to insure adequate salivary bicarbonate to buffer stomach acidity. Feeding a daily buffer or antacid product may be required to maintain an ulcer-free condition. Alfalfa or a legume/grass mixed hay may be preferred due to the higher calcium content and potential stomach buffering capacity. Increasing the frequency of feeding can be helpful in keeping stomach pH less acidic with more constant saliva production and the dilution effect of a more consistently full stomach.

Recommended Products: Triple Crown Low Starch, Triple Crown Senior Formula, Triple Crown Chopped Alfalfa Forage, Triple Crown Complete Formula, Triple Crown Training Formula, Legends Racing, Legends Maturity, Legends Performance Pelleted, Southern States Solution, Southern States 11-Six Pelleted and Southern States Hay Stretcher.

Colonic Ulcers and Right Dorsal Colitis – Like gastric ulcers, colonic ulcers are found more often in performance horses. There is also a strong association with the use of non-steroidal anti-inflammatory drugs (NSAID) and colonic ulcers. Colonic ulcers with symptoms including mild colic symptoms, lethargy and partial anorexia can progress to Right Dorsal Colitis (RDC) with anorexia, fever and diarrhea causing dehydration and weight loss.

Treatment of RDC includes discontinuing use of NSAID, decreasing gut fill to allow the colon to rest, reducing inflammation and restoring normal colon absorptive function. Decreasing the amount of gut fill due to long-stemmed hay can be accomplished by elimination or major reduction of hay from the diet. Replace all or most of the hay with a high-fiber (15% crude fiber or greater) complete feed. Feeding a complete pelleted feed at 1.0 to 1.5% of body weight daily and cubed hay at 0 to 0.5% of body weight daily will meet the maintenance requirements of most horses. This feeding program reduces gut fill and decreases the mechanical load on the large colon. The horse can also be allowed to graze small amounts of fresh grass for short periods (10 to 15 minute intervals up to 6 times daily) to assist in weight gain. The dietary changes should be made over a week's time to allow the gastrointestinal (GI) tract time to acclimate. The complete feed diet should be continued for 3 to 4 months or until hypoproteinemia and hypoalbuminemia has been resolved.

Psyllium husk can also be added to the diet to shorten transit time of ingesta, increase water content of the GI tract, and provide a better microbial environment conducive to healing. Sulcralfate is an especially effective medication for treatment of colonic ulcers. Complete feeds or supplements containing higher levels of omega-3 fatty acids (found in flax seed, marine algae and fish oil) competitively inhibit activity of the cyclooxygenase enzyme, which is necessary for eicosanoid or prostaglandin production, and can be helpful in decreasing inflammation of the colon.

Minimizing stress will also be helpful in controlling RDC. Stall rest, reduction in strenuous exercise or training, and reduction in transport activities are ways to reduce stress. Horses should also have adequate amounts of clean fresh water and a complete mineral supplement with salt to ensure adequate water intake.

Recommended Products: Triple Crown® Low Starch, Triple Crown Senior Formula, Legends® Maturity (pelleted), Legends Performance Low Carb Formula (pelleted), Southern States® Solution, Southern States Hay Stretcher, Triple Crown Chopped Alfalfa Forage, Triple Crown Chopped Grass Forage, Triple Crown Alfalfa Cubes, Triple Crown Timothy-Alfalfa Cubes, Triple Crown Rice Bran Oil Plus, Legends Omega Plus and EquiMin Horse Mineral.

Enteroliths – Enteroliths are intestinal stones that are a cause of impaction colic in the horse. They are mineral concretions composed mainly of magnesium, ammonium and phosphate salts. Contributing factors to enterolith formation include excessive mineral intake, alfalfa hay consumption, Arabian, Morgan and American Miniature breeds, ingestion of foreign particles (plastic, wire, gravel, string, hair, etc.), geographic location (higher incidence in the states of Texas, Florida and California), and lack of pasture grazing with prolonged stall confinement.

Feeding recommendations to decrease the incidence or recurrence of enteroliths include eliminating alfalfa hay, elimination of feed supplements that are high in calcium, phosphorus, magnesium or protein (wheat bran, alfalfa pellets, beet pulp, etc.), providing a low-protein horse feed, no free-choice mineral except white or trace mineralized salt, allowing daily pasture grazing, removing access to any foreign particles from pasture or turnout areas, increasing grain feeding frequency to 3 to 4 times daily and daily turnout.

Formation of enteroliths occurs at an alkaline pH (6.5 or greater). Increasing the grain to hay ratio (more grain and less hay) and feeding one to two cups of vinegar daily are recommendations that will decrease intestinal pH and may aid in decreasing enterolith formation.

Recommended Products: Triple Crown Grass Forage, Southern States All Grain, Southern States Reliance® Textured and Pelleted, Southern States Hay Stretcher and Legends Show & Pleasure Textured and Pelleted.

Obesity – Reducing caloric intake and exercise to increase caloric expenditure are the two methods that must be used to reduce excess body weight. The most effective method to keep horses from becoming overweight is to control intake of feed, hay and pasture. Horses on lush pasture may be fitted with grazing muzzles or placed in a dry lot and fed moderate quality grass hay. Weigh the feed and hay to determine the amount fed, and adjust the feeding rate to maintain an appropriate body condition score. Weight gains and losses can also be monitored with a weight scale or weight tape.

The use of a concentrated feed (Triple Crown Lite) allows sufficient intake of minerals and vitamins while reducing calories associated with reducing conventional horse feeds to less than 0.5% of body weight (i.e. less than five pounds daily for a 1,000-lb horse). Another way to insure adequate mineral and vitamin intake when feeding a reduced amount of a conventional horse feed is to provide a mineral supplement (EquiMin Horse Mineral). Horses in training should be fed a lower-calorie feed but in sufficient amounts to meet dry matter and other nutrient requirements (minimum of 1.5% of body weight daily for total diet).

Recommended Products: Triple Crown Lite, Triple Crown 30% Supplement, Triple Crown Safe Starch Forage, EquiMin Horse Mineral, EquiMin Horse Mineral Block, Southern States Reliance Textured and Pelleted, Southern States Hay Stretcher.

Weight Loss – Horses with weight issues need feeds high in fat and digestible fiber to increase caloric intake safely without a risk of colic and laminitis from a diet high in soluble carbohydrates. Fat contains 2.25 times more calories than any other nutrient, so high fat feeds and supplements will provide the most calories for weight gain. Digestible fiber sources (beet pulp, soy hulls and alfalfa meal) used in many Southern States horse feeds are relatively high in calories and low in starch, and provide a safety margin when fed at high rates to increase weight gain. High quality forage should be selected, as it is more palatable, allowing greater intake, and has a higher caloric density, providing more calories per pound. Feeds containing yeast culture, probiotic bacteria, digestive enzymes and other feed additives that enhance digestion are useful in adding weight to thin horses.

Recommended Products: Triple Crown Senior Formula, Triple Crown Complete Formula, Legends Grow & Perform Textured and Pelleted, Legends Performance Textured and Low Carb Formula Pelleted, Legends Maturity, Southern States 11-Six Textured and Pelleted, Southern States 14-Six, Southern States Triple 10, and Southern States Solution, Legends Fortified Pelleted Rice Bran and Legends Omega Plus.

Choke or Esophageal Obstruction – Choke or esophageal obstruction occurs when the horse is provided with food items that are too large to be quickly chewed into smaller particles, like carrots or alfalfa cubes, when consumption is too rapid and the horse tends to “bolt” his feed, and when the horse has a dental problem and is not able to properly chew its feed. Choke is observed more often with pelleted horse feeds and consumption must be slowed in order to prevent further episodes of choking.

