HAY AND PASTURE GUIDE
Forage is the most important element to any diet, whether livestock or horses. This guide is intended to lead you, the livestock or horse owner, in the right direction when selecting quality hays and grasses. We've also provided information that will assist you in growing your own hay. Based on the area that you live in, different types of forages will be grown due to soil make-up and climate.

Southern States® is committed to providing quality nutrition for our customers’ livestock and horses in order to maximize their health and performance. We hope that this hay and pasture guide will be a good resource in planning the diet rations for your animals. If you need further assistance, visit us at www.southernstates.com/specialists to find an Agronomist or Feed Sales and Technical Representative in your area.
A high quality pasture not only supplies your livestock and horses with good forage, it provides them with a natural and healthy environment for exercise and rest. It also helps you control feed costs.

Fall is the best time to plant, fertilize and lime a cool-season pasture. Late spring and early summer are the best time for a warm-season pasture. The proper timing for establishment is very important in developing the proper root system for providing the best forage for your livestock and horses over the growing season.

Once a pasture is established with a strong root system, it ultimately means less reseeding and rebuilding in the future. In other words, less work for you.

HEALTHY PASTURES BEGIN WITH SOUTHERN STATES®
Southern States® products and services can help you grow a healthier, more nutrient-rich pasture, because our employees are thoroughly trained with the agronomic skills necessary for pasture management.

From soil testing to seed mixes, to optimum spray protectants to fencing, Southern States is the supplier of choice when it comes to pasture management.

SOIL TESTING
It’s essential to know what nutrient levels are present in your soil. A soil test will reveal any gaps to be filled so that your forage will grow properly. Ideally, it’s best to do this about a month ahead of planting.

Soil test instructions and supplies are available from your local Southern States dealer. The test results generally take seven to 10 days.

pH FACTOR
Proper pH is especially important, since it affects the way fertilizer is utilized by the plants. In the fall, plants use specialized fertilizer blends to promote root structure.

Since soils in the Southeastern U.S. tend to have a pH less than 6.0, a high quality agricultural grade ground limestone should be used to raise pH levels to the proper 6.0 to 6.5 range.

Dolomitic limestone is effective because it’s safe and supplies essential calcium and magnesium. Nitrogen, phosphorus and potassium (or potash) are additional nutrients plants need in order to grow and survive. Your Southern States professional can help you design a program to properly balance soil pH for optimum fertilizer uptake.
PASTURE CARE AND MAINTENANCE
Two to four acres of pasture are recommended for each horse and head of cattle, but smaller areas can be used for limited grazing. Fields can be divided into paddocks and in some cases, paddocks can be subdivided with temporary fencing to better use the forage in a rotational grazing system.

Once fertilizer and lime applications are completed, allow the pasture to become well established before turning out your livestock and horses. Ideally, livestock and horses should be turned out into a pasture when the grass is 8 to 10” tall, and removed when they have grazed it down to about 3”. Pastures may need to be clipped during the grazing season, since livestock and horses are spot grazers - ideally, 2” for warm-season grasses and 4” for cool-season grasses.

CONTROLLED GRAZING
For the best use of your forage, it’s suggested that you implement rotational grazing. Divide your pasture into six to eight paddocks. Let your livestock and horses graze in each paddock for four or five days, then rest it for 30 to 35 days.

This kind of controlled grazing will help pastures produce more high quality forage over a longer period of time. Southern States® carries a complete line of temporary and permanent fencing supplies to quickly and easily accomplish your grazing needs. Ask your local Southern States® professional if you need help getting started or making upgrades to your farm with specialty animal-safe fencing products.
When making your decision, vigor and persistence are characteristics you want from your forage seed. Choose forages adapted to your climate and soil. High performance varieties will return many times over and provide your pasture with improved yield, longevity and disease resistance.

**COOL-SEASON GRASSES**
Cool-season grasses produce higher quality forage and grazing during fall and spring seasons with less productivity during the warmer months. These varieties do not tolerate extreme heat and drought. Orchardgrass, bluegrass, perennial ryegrass, timothy and low-endophyte and non-toxic endophyte tall fescue are good choices for Kentucky, West Virginia, Maryland, Delaware, Virginia and Western North Carolina. These grasses are perennials and function best when seeded in late summer and early fall.

**WARM-SEASON GRASSES**
Warm-season grasses produce higher quality forage and grazing during late spring through early fall with less or no productivity during the cooler months. Most varieties will go dormant after the first hard frost. For the cooler months, we recommend overseeding with annual ryegrass. Laredo Bermudagrass Blend is the best choice for a permanent pasture in our Southern territory - Eastern North Carolina, South Carolina, Georgia, Florida and Alabama. This grass functions best when seeded in the late spring and early summer.
**FORAGE GRASS SEED**

**SOUTHERN STATES® ORCHARDGRASS**
Selected for improved persistence in hay and pasture.
- **Seeding Rate:** 15 to 20 pounds per acre, 3 to 6 pounds per acre mix
- **Seeding Date:** Spring (February-April), Fall (August-September)
- Early maturity
- Excellent for pure grass hay and pasture
- Good vigor and persistence
- Excellent disease resistance
- Selected for persistence under grazing

**HAYMASTER ORCHARDGRASS**
Excellent for grass-legume hay.
- **Seeding Rate:** 15 to 20 pounds per acre, 3 to 6 pounds per acre mix
- **Seeding Date:** Spring (February-April), Fall (August-September)
- Late-maturing variety with rust tolerance
- Good vigor and persistence
- High quality and palatability
- Quick recovery after cutting at proper height
<table>
<thead>
<tr>
<th>Forage Grass Seed Type</th>
<th>Description</th>
<th>Seeding Rate</th>
<th>Seeding Date</th>
<th>Additional Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAREDO BERMUDAGRASS</strong></td>
<td>Specially blended to produce a high quality, highly palatable food source. &gt; Versatile, warm season perennial grass suitable for haying, grazing or ensiling &gt; Adapted throughout the transition zone with both heat and cold tolerance &gt; Recommended for horse pastures</td>
<td>12 to 15 pounds per acre</td>
<td>Spring (April-June), Fall (September-October)</td>
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<tr>
<td><strong>SOUTHERN STATES® “FORAGE TYPE” TALL FESCUE</strong></td>
<td>Excellent for hay, pasture and winter stockpiling. &gt; Versatile, warm season perennial grass suitable for haying, grazing or ensiling &gt; Adapted throughout the transition zone with both heat and cold tolerance &gt; Recommended for horse pastures</td>
<td>15 to 20 pounds per acre pure, 8 to 10 pounds per acre mix</td>
<td>Spring (March-May), Fall (August-October)</td>
<td>&gt; Wide area of adaptation &gt; Outstanding drought tolerance &gt; Outstanding persistence &gt; Medium maturity &gt; Low endophyte, ideal for horses and other livestock</td>
</tr>
<tr>
<td><strong>DESSIE TEFF SEED</strong></td>
<td>High yielding warm-season annual forage grass. &gt; Excellent palatability and forage quality &gt; Desirable forage quality for horses and readily utilized by other livestock &gt; Great for use as an emergency forage crop and for double cropping</td>
<td>8 to 12 pounds per acre</td>
<td>Summer (May-July)</td>
<td></td>
</tr>
</tbody>
</table>
TMO102 TIMOTHY
Selected for excellent spring vigor and plant health.
> **Seeding Rate:** 6 to 10 pounds per acre pure, 2 to 6 pounds per acre mix
> **Seeding Date:** Spring (March-May), Fall (August-October)
> Mid to late maturing variety with significant advantage over Climax
> Strong summer re-growth after cutting
> Very winter hardy and palatable
> Recommended for horse pastures

DERBY TIMOTHY
Selected for improved regrowth after cutting.
> **Seeding Rate:** 6 to 10 pounds per acre, 2 to 6 pound per acre mix
> **Seeding Date:** Spring (February-April), Fall (August-September)
> Early maturing variety
> Excellent winter hardiness and yield potential
> Excellent companion to legumes in mixtures