Measures to slow consumption rate and prevent choke include lowering the feeder, providing a larger feeder so that feed is available in a more shallow manner, placing objects (large stones or individual salt blocks) in the feeder, wetting or soaking the feed with water, and mixing 1 to two pounds of chopped forage, soaked alfalfa cubes or soaked beet pulp with the concentrate meal.

Regular dental examinations with treatment (floating of sharp points on dental ridges, etc.) will help to prevent episodes of choke. Horse treats, hay cubes and carrots that are given to the horse should be reduced to the size of a thumb, and beet pulp and alfalfa cubes that are not fed off the ground and added to a concentrate meal should be soaked with water for fifteen minutes before feeding. Once a choke has occurred and scar tissue in the throat has formed, all feed and hay should be soaked with water for several weeks after the incident has occurred to prevent further choking episodes and irritation of the area. Pelleted high-fiber horse feeds and cubed hay soaked with enough water to form a mash is recommended for feeding horses that are recovering from choke.

Recommended Products: Legends® Maturity (pelleted), Legends Performance (pelleted), Triple Crown® Senior Formula, Southern States® Solution, Southern States 11-Six (pelleted), Southern States Hay Stretcher, Triple Crown Alfalfa-Timothy Cubes and Triple Crown Alfalfa Cubes.

Kidney Disease – Clinical signs of kidney disease include lethargy, depression, poor appetite, ulceration of the mouth and tongue, and swelling of the legs and belly. Many drugs are toxic to the kidney and can severely reduce kidney function during treatment but complete recovery usually occurs. Dietary management is less important during this time and it is important to keep the horse eating and drinking normally.

Recommended Products: Legends Show & Pleasure (textured and pelleted formulas), Triple Crown Safe Starch Forage and Triple Crown Chopped Grass Forage.

Horses with chronic kidney or renal disease have a poor prognosis for recovery and should be maintained on a strict diet to limit protein, phosphorus and especially calcium. With reduced kidney function an excessive amount of calcium oxalate is secreted into the urine and can form stones in the urinary tract. Avoid feeds or supplements high in protein, calcium or phosphorus for horses with renal disease, this would exclude most commercial horse feeds. Good quality grass hay with no more than 10% crude protein content should be the major portion of the diet. A small amount of whole or crimped oats would be the only recommended grain to feed. Omega-3 fatty acid supplementation has been recommended to reduce renal inflammation for long-term care of chronic cases to avoid the adverse effects of NSAID use.

Feeding legume hay like alfalfa or excess protein does not cause kidney disease in healthy horses, but is not recommended for horses with renal disease. Avoid feeding beet pulp and wheat bran due to high levels of calcium or phosphorus. Use caution with salt supplementation as some horses may overeat salt. Instead of allowing free-choice consumption of salt, add 1-2 ounces of plain salt to the feed daily.

Recommended Products: Triple Crown Safe Starch Forage and Triple Crown Chopped Grass Forage.

Liver Disease – Horses with liver or hepatic disease should be fed easily digested soluble carbohydrate sources in order to maintain blood glucose levels, and diets high in fat or protein are not recommended. Horses with hepatic failure should also be supplemented with B-complex vitamins (i.e. Red Cell) and ascorbic acid (stabilized or esterified form of vitamin C) as the liver is the site of all vitamin syntheses.

Recommended Products: Southern States All Grain, Southern States Reliance® Textured and Triple Crown Chopped Grass Forage.

Hyperlipidemia – Hyperlipidemia occurs in horses and other equids due to poor feed quality or decreased feed intake, especially during a period of high-energy requirement such as pregnancy, disease or lactation. The negative energy balance triggers excessive mobilization of fatty acids from adipose tissue. Hyperlipidemia occurs most commonly in ponies, miniature horses and donkeys, and less commonly in standard-sized horses.

Symptoms include lethargy, weakness, inappetence, decreased water consumption and diarrhea. There is often a previous history of prolonged anorexia, rapid weight loss and obesity. Blood serum values usually indicate impaired liver function when testing ponies and miniature horses with hyperlipidemia (excessive fat in the blood). Clinical signs also may include excessive plasma or serum triglyceride levels, blood plasma with a whitish or yellowish discoloration, metabolic acidosis and hypokalemia (low blood potassium). Nutritional support includes supplemental B-complex vitamins and frequent feedings of a high-carbohydrate, low fat feed if the animal will voluntarily consume an adequate amount.

Recommended Products: Southern States All Grain, Southern States Reliance Textured.

Inflammatory Bowel Disease – Inflammatory Bowel Disease (IBD) is a malabsorptive and maldigestive disorder that most commonly affects the small intestine of mature horses. The cause of IBD has been linked to abnormal immune responses to bacterial, viral, parasitic or dietary antigenic factors.

Different types of IBD have been identified including eosinophilic enteritis, granulomatous enteritis, lymphocytic/plasmacytic enteritis and lymphosarcoma.

Dietary recommendations include a nutrient-dense feed with highly-digestible fiber sources and low levels of soluble carbohydrates. Enzymatic digestion in the small intestine may be severely limited and chronic and severe colic is a common symptom of IBD. These symptoms can be reduced by limiting the amount of soluble carbohydrate in the feed in order to reduce the amount available for fermentation in the large intestine. Providing smaller meals at more frequent intervals is recommended (3-4 times per day) as the amount of feed required to maintain adequate body condition is greater than normal for horses with this condition and the occurrence of excessive fermentation of soluble carbohydrates in the large intestine and colic symptoms should be reduced.

Recommended Products: Triple Crown Senior Formula, Legends Performance (pelleted), Legends Maturity (pelleted), Southern States Hay Stretcher, Triple Crown Chopped Grass Forage, Triple Crown Chopped Alfalfa Forage, Triple Crown Safe Starch Forage, Triple Crown Alfalfa Cubes and Triple Crown Alfa/Timothy Cubes.

SOUTHERN STATES® HORSE FEED SELECTION GUIDE

HORSE/STATUS	AGE	LEGUME FORAGE	MIXED FORAGE	GRASS FORAGE
Nursing Foal	3 weeks to 6 months	Legends® Mare & Foal, Solution Triple Crown® Growth	Legends Mare & Foal, Solution Triple Crown Growth	Legends Mare & Foal, Solution Triple Crown Growth
Weanling Foal	3 to 6 months	Legends Grow & Perform, Solution Triple Crown 14% or Growth Legends Mare & Foal	Legends Grow & Perform, Solution Triple Crown 14% or Growth Legends Mare & Foal	Legends Grow & Perform Triple Crown Growth or 14% Legends Mare & Foal
Yearling	12 months	Legends Show & Pleasure, Solution Triple Crown Growth/Complete, 14-Six	Legends Grow & Perform, Solution Triple Crown Growth/Complete, 14-Six	Legends Grow & Perform, Solution Triple Crown Growth/Complete, 14-Six
Long Yearling	18 months	Legends Show & Pleasure, Solution Triple Crown 10%/Complete, 11-Six	Legends Show & Pleasure, Solution Triple Crown 10%/Complete, 14-Six	Legends Grow & Perform, Solution Triple Crown 14%/Growth, 14-Six
Two Year Old Horse	24 months	Legends Show & Pleasure, 11-Six Triple Crown Complete, Solution	Legends Show & Pleasure, 11-Six Triple Crown Complete, Solution	Legends Show & Pleasure, 11-Six Triple Crown Complete, Solution
Mature Horse	Over 3 years	Legends Show & Pleasure, Reliance® Triple Crown Complete/Low Starch Legends Maturity, Solution, 11-Six	Legends Show & Pleasure, Reliance Triple Crown Complete/Low Starch Legends Maturity, Solution, 11-Six	Legends Show & Pleasure, Reliance Triple Crown Complete/Low Starch Legends Maturity, Solution, 11-Six
Pregnant Broodmare	1 to 8 months	Triple Crown Complete, Solution Legends Show & Pleasure, 14-Six	Triple Crown Complete/14%, 14-Six Legends Grow & Perform, Solution	Triple Crown 14%/ Growth, Solution Legends Grow & Perform, 14-Six
Pregnant Broodmare	9 to 11 months	Legends Grow & Perform Triple Crown 14%/Growth Legends Mare & Foal, Solution	Legends Grow & Perform Triple Crown 14%/Growth Legends Mare & Foal, Solution	Legends Grow & Perform Triple Crown 14%/Growth Legends Mare & Foal, Solution
Lactating Broodmare	1st 3 months	Legends Show & Pleasure, 14-Six Triple Crown 14%/Growth/Complete Solution, Legends Grow & Perform	Legends Grow & Perform, 14-Six Triple Crown 14%/Growth Legends Mare & Foal, Solution	Legends Mare & Foal Triple Crown 14%/Growth Solution, 14-Six
Lactating Broodmare	2nd 3 months	Legends Grow & Perform, 14-Six Triple Crown 14%/Growth Solution, Legends Mare & Foal	Legends Grow & Perform, 14-Six Triple Crown 14%/Growth Solution, Legends Mare & Foal	Legends Mare & Foal Triple Crown 14%/Growth, 14-Six Legends Grow & Perform, Solution
Breeding Stallion	Over 3 years	Triple Crown Complete/Training, 14% Legends Grow & Perform, Solution 11-Six, 14-Six, Legends Show & Pleasure	Triple Crown 14%/Growth/Training Legends Grow & Perform, 14-Six Solution	Triple Crown 14%/Growth/Training Legends Grow & Perform, 14-Six Solution
Non-Breeding Stallion	Over 3 years	Triple Crown Complete, Solution Legends Show & Pleasure, 11-Six	Triple Crown Complete, Solution Legends Show & Pleasure, 11-Six	Triple Crown Complete, Solution Legends Show & Pleasure, 11-Six
Show/Performance	Over 3 years	Triple Crown Complete/Training/10% Legends Show & Pleasure, Solution Legends Performance, Triple 10, 11-Six Legends Rice Bran/Omega Plus	Triple Crown Complete/Training/14% Legends Show & Pleasure, Solution Legends Performance, Triple 10 Legends Rice Bran/Omega Plus	Triple Crown Complete/Training/14% Legends Grow & Perform, Solution Legends Performance, Triple 10 Legends Rice Bran/Omega Plus
Heaves (RAO)	Over 1 year	Triple Crown Complete/Senior Legends Maturity/Racing, Solution	Triple Crown Complete/ Senior Legends Maturity/Racing, Solution	Triple Crown Complete/ Senior Legends Maturity/Racing, Solution
Older Horse	20 years or older	Triple Crown Senior Legends Maturity, Solution	Triple Crown Senior Legends Maturity, Solution	Triple Crown Senior Legends Maturity, Solution
Poor Hay or Pasture	Over 3 years	Triple Crown Complete/Low Starch Hay Stretcher, Legends Maturity	Triple Crown Complete/Low Starch Hay Stretcher, Legends Maturity	Triple Crown Complete/Low Starch Hay Stretcher, Legends Maturity
Miniature Horse/Pony/ Donkey	Over 1 year	Triple Crown Lite Legends Grow & Perform	Triple Crown Lite/30% Supplement Legends Grow & Perform	Triple Crown Lite/30% Supplement Legends Grow & Perform

SOUTHERN STATES® HORSE FEED SELECTION GUIDE

FEEDING PROBLEM	FEEDING SOLUTION
Orphan Foal (Birth to 3 months)	Mare's Match® Foal Milk Replacer Mare's Match Foal Pellets
Allergic to Molasses, Corn, Barley, Oats or Alfalfa	Triple Crown® Low Starch
Allergic to Wheat Products	Southern States® All Grain (no wheat products)
HYPP (Hyperkalemic Periodic Paralysis)	Triple Crown Low Starch (only 0.75% potassium)
Bolting Feed (Add to grain meals to slow intake)	Triple Crown Chopped Grass or Alfalfa Forage Triple Crown Alfalfa or Alfalfa/Timothy Hay Cubes
Hyperactive Behavior	Triple Crown Low Starch/Senior Legends® Maturity 12P/Performance 12P
Rescue/Starved Horse	Triple Crown Senior/Low Starch/Complete Legends Maturity/Southern States Solution Triple Crown Alfalfa Cubes/Chopped Alfalfa Forage
Tying Up Disease (PSSM and Shivers)	Triple Crown Low Starch/Senior/Complete/Safe Starch Forage Legends Maturity 12P/Performance 12P
Colic/Founder/Laminitis	Triple Crown Low Starch/Lite/Senior/Safe Starch Forage Legends Maturity 12P/Performance 12P
Weanling Foal to Yearling with Physitis (4 to 12 months)	Triple Crown 30% Supplement (1/5-2 lbs/day) and limited hay feeding (1.0-1.2% BW/day)
Cushing's Disease/Insulin Resistance Metabolic Syndrome/Diabetes/ Excitable Behavior	Triple Crown Low Starch/Lite/Safe Starch Forage Legends Performance 12P/Maturity 12P
Yearling Sales Preparation	Triple Crown Growth/14% Performance Legends Omega Plus/Fortified Pelleted Rice Bran
Obese Horse/Easy Keeper	Triple Crown Lite
Thin Horse/Hard Keeper	Legends Performance Legends Fortified Pelleted Rice Bran/Omega Plus Triple Crown 14%/Complete/Senior/Training Formula

FORAGES

Triple Crown® Nutrition is committed to growing a product line of forage and complete diets high in quality fiber. By utilizing shredded beet pulp and other superior fiber products, Triple Crown Forages are some of the best complete products on the market providing both fiber and balanced nutrition.

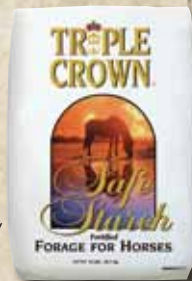


Triple Crown Premium Chopped Alfalfa Forage and Triple Crown Premium Chopped Grass Forage – Grown and manufactured with the highest standards. What makes our chopped forage product superior to most others? First, our hay is grown in the Western states and harvested at the precise, immature, pre-bloom stage of growth. Next, we chop and blend the alfalfa hay with computerized precision, then we lightly mix in molasses and remove any excess dust particles. The result is a highly digestible and consistent forage, ideal for any feeding need.

FEEDING DIRECTIONS: Triple Crown Premium Forages should be fed at a minimum rate of 1 to 1.5% of body weight (10 to 15 pounds on a 1,000 pound horse) per day if using as a complete hay replacement. Feed 4 to 6 pounds per day if using as a supplement to normal long stem hay. Feed separately in a feed bin or bucket, or mix with your grain ration. Mixing may help reduce rapid consumption (bolting) and slow the digestive passage through the gut to maximize digestion.

Triple Crown Safe Starch Forage – A complete chopped forage feed for horses. Guaranteed non-structural carbohydrate content (sugar + starch) less than 10%. Complete balanced diet for horses including chopped hay with protein, mineral and vitamin fortification, and Equimix technology. For horses with metabolic problems such as Cushing's Disease, Metabolic Syndrome, Insulin Resistance, Equine Diabetes, EPSM and PSSM, and horses prone to chronic colic and laminitis. Designed for complete diet replacement of both grain and hay. Molasses and grain free for allergic horses.

FEEDING DIRECTIONS: Triple Crown Safe Starch Forage is an all in one diet for mature horses. No other hay, pasture or mineral and vitamin supplement is required to provide your horse a complete and balanced diet. Feed Triple Crown Safe Starch Forage to mature horses at a rate that maintains desired body condition. Begin feeding at the rate of 2% of body weight (20 pounds daily for a 1,000 pound horse) and adjust up or down, depending upon the individual horse's body condition.