FRIA ANNUAL RYEGRASS
Exceptional cold tolerance that helps in fall establishment and winter survival.
> **Seeding Rate:** 25 to 35 pounds per acre
> **Seeding Date:** Fall (August-November)
> Delivers outstanding forage yields and palatability
> Late maturing variety with great disease resistance
> Excellent for overseeding
> Ideal as cover crop in no-till rotation due to deep root penetration
SOUTHERN STATES® PRO BEEF PASTURE MIX
- **Seeding Rate:** 25 pounds per acre
- **Seeding Date:** Spring (March-May), Fall (September-October)
- A quality pasture mixture chosen for regional adaptability while optimizing animal performance and maximizing per acre returns
- Also a good choice for hay producers who want a high-quality, balanced hay
- Formula consists of 50% Orchardgrass, 20% Low Endophyte Tall Fescue, 15% Timothy, 10% Medium Red Clover and 5% White Clover

SOUTHERN STATES PRO HORSE PASTURE SEED MIX NORTH
- **Seeding Rate:** 25 pounds per acre
- **Seeding Date:** Spring (March-May), Fall (September-October)
- Forage blend specifically formulated to meet nutritional needs of horses while withstanding intense grazing pressure
- Designed for cooler regions from KY/VA north (excluding coastal regions)
- Formula consists of 30% Orchardgrass, 25% Kentucky Bluegrass, 25% Improved Perennial Ryegrass, 15% Derby Timothy and 5% Improved Ladino Clover

SOUTHERN STATES PRO HORSE PASTURE SEED MIX SOUTH
- **Seeding Rate:** 25 pounds per acre
- **Seeding Date:** Spring (March-May), Fall (September-October)
- Forage blend specifically formulated to meet nutritional needs of horses while withstanding intense grazing pressure
- Designed for warmer regions from southern KY/VA state lines south and in coastal regions of VA, MD and DE
- Not recommended for areas of the deep south
- Formula consists of 35% Low Endophyte Tall Fescue, 30% Improved Orchardgrass, 10% Kentucky Bluegrass, 10% Fria Annual Ryegrass, 10% Derby Timothy and 5% Improved Ladino Clover
EVERMORE ALFALFA SEED
Features rapid re-growth after cutting and excellent winter hardiness.

- **Seeding Rate:** 15 to 20 pounds per acre pure, 8 to 10 pounds per acre mixed
- **Seeding Date:** Spring (March-May), Fall (July-September)
- Aphanomycetes resistance
- Very high yield potential
- Excellent drought tolerance
- Excellent for intensive management systems
- Good seedling vigor
- 27/30 on Wisconsin Disease Index

428 RR GENUITY® ROUNDUP READY® ALFALFA SEED
Unsurpassed weed control. Superior forage quality and disease resistance.

- **Seeding Rate:** 15 to 20 pounds per acre
- **Seeding Date:** Spring (March-May), Fall (July-September)
- Genuity® Roundup Ready® technology
- 30/30 for Wisconsin Disease Index
- Very fast recovery after cutting
- Excellent winterhardiness and persistence

Do not export Genuity® Roundup Ready® Alfalfa seed or crop, including hay or hay products, to China pending import approval. In addition, due to the unique cropping practices do not plant Genuity® Roundup Ready® Alfalfa in Imperial County, California, pending import approval and until Monsanto grants express permission for such planting. Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto’s Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercialized products have been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® Brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Genuity Design®, Genuity Icons, Genuity®, Roundup Ready®, and Roundup® are trademarks of Monsanto Technology LLC.
LANCER ALFALFA SEED

Newest generation genetics with very high resistance to Potato Leafhoppers.

> **Seeding Rate:** 15 to 20 pounds per acre, 8 to 10 pounds per acre mix
> **Seeding Date:** Spring (March-May), Fall (July-September)
> Superior forage quality
> Quick recovery after cutting
> Excellent winter hardiness and high relative feed quality
> 30/30 on Wisconsin Disease Index
Premium red clover is selected for persistence under intense grazing pressure while providing superior hay yields. Has high nitrogen fixation and has an excellent disease-resistance package including high resistance to Northern Anthracnose and Powdery Mildew.

GROWN IN THE U.S.A.

RED CLOVER

NET WEIGHT
50 LBS/22.7 KG

SOUTHERN STATES® RED CLOVER MEDIUM RED CLOVER SEED

The first choice for pasture renovation.
- **Seeding Rate:** 8 to 12 pounds per acre pure, 4 to 8 pounds per acre mix
- **Seeding Date:** Winter/Spring (January-May), Fall (August-October)
- Excellent seedling vigor
- Highly resistant to powdery mildew and northern anthracnose and resistant to southern anthracnose
- Persistent even under intense grazing pressure
- Excellent for diluting effects of endophyte fungus in tall fescues, especially in summer
- Not recommended for horse pastures

SOUTHERN BELLE MEDIUM RED CLOVER SEED

A unique, early, non-dormant variety developed for the Southern U.S.
- **Seeding Rate:** 8 to 12 pounds per acre pure, 4 to 8 pounds per acre mix
- **Seeding Date:** Fall (September-November)
- Highest available resistance to common root knot nematode species
- High forage yields - ideal for pastures
- Excellent seedling vigor with resistance to common disease problems
- Not recommended for horse pastures

CRUSADE INTERMEDIATE WHITE CLOVER SEED

A vigorous, large leaf, winter active variety of white clover.
- **Seeding Rate:** 4 to 6 pounds per acre pure, 2 to 4 pounds per acre mix
- **Seeding Date:** Spring (February-May), Fall (August-October)
- Improved winter growth
- Extended grazing potential during colder months
- Superior growth and disease resistance
- Early and vigorous flowering
WILL LADINO CLOVER SEED
Persistent in hot climates with superior winter hardness and high yield potential.
> Seeding Rate: 4 to 6 pounds per acre pure, 2 to 4 pounds per acre mix
> Seeding Date: Winter/Spring (January-May), Fall (August-October)
> Quick fall recovery for more grazing days
> Excellent for diluting effects of endophyte fungus in tall fescues, especially in summer
> Recommended for horse and beef pastures

OCOEE LADINO CLOVER SEED
Elite ladino clover with significant tolerance to southern root knot nematode.
> Seeding Rate: 4 to 6 pounds per acre pure, 2 to 4 pounds per acre mix
> Seeding Date: Winter/Spring (January-May), Fall (August-October)
> High forage yield potential
> Superior persistence for increased stand longevity
> Selected from Osceola and released by the University of Florida for adaption to Southeast and transition zones
> Excellent for diluting effects of endophyte fungus in tall fescues, especially in summer
> Recommended for horse pastures

GIVE YOUR PASTURE SEED EVERY POSSIBLE ADVANTAGE
Southern States® alfalfa, clover and orchardgrass varieties come with the ALL-VANTAGE® advanced seed coating system with AquaBond® and Nutri-Start®.
> Improves water utilization/management
> Improves seed survivability
> Aids in germination and emergence
> Promotes early root growth
> Increases seed to soil contact
To ensure that you are growing high quality forage and silage, you need a sorghum variety you can plant with confidence. So, how do you know which one is the most nutritious for your animals and the best suited for your growing conditions? Your Southern States® agronomist is ready to recommend the most productive variety for your growing environment. Feel more confident about your sorghum, sudangrass and millet investment this season.

**SORGHUM SEED**
- Use for grain and forage
- Able to handle dry conditions

**GRAIN VERSUS FORAGE**
Primarily, grain sorghum is grown for its grain qualities, but can be used as a silage. Forage sorghum is generally planted for its silage properties only.