Premium Forage Cubes – Triple Crown Premium Forage Cubes offer the horse owner a way to supplement or replace hay and pasture supplies while eliminating the concerns for nutrition, availability and potential respiratory problems arising from bad forage supplies. Plus, forage cubes have proven to be about 15 to 20% more efficient to feed than long stem hay. Triple Crown Premium Forage Cubes use pre-bloom alfalfa and immature timothy hay at the height of its nutritional value. The heat produced during the cubing process virtually eliminates dust, mold and fungus. Cubed alfalfa hay and alfalfa/timothy hay. Controlled harvest and low temperature dried for consistent quality. Recommended for horses with respiratory problems (90% less dust than baled hay). Less feeding waste than conventional baled hay. Replaces up to 100% of hay or pasture requirements. Packaged in 50 pound bags.

FEEDING DIRECTIONS: If replacing all the hay in the diet, feed 1 to 1.5% of body weight per day. If feeding as a supplement to hay, feed 4 to 6 pounds of cubes per day. Cubes can be soaked in warm water to loosen for older horses with bad teeth or for horses prone to choking. Store cubes off the floor and out of direct sunlight. Because fiber consumption encourages drinking, always provide plenty of fresh, clean water at all times. Do not feed cubes that are molded, old or insect infested.

RICE BRAN PRODUCTS



Southern States® Legends® Fortified Pelleted Rice Bran - An extruded fat supplement for horses. Small-sized pellet to mix well in grain or pellets and not sift out. Concentrated calorie content reduces grain feeding requirements. Provides “cool” calories for performance or weight gain without hyperactivity. Contains gamma oryzanol, an antioxidant noted for its anabolic (muscle-building) and antioxidant benefits. High level of vitamin E for effective antioxidant protection. Balanced levels of calcium and phosphorus to complement existing feeding program. Contains high levels of omega-3 fatty acids for improvement of hair, skin and hoof condition.



Triple Crown Rice Bran Oil Plus - Triple Crown Rice Bran Oil Plus provides enhanced omega-3 fatty acids through a unique combination of both rice bran oil and flaxseed oil. We also add corn oil, which is high in omega-6 fatty acids. Omega-3 fatty acids are required for optimal immune system function, which in turn, improves the health of skin, hair and liver function. Omega-6 fatty acids are effectively used for extra calories by hard working horses or hard keepers.



EQUIMIN® HORSE MINERAL

We developed a supplement designed for all horses no matter their activity level. EquiMin® is a complete mineral and vitamin supplement for horses if their diet is pasture, hay and unfortified grains.

- EquiMin provides a totally balanced source of minerals including salt and vitamins.
- EquiMin contains vitamins A, D and E for growth and reproductive functions. We combine this with B complex vitamins for hoof and coat condition, prevention of anemia and for peak performance.
- EquiMin has a balanced level of major and minor minerals plus organic trace minerals that are combined with biotin for bone development, improved hoof growth and healthy skin and hair condition. We even included copper to minimize Developmental Orthopedic Disease in foals.
- We also included yeast culture to improve fiber digestion, which increases availability of dietary protein and phosphorus.
- Is your horse a picky eater? We thought of that, too! Orange and fenugreek flavors are added to encourage consistent consumption. Horses under moderate or intense work should be fed additional salt or electrolytes.

EquiMin is sold in convenient 25 pound blocks for free choice feeding in the pasture as well as in the stall. We also have a granular top dressing formula that is dust-free so it won't "cake" when exposed to rain or high humidity. The granular formula is packaged in convenient 25 pound pails. We even included a 2 ounce scoop! EquiMin is a premium supplement that produces results at everyday low prices. You can't beat that!

Guaranteed Analysis for EquiMin Horse Mineral

Calcium	(min.)	16.0%
Calcium	(max.)	18.0%
Phosphorus	(min.)	8.0%
Salt	(min.)	22.0%
Salt	(max.)	26.0%
Magnesium	(min.)	1.0%
Sulfur	(min.)	0.3%
Potassium	(min.)	0.6%
Iodine	(min.)	30 ppm
Copper	(min.)	620 ppm
Cobalt	(min.)	6 ppm
Selenium	(min.)	16 ppm
Zinc	(min.)	2,450 ppm
Manganese	(min.)	1,250 ppm
Biotin	(min.)	8.0 mg/lb
Vitamin A	(min.)	200,000 IU/lb
Vitamin D ₃	(min.)	20,000 IU/lb
Vitamin E	(min.)	1,000 IU/lb

Guaranteed Analysis for EquiMin Horse Mineral Block

Calcium	(min.)	14.0%
Calcium	(max.)	18.0%
Phosphorus	(min.)	8.0%
Salt	(min.)	20.5%
Salt	(max.)	23.5%
Magnesium	(min.)	1.0%
Sulfur	(min.)	0.1%
Potassium	(min.)	0.35%
Iodine	(min.)	30 ppm
Copper	(min.)	500 ppm
Cobalt	(min.)	6 ppm
Selenium	(min.)	16 ppm
Zinc	(min.)	2,200 ppm
Manganese	(min.)	1,200 ppm
Vitamin A	(min.)	200,000 IU/lb
Vitamin D	(min.)	20,000 IU/lb
Vitamin E	(min.)	400 IU/lb



DENSITY MEASUREMENTS OF HORSE FEEDS

HORSE FEED AND FORM	Pounds per Dry US Quart
Triple Crown® Growth Textured	1.11
Triple Crown Lite Pelleted	1.42
Triple Crown Low Starch Pelleted	1.31
Triple Crown Senior Textured	1.08
Triple Crown Complete Textured	1.01
Triple Crown 10% Performance Textured	1.08
Triple Crown 14% Performance Textured	1.08
Triple Crown Training Formula Textured	1.40
Legends® Mare & Foal Pelleted	1.58
Legends Mare & Foal Textured	1.40
Legends Performance Pelleted	1.48
Legends Performance Textured	1.70
Legends Show & Pleasure Pelleted	1.64
Legends Show & Pleasure Textured	1.74
Legends Grow & Perform Pelleted	1.52
Legends Grow & Perform Textured	1.46
Legends Maturity Pelleted	1.65
Legends Racing Textured	1.39
Legends Fortified Pelleted Rice Bran Extruded	1.38
Legends Omega Plus Extruded	1.38
Southern States® Reliance® Pelleted	1.56
Southern States Reliance Textured	1.28
Southern States 11-Six Pelleted	1.50
Southern States 11-Six Textured	1.32
Southern States All Grain Textured	1.36
Southern States Hay Stretcher Pelleted	1.46
Southern States Solution Pelleted	1.50
Southern States 14-Six Textured	1.36
Southern States Triple 10 Textured	1.40
Select Pelleted	1.50
Select Textured	1.38

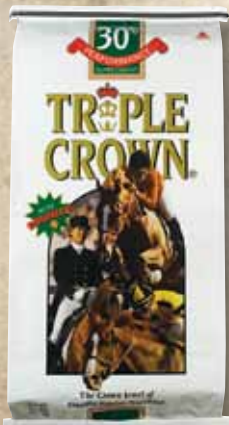


SUPPLEMENTS



12% Performance Supplement - Triple Crown® 12% is designed for horses requiring lower protein supplements. This pellet contains all the technology to Triple Crown 30%, without the added protein. Available in 50 pound bags.

FEEDING DIRECTIONS: MATURE PERFORMANCE HORSES: Horses in light to moderate work should receive 1.5 pounds of Triple Crown 12% Supplement per day. Horses in moderate to intense work should receive 2 pounds of Triple Crown 12% Supplement per day. All performance horses should receive plenty of good quality forage (at least 8 pounds per day) and free access to fresh water and salt. MATURE HORSES AT MAINTENANCE: Feed 1 pound of Triple Crown 12% Supplement along with free access to good quality forage, fresh water, salt and exercise. Grain should be fed at a level to maintain desired body condition. YOUNG PERFORMANCE HORSES, GROWING HORSES, BROODMARES and BREEDING STALLIONS: Feed Triple Crown 30% Supplement.



30% Performance Supplement - Designed for those who prefer to feed their horses grains and/or forage products, but who want all the benefits of Triple Crown Nutrition's EquiMix® technology and revolutionary formula. This pelleted supplement is specifically designed for growing horses and broodmares as well as those performance horses who need quality protein. Available in 50 pound bags.

FEEDING DIRECTIONS: GROWING HORSES: Feed 1.5 pounds of Triple Crown 30% Supplement per day along with free access to good quality forage (hay and/or pasture), water, salt and free exercise. Grain should be fed at a level to maintain desired body condition and growth rate. YOUNG PERFORMANCE HORSES: Horses working at a light to moderate level should be fed 1.5 pounds of Triple Crown 30% Supplement per day. Horses working at a moderate to intense level should be fed 2 pounds of Triple Crown 30% Supplement per day. All performance horses should receive plenty of good quality forage (at least 8 pounds per day) and free access to fresh water and salt. BROODMARES and BREEDING STALLIONS: Feed 2 pounds of Triple Crown 30% Supplement per day along with free access to good quality forage, fresh water, salt and exercise. Grain should be fed at a level to maintain desired body condition.

12% Supplement Analysis

Crude Protein (min.)	12.00%
Crude Fat (min.)	3.00%
Crude Fiber (max.)	6.00%
Lysine (min.)	1.50%
Methionine & Cystine (min.)	1.00%
Calcium (min.)	4.00%
Calcium (max.)	5.00%
Phosphorus (min.)	1.50%
Magnesium (min.)	2.25%
Salt (min.)	1.00%
Salt (max.)	2.00%
Iron (min.)	750.00 ppm
Zinc (min.)	900.00 ppm
Manganese (min.)	580.00 ppm
Copper (min.)	280.00 ppm
Selenium	3.40 ppm
Vitamin A (min.)	36,000 IU/lb
Vitamin D (min.)	5,000 IU/lb
Vitamin E (min.)	1,000 IU/lb
Biotin (min.)	1.40 mg/lb
Lactobacillus Acidophilus	
Bacteria (min.)	10.0 million CFU/gm
Sachromyces	
Cerevisiae (min.)	20.0 million CFU/gm
Cellulase (min.)	850 CMC-ase units/lb
Protease (min.)	3.40 Northrup Units/lb
Threonine (min.)	0.35%
Potassium (min.)	0.60%
Vitamin C (min.)	270.00 mg/lb

30% Supplement Analysis

Crude Protein (min.)	30.00%
Crude Fat (min.)	3.00%
Crude Fiber (max.)	4.00%
Lysine (min.)	2.00%
Methionine & Cystine (min.)	1.00%
Calcium (min.)	4.00%
Calcium (max.)	5.00%
Phosphorus (min.)	1.50%
Magnesium (min.)	2.40%
Salt (min.)	1.00%
Salt (max.)	2.00%
Iron (min.)	750.00 ppm
Zinc (min.)	940.00 ppm
Manganese (min.)	580.00 ppm
Copper (min.)	295.00 ppm
Selenium	3.40 ppm
Vitamin A (min.)	36,000 IU/lb
Vitamin D (min.)	6,000 IU/lb
Vitamin E (min.)	1,000 IU/lb
Biotin (min.)	1.40 mg/lb
Lactobacillus Acidophilus	
Bacteria (min.)	10.0 million CFU/gm
Sachromyces	
Cerevisiae (min.)	20.0 million CFU/gm
Cellulase (min.)	850 CMC-ase units/lb
Protease (min.)	3.50 Northrup Units/lb
Threonine (min.)	1.00%
Potassium (min.)	1.40%
Vitamin C (min.)	270 mg/lb

TRIPLE CROWN® BEET-PULP BASED HORSE FEEDS

Triple Crown Growth

Guaranteed Analysis

Crude Protein (min.)	14.00%
Lysine (min.)	0.80%
Methionine & Cystine (min.)	0.40%
Threonine (min.)	0.50%
Crude Fat (min.)	10.00%
Crude Fiber (max.)	17.00%
Calcium (min.)	0.75%
Calcium (max.)	1.25%
Phosphorus (min.)	0.60%
Magnesium (min.)	0.30%
Iron (min.)	175 ppm
Potassium (min.)	1.10%
Selenium (min.)	0.55 ppm
Zinc (min.)	170 ppm
Manganese (min.)	115 ppm
Copper (min.)	50 ppm

Vitamin A (min.)	6,000 IU/lb.
Vitamin D (min.)	1,000 IU/lb.
Vitamin E (min.)	170 IU/lb.
Vitamin C (min.)	45 mg/lb.
Biotin (min.)	.3 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	1.3 million CFU/gm
Sachromyces Cerevisiae (min.)	2.5 million CFU/gm
Cellulase (min.)	110 CMC-ase units/lb.
Protease (min.)	0.4 Northrup units/lb.

FEEDING DIRECTIONS: Feed Triple Crown® Growth to growing horses along with free access to good quality pasture and/or hay, fresh clean water and plenty of free exercise. For nursing foals, feed 1% of body weight up to 400 pounds. For weanlings and older, the amount of Triple Crown Growth fed daily should be adjusted to maintain a moderate body condition level. If not sure how much to feed, begin with 6 to 8 pounds per day divided into as many feedings as feasible and then adjust up or down depending upon the needs of the individual horse. If feeding less than 5 pounds of Triple Crown Growth on a regular basis due to easy maintenance of desired body condition, then 0.5 to 1 pound per day of Triple Crown 30 Supplement should also be fed in combination with Triple Crown Growth as a means to insure adequate mineral and vitamin intakes to support sound growth. Ponies: Feed 0.5 of the recommendations listed above for horses.



Triple Crown Senior

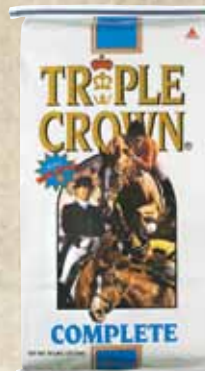
Guaranteed Analysis

Crude Protein (min.)	14.00%
Lysine (min.)	0.70%
Methionine & Cystine (min.)	0.35%
Threonine (min.)	0.40%
Crude Fat (min.)	10.00%
Crude Fiber (min.)	17.00%
Calcium (min.)	0.90%
Calcium (max.)	1.40%
Phosphorus (min.)	0.60%
Magnesium (min.)	0.37%
Iron (min.)	175 ppm
Potassium (min.)	1.25%
Selenium (min.)	0.50 ppm
Zinc (min.)	170 ppm
Manganese (min.)	100 ppm
Copper (min.)	55 ppm

Vitamin A (min.)	6,000 IU/lb.
Vitamin D (min.)	1,000 IU/lb.
Vitamin E (min.)	170 IU/lb.
Vitamin C (min.)	45 mg/lb.
Biotin (min.)	.3 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	1.3 million CFU/gm
Sachromyces Cerevisiae (min.)	2.5 million CFU/gm
Cellulase (min.)	110 CMC-ase units/lb.
Protease (min.)	.40 Northrup units/lb.

IF YOUR HORSE CAN EAT HAY: Provide good quality hay and/or pasture, salt and fresh, clean water on a free choice basis. Adjust the amount of Triple Crown Senior fed on a daily basis in order to maintain the horse's body condition at a moderate level. Begin with approximately 6 pounds of Triple Crown Senior per day and then adjust up or down as needed after 2 to 4 weeks in order to maintain desired body condition. Do not feed more than 5 pounds of Triple Crown Senior at a single meal. Allow 3 to 4 hours between meals when feeding 4 to 5 pounds of Triple Crown Senior at a single meal.

IF YOUR HORSE HAS DAMAGED OR WORN TEETH AND CANNOT EAT HAY: Triple Crown Senior can be fed as the sole feed for your horse. Provide salt and fresh, clean water on a free choice basis. Adjust the amount of Triple Crown Senior fed on a daily basis in order to maintain the horse's body condition at a moderate level. Begin with approximately 12 to 15 pounds of Triple Crown Senior per day and then adjust up or down as needed after 2 to 4 weeks in order to maintain desired body condition. Do not feed more than 5 pounds of Triple Crown Senior at a single meal. Allow 3 to 4 hours between meals when feeding 4 to 5 pounds of Triple Crown at a single meal. Water may be added to Triple Crown Senior at the rate of approximately 1 cup of water per 2 to 3 pounds of Triple Crown Senior 10 to 15 minutes prior to feeding. The amount of water added to Triple Crown Senior can be adjusted to meet the desires of the individual horse. Ponies: Feed 0.5 of the recommendations listed above for horses.



Triple Crown Complete

Guaranteed Analysis

Crude Protein (min.)	11.00%
Lysine (min.)	0.60%
Methionine & Cystine (min.)	0.25%
Threonine (min.)	0.35%
Crude Fat (min.)	10.00%
Crude Fiber (max.)	15.00%
Calcium (min.)	0.75%
Calcium (max.)	1.25%
Phosphorus (min.)	0.50%
Magnesium (min.)	0.25%
Iron (min.)	175 ppm
Potassium (min.)	1.00%
Selenium (min.)	0.30 ppm
Zinc (min.)	100 ppm
Manganese (min.)	90 ppm
Copper (min.)	35 ppm

Vitamin A (min.)	3,500 IU/lb.
Vitamin D (min.)	500 IU/lb.
Vitamin E (min.)	110 IU/lb.
Vitamin C (min.)	27 mg/lb.
Biotin (min.)	.2 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	825,000 CFU/gm
Sachromyces Cerevisiae (min.)	1.65 million CFU/gm
Cellulase (min.)	70.0 CMC-ase units/lb.
Protease (min.)	0.3 Northrup units/lb.

FEEDING DIRECTIONS: If feeding as a grain concentrate with hay, feed a minimum of 5 pounds to a maximum of 15 pounds per day for desired body condition. If replacing all the hay in the diet, feed 1 to 1.5% of body weight per day. Complete can be soaked in warm water to soften for older horses with bad teeth or for horses prone to choking or with respiratory problems.

If your horse requires less than 5 pounds or more than 15 pounds per day to maintain desired body condition, please call Triple Crown Nutrition for feeding alternatives at 800-267-7198.

TRIPLE CROWN® HORSE FEEDS

Triple Crown Lite

Guaranteed Analysis

Crude Protein (min.)	12%
lysine (min.)	0.6%
Methionine & Cystine (min.)	0.4%
Threonine (min.)	0.7%
Crude Fat (min.)	3%
Crude Fiber (max.)	20%
Calcium (min.)	2%
Calcium (max.)	2.5%
Phosphorus (min.)	1%
Magnesium (min.)	0.5%
Iron (min.)	515 ppm
Potassium (min.)	1%
Zinc (min.)	515 ppm
Manganese (min.)	360 ppm
Copper (min.)	130 ppm
Selenium (min.)	2.3 ppm
Vitamin A (min.)	11,000 IU/lb.

Vitamin D (min.)	2,000 IU/lb.
Vitamin E (min.)	305 IU/lb.
Vitamin C (min.)	80 mg/lb.
Biotin (min.)	.4 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	2.0 million CFU/gm
Saccharomyces Cerevisiae (min.)	4.0 million CFU/gm
Cellulase (min.)	170 CMC-ase units/lb.
Protease (min.)	0.7 Northrup units/lb.

FEEDING DIRECTIONS: Triple Crown® Lite weight management formula is designed to be a palatable feed for horses that will provide a desired intake level of supplemental minerals and vitamins without encouraging excessive weight gains. Triple Crown Lite should be fed to horses that have a tendency to become overweight or are receiving less than 4 pounds of grain per day. Triple Crown Lite should be fed in combination with hay and/or pasture, salt and fresh clean water. If your horse is being fed more than 5 pounds of grain per day in order to maintain body condition, Triple Crown Lite is not recommended. Instead, use another Triple Crown product as indicated below for these horses.

GROWING HORSES: Feed 2 pounds of Triple Crown Lite per horse per day. If more than 4 pounds per day of Triple Crown Lite is needed to maintain the horse's desired body condition, switch to Triple Crown 14% Performance Formula.

MATURE HORSES: Feed 2 to 4 pounds of Triple Crown Lite per horse per day. If more than 4 pounds per day of Triple Crown Lite is needed to maintain the horse's desired body condition, switch to Triple Crown 10% Performance Formula or Triple Crown Complete.

PONIES and MINIATURE HORSES: Feed 1 pound of Triple Crown Lite per 500 pounds of body weight and adjust accordingly. Horses that need to lose weight can be fed 2 pounds of Triple Crown Lite per day and at least 10 pounds (approximately 2 to 3 flakes) of hay per day or 8 pounds of Triple Crown Grass Forage. Access to green, growing pasture should be limited to no more than 5 hours per day when weight loss is desired. **CAUTION:** In order to avoid excess mineral and vitamin intake, DO NOT feed more than 5 pounds of Triple Crown Lite per day. Chronic intake of excess minerals and/or vitamins can adversely affect the health of your horse.

Triple Crown Low Starch

Guaranteed Analysis

Crude Protein (min.)	13%
lysine (min.)	0.7%
Methionine & Cystine (min.)	0.4%
Threonine (min.)	0.35%
Crude Fat (min.)	6%
Crude Fiber (max.)	18%
Calcium (min.)	.75%
Calcium (max.)	1.25%
Phosphorus (min.)	0.6%
Magnesium (min.)	0.5%
Iron (min.)	170 ppm
Potassium (min.)	0.75%
Zinc (min.)	170 ppm
Manganese (min.)	100 ppm
Copper (min.)	50 ppm
Selenium (min.)	0.6ppm
Vitamin A (min.)	6,000 IU/lb.
Vitamin D (min.)	500 IU/lb.
Vitamin E (min.)	200 IU/lb.
Vitamin C (min.)	45 mg/lb.

Biotin (min.)	.3 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	2.0 million CFU/gm
Saccharomyces Cerevisiae (min.)	4.0 million CFU/gm
Cellulase (min.)	110 CMC-ase units/lb.
Protease (min.)	0.4 Northrup units/lb.

FEEDING DIRECTIONS: Triple Crown Low Starch can be fed to all horses 1 year of age or older. Feed enough Triple Crown Low Starch to maintain desired body condition and energy level along with hay, and/or pasture, water and salt. If feeding less than 6 pounds per day of Triple Crown Low Starch to horses weighing 900 pounds or more, also feed additional minerals and vitamins supplied by either Triple Crown 30% or 12% Supplement.

WARNING: Do not feed moldy, sour smelling, insect or rodent infested feed to horses as it may cause illness or death.

Triple Crown Training

Guaranteed Analysis

Crude Protein (min.)	13.0%
lysine (min.)	0.80%
Threonine (min.)	0.50%
Methionine & Cystine (min.)	0.45%
Crude Fat (min.)	13.0%
Crude Fiber (max.)	13.0%
Calcium (min.)	1.0%
Calcium (max.)	1.20%
Phosphorus (min.)	0.70%
Magnesium (min.)	0.50%
Iron (min.)	250 ppm
Potassium (min.)	0.70%
Zinc (min.)	200 ppm
Manganese (min.)	130 ppm
Copper (min.)	60 ppm
Selenium (min.)	0.60 ppm
Vitamin A (min.)	5,000 IU/lb.
Vitamin D (min.)	1,000 IU/lb.
Vitamin E (min.)	150 IU/lb.

Vitamin C (min.)	45 mg/lb.
Biotin (min.)	0.20 mg/lb.
Lactobacillus Acidophilus Bacteria (min.)	0.825 million CFU/gm.
Saccharomyces Cerevisiae (min.)	1.65 million CFU/gm.
Cellulase (min.)	70.0 CMC-ase Units/lb.

FEEDING DIRECTIONS: Triple Crown Training Formula is designed for performance horses. Feed at a rate that will maintain the horse's desired body condition and energy level. Use 0.5 pounds per 100 pounds per day for an average Thoroughbred or Quarter Horse type horse or 6 to 8 pounds per day as a starting guideline. Also provide a minimum of 1% of body weight daily of good quality forage and free choice access to water and salt.

WHAT MAKES SOUTHERN STATES® LEGENDS® FEEDS SO SPECIAL?

LEGENDS TECHNOLOGY

Sel-Plex®, Organic Selenium - For a safer, more efficient source of selenium, Southern States® Legends® premium horse feeds now contain Sel-Plex, the only organic selenium that's FDA reviewed. Selenium supports the body's ability to repair and strengthen itself. Performance horses experience stress on tissues and active muscles. Broodmares can suffer infections that hinder reproduction, and gestating mares transfer a tremendous quantity of trace minerals to their growing foals. Mature horses, though assumed to have lower selenium needs, may have difficulty extracting essential minerals from feed as they age. Sel-Plex improves a horse's immune function because its organic form is metabolized and retained at a higher level and more safely by the body.

Higher Fat - With 100% more fat than most horse feeds, Legends feeds deliver more calories per pound of feed. You'll see better weight gain, a shinier hair coat and improved muscle performance. You will also use less feed, which means less stress on the digestive tract and a lower risk of digestive upset (colic).

Yeast Culture - The more digestible a feed is, the easier it is on your horse's intestinal system. Yeast culture increases fiber digestion, which improves the utilization of protein and phosphorus, and can improve intestinal health and make your horse less prone to colic.

Organic Minerals - Most horse feeds contain only inorganic mineral salts in the form of sulfates or oxides. Research studies have proven that organic minerals are more readily absorbed and metabolized, as much as 50% more than inorganic forms. This is crucial for proper development and maintenance of bone, muscle, hair, hoof and skin condition, and the immune system.

Vitamin E and Selenium - All Legends feeds contain high guaranteed levels of vitamin E and selenium. These nutrients function as antioxidants in every cell of the horse's body. They are critical to insure optimum function of the reproductive, muscular, circulatory, nervous and immune systems.

Lysine - This amino acid is the most critical for growth, muscle and tissue development. Legends horse feeds have optimal guaranteed levels of this amino acid to ensure maximum growth and development.

Fixed Formulas - The type and amount of ingredients in Legends horse feed formulas do not change, and remain the same, bag after bag. A fixed formula reduces the chance of a digestive upset, as well as a horse going "off feed" due to changing feed ingredients or their amounts.

Biotin - Research studies have shown that biotin can improve hoof quality. All Legends feeds are formulated with high levels of B-complex vitamins, including guaranteed levels of biotin, so that most horses will not need additional biotin supplementation.

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**Also see Controlled Carbohydrate Technology on page 4.*



SOUTHERN STATES® LEGENDS® HORSE FEEDS

SOUTHERN STATES LEGENDS SHOW & PLEASURE



Textured and pelleted formulas for mature horses in show, pleasure and light performance activities.

Guaranteed Analysis

Crude Protein (min.).....	11.0%	Potassium (min.).....	0.90%
Lysine (min.).....	0.50%	Copper (min.).....	50 ppm
Methionine & Cystine (min.).....	0.30%	Selenium (min.).....	0.60 ppm
Threonine (min.).....	0.35%	Zinc (min.).....	150 ppm
Crude Fat (min.).....	6.0%	Manganese (min.).....	120 ppm
Crude Fiber (max.).....	12.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.60%	Vitamin D ₃ (min.).....	400 IU/lb
Calcium (max.).....	1.10%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.50%	Biotin (min.).....	0.30 mg/lb
Magnesium (min.).....	0.40%		

SOUTHERN STATES LEGENDS PERFORMANCE



Textured and pelleted formulas for mature horses in moderate and intense performance or show activities.

Guaranteed Analysis

Crude Protein (min.).....	11.0% / 12.0%	Potassium (min.).....	0.90%
Lysine (min.).....	0.50 / 0.55%	Copper (min.).....	40 ppm
Methionine & Cystine (min.).....	0.30%	Selenium (min.).....	0.60 ppm
Threonine (min.).....	0.40%	Zinc (min.).....	120 ppm
Crude Fat (min.).....	10.0%	Manganese (min.).....	100 ppm
Crude Fiber (max.).....	12.0 / 18.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.60%	Vitamin D ₃ (min.).....	400 IU/lb
Calcium (max.).....	1.10%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.50%	Biotin (min.).....	0.30 mg/lb
Magnesium (min.).....	0.40%		

SOUTHERN STATES® LEGENDS® HORSE FEEDS

SOUTHERN STATES LEGENDS GROW & PERFORM



Textured and pelleted formulas for growing horses, breeding, pregnant and lactating mares, and mature horses in performance and show activities.

Guaranteed Analysis

Crude Protein (min.).....	14.0%	Potassium (min.).....	0.90%
Lysine (min.).....	0.65%	Copper (min.).....	50 ppm
Methionine & Cystine (min.).....	0.35%	Selenium (min.).....	0.60 ppm
Threonine (min.).....	0.45%	Zinc (min.).....	150 ppm
Crude Fat (min.).....	6.0%	Manganese (min.).....	120 ppm
Crude Fiber (max.).....	12.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.60%	Vitamin D ₃ (min.).....	400 IU/lb
Calcium (max.).....	1.10%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.60%	Biotin (min.).....	0.30 mg/lb
Magnesium (min.).....	0.40%		

SOUTHERN STATES LEGENDS MARE & FOAL



Textured and pelleted formulas for pregnant and lactating mares, nursing and weanling foals and growing horses.

Guaranteed Analysis

Crude Protein (min.).....	16.0%	Potassium (min.).....	0.90%
Lysine (min.).....	0.85%	Copper (min.).....	60 ppm
Methionine & Cystine (min.).....	0.45%	Selenium (min.).....	0.60 ppm
Threonine (min.).....	0.50%	Zinc (min.).....	180 ppm
Crude Fat (min.).....	6.0%	Manganese (min.).....	150 ppm
Crude Fiber (max.).....	12.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.65%	Vitamin D ₃ (min.).....	500 IU/lb
Calcium (max.).....	1.15%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.65%	Biotin (min.).....	0.30 mg/lb
Magnesium (min.).....	0.40%		

SOUTHERN STATES® LEGENDS® HORSE FEEDS

SOUTHERN STATES LEGENDS MATURITY



Pelleted formula for older horses with special nutritional needs and mature horses requiring additional fiber when hay or pasture is limited.

Guaranteed Analysis

Crude Protein (min.).....	12.0%	Potassium (min.).....	1.0%
Lysine (min.).....	0.60%	Copper (min.).....	50 ppm
Methionine & Cystine (min.).....	0.30%	Selenium (min.).....	0.40 ppm
Threonine (min.).....	0.40%	Zinc (min.).....	150 ppm
Crude Fat (min.).....	6.0%	Manganese (min.).....	120 ppm
Crude Fiber (max.).....	18.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.60%	Vitamin D ₃ (min.).....	400 IU/lb
Calcium (max.).....	1.10%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.60%	Vitamin C (min.).....	30 mg/lb
Magnesium (min.).....	0.40%	Biotin (min.).....	0.30 mg/lb

SOUTHERN STATES LEGENDS RACING



Beet pulp-based textured formula for mature horses in performance or show activities and horses needing additional fiber when hay or pasture is limited.

Guaranteed Analysis

Crude Protein (min.).....	12.0% or 13.0%	Potassium (min.).....	0.90%
Lysine (min.).....	0.55%	Copper (min.).....	40 ppm
Methionine & Cystine (min.).....	0.30%	Selenium (min.).....	0.40 ppm
Threonine (min.).....	0.40%	Zinc (min.).....	120 ppm
Crude Fat (min.).....	6.0% or 8.0%	Manganese (min.).....	100 ppm
Crude Fiber (max.).....	15.0%	Vitamin A (min.).....	6,000 IU/lb
Calcium (min.).....	0.60%	Vitamin D ₃ (min.).....	400 IU/lb
Calcium (max.).....	1.10%	Vitamin E (min.).....	100 IU/lb
Phosphorus (min.).....	0.50%	Biotin (min.).....	0.30 mg/lb
Magnesium (min.).....	0.40%		

SOUTHERN STATES® LEGENDS® HORSE FEEDS

SOUTHERN STATES LEGENDS FORTIFIED PELLETTED RICE BRAN



Extruded rice bran supplement in pelleted form for increasing weight gain or reducing grain feeding.

Guaranteed Analysis

Crude Protein (min.).....	12.0%	Potassium (min.).....	1.30%
Crude Fat (min.).....	18.0%	Magnesium (min.).....	0.45%
Crude Fiber (max.).....	8.5%	Iron (min.).....	100 ppm
Ash (max.).....	1.0%	Niacin (min.).....	45 mg/lb
Free Fatty Acids (max.).....	4.0%	Riboflavin (min.).....	1.20 mg/lb
Calcium (min.).....	1.25%	Vitamin E (min.).....	300 IU/lb
Calcium (max.).....	1.75%	Biotin (min.).....	0.15 mg/lb
Phosphorus (min.).....	1.50%		

SOUTHERN STATES LEGENDS OMEGA PLUS



Extruded supplement for performance, show and breeding horses.

Guaranteed Analysis

Crude Protein (min.).....	12.0%	Zinc (min.).....	90 ppm
Crude Fat (min.).....	25.0%	Vitamin A (min.).....	3,000 IU/lb
Crude Fiber (max.).....	8.0%	Vitamin D (min.).....	400 IU/lb
Calcium (min.).....	0.70%	Vitamin E (min.).....	300 IU/lb
Calcium (max.).....	1.20%	Omega-3 Fatty Acids (min.).....	5.0%
Phosphorus (min.).....	0.40%	Omega-6 Fatty Acids (min.).....	10.0%
Magnesium (min.).....	1.0%		
Potassium (min.).....	1.0%		
Copper (min.).....	30 ppm		
Selenium (min.).....	0.30 ppm		

SOUTHERN STATES® HORSE FEEDS

SOUTHERN STATES TRIPLE 10 TEXTURED



This energy-dense, high-fat feed is recommended for horses in demanding show and performance activities.

Features include:

- 10% fat
- High fat content improves body condition and maintenance of muscle mass
- Increased energy level allows for lower feeding rate
- Added biotin, organic trace minerals and yeast culture

SOUTHERN STATES SOLUTION PELLETED



A high-fat pelleted feed formulated to be the ONE solution for horses of all life stages (growing, breeding, performance and older) and activity levels.

Features include:

- A low-carb feed with added fiber; calms behavior and optimizes gastro-intestinal function
- Added soybean oil increases body condition and improves hair coat
- Supplemental lysine in this higher-protein formula provides well-balanced nutrition for horses of all life stages and activity levels

SOUTHERN STATES® HORSE FEEDS

SOUTHERN STATES 11-SIX



This group of textured and pelleted feeds offers high-fat and balanced nutrition. Recommended for mature work, show or performance horses.

Features include:

- Added soybean oil increases body condition and improves hair coat
- Organic selenium supports improvement of muscle, reproductive and immune system function

SOUTHERN STATES RELIANCE®



These basic textured and pelleted feeds are designed for mature horses with maintenance and light work requirements.

Features include:

- Quality ingredients allow for greater digestibility compared to economy feeds
- Organic selenium supports improvement of muscle, reproductive and immune system function

SOUTHERN STATES® HORSE FEEDS

SOUTHERN STATES HAY STRETCHER PELLETED



For reducing hay and pasture needs, this pelleted feed is formulated to provide supplemental fiber for your mature horses.

Features include:

- Low dust level reduces dust and mold exposure from poor quality hay for horses susceptible to respiratory problems
- Added alfalfa meal improves palatability for consistent consumption

SOUTHERN STATES ALL GRAIN TEXTURED



This palatable textured grain feed is the answer for your mature horses with maintenance and light work requirements.

Features include:

- No pellets
- High-quality grain ingredients
- No wheat products

SOUTHERN STATES HORSE PASTURE BALANCER TUB & BLOCK



Free choice supplement for horses on forage-only diets (hay or pasture). Scientifically formulated to provide required amounts of protein, energy, vitamins and minerals with a consumption rate of .75 to 2 pounds per day. 125 pounds.

A supplement for mature horses on pasture. Source of protein, energy, minerals and vitamins. Balances forage-only diets (hay and pasture). Scientifically formulated to provide all required nutrients for mature horses. 33.3 pounds.



THE SHOW (SPECIAL HORSE ORGANIZATION WINNER) PROGRAM

Turning empty feed bags into cash is easy with Southern States Special Horse Organization Winner's (S.H.O.W.) Program. No other feed company has supported the horse industry more than Southern States. We developed the S.H.O.W. Program to provide all non-profit horse associations and clubs their very own sponsorship tool. By simply registering your organization with our home office and submitting proof of purchase seals found on the back or side of each horse feed bag, you can raise thousands of dollars. In fact, over 300 groups are currently earning money through the S.H.O.W. Program.

How does my organization make money? Just by doing what you're already doing — giving your horses Southern States' horse feed. Your organization can earn 25¢ for each proof of purchase seal from Southern States' horse feed, Southern States Legends' and Triple Crown. You can even earn \$10 per ton on bulk bin deliveries of Southern States pellets, Southern States Legends and Triple Crown pelleted feed. All you have to do is collect the proof of purchase seal found on the back or side of horse feed bags from your organization's members, friends and family. Feed tags are not accepted. For bulk feed purchases, you need to submit the original customer copy of the delivery tickets.

How do we get our money and are there restrictions on how the money can be used?

Collect proof of purchase seals from your members. Submit them to Southern States and your organization will be notified of the current account balance. To receive your money, send us a written request letting us know how the funds will be used. All funds from S.H.O.W. must be used for events that specifically benefit the horse industry. Southern States should be mentioned as a sponsor of any events S.H.O.W. money is used for, and Southern States representatives should be allowed to attend those events.

How does my organization join SHOW?

If you want, we can make a presentation about S.H.O.W. to your non-profit horse association or club. To enroll your organization in the program, just sign a letter of agreement. Then all you need to do is designate a contact person to administer the program and give us your current membership list which needs to be updated annually. Your contact person will collect and submit proof of purchase seals as often as you like.

The S.H.O.W. Program is administered entirely by Southern States from our Richmond, Virginia corporate office. If you have questions about S.H.O.W. or want to enroll, call 804-281-1481 or send an e-mail request to SHOW@sscoop.com. Southern States is providing a simple and unique fund-raising opportunity for 400 non-profit groups. We'd like to help your organization, too. Join S.H.O.W. and start turning your feed bags into money bags!



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