**SS 540 GRAIN 95 TO 105–DTM**
*This hybrid works well as a double crop behind wheat.*
- **Seeding Rate:** 3 to 5 pounds per acre
- **Seeding Date:** Summer (May-July)
- 45 to 50” tall with good standability
- Excellent yields under dryland conditions
- Semi-open head with red grain
- Very good disease package - tolerance to anthracnose, Head Smut, MDMV virus, and Greenbug Biotype C and E

**SS 655 GRAIN 110 TO 115–DTM**
*A variety with excellent yield history.*
- **Seeding Rate:** 8 to 10 pounds per acre
- **Seeding Date:** Summer (May-July)
- 42 to 48” tall with very uniform plant height
- Semi-open head
- Red colored grain
- Good disease package - tolerance to Head Smut, MDMV virus and Greenbug Biotype C

**SS 800 GRAIN 115 TO 120–DTM**
*A leading performer. An excellent stress variety.*
- **Seeding Rate:** 12 to 15 pounds per acre
- **Seeding Date:** Summer (May-July)
- Attractive medium-full season hybrid
- Good head exertion
- Very good disease resistance - tolerance to MDMV and greenbug biotype C
- Red grain

**SS 1515 FORAGE 115 TO 120–ENSILAGE**
*Excellent grain-to-stover ratio.*
- **Seeding Rate:** 5 to 10 pounds per acre
- **Seeding Date:** Summer (May-July)
- Very high crude protein level
- Very good green weight
- Excellent dry weight potential
- Very good standability
- Resistant to greenbug biotype C and E

**SS 1597FS 95-97 DAYS TO SOFT DOUGH**
*Excellent choice for silage.*
- **Seeding Rate:** 4 to 8 pounds per acre
- **Seeding Date:** Summer (May-June)
- Brachytic dwarf BMR 6
- High digestibility and palatability
- Excellent yielding variety
- Good standability

**SS 2010 BDF 110 DAYS TO SOFT DOUGH**
*Newest generation of BMR forage sorghums.*
- **Seeding Rate:** 4 to 12 pounds per acre
- **Seeding Date:** Summer (May-July)
- High yield
- Newest generation of BMR quality
- Brachytic dwarf for standability
## HYBRID PEARL MILLET SEED

### CHARACTERISTICS
- Use for silage and pasture
- Taller, thicker stemmed variety more suitable for grazing
- Dwarf type recommended for hay
- Safe for horses

### SS 635 DWARF
**Excellent choice for hay.**
- **Seeding Rate:** Drill: 10 to 20 pounds per acre  
  Broadcast: 15 to 25 pounds per acre
- **Seeding Date:** Summer (May-July)
- Produces lots of wide leaves
- Superior leaf-to-stem ratio
- Tolerates acid soil very well

### SS 1562M BMR
**Flexible forage for grazing, hay, or silage.**
- **Seeding Rate:** Drill: 10 to 20 pounds per acre  
  Broadcast: 15 to 25 pounds per acre
- **Seeding Date:** Summer (May-July)
- BMR trait which reduces lignin and increases palatability
- Excellent forage producer with enhanced animal performance
- Dwarfing gene improving standability, increasing leaf to stem ratio
- Good regrowth potential

## SORGHUM/SUDANGRASS SEED

### SS 130 BMR HYBRID SUDANGRASS
With Hi-Gest™ trait to reduce lignin.
- **Seeding Rate:** Drill: 20 to 25 pounds per acre  
  Broadcast: 25 to 50 pounds per acre
- **Seeding Date:** Summer (May-July)
- Profuse tillering
- A finer stemmed hay than sorghum sudans
- More tonnage than millets
- Recommended for hay

### SS 220 BMR SORGHUM X SUDAN CROSS
**Flexible forage for grazing, hay, or silage.**
- **Seeding Rate:** Drill: 10 to 20 pounds per acre
  Broadcast: 15 to 25 pounds per acre
- **Seeding Date:** Summer (May-July)
- Excellent palatability and excellent drought tolerance
- Leafy with heavy tillering
- Excellent recovery after cutting

### SS 211 SORGHUM X SUDAN CROSS
**High tillering produces high levels of crude protein and sugars.**
- **Seeding Rate:** Drill: 25 pounds per acre  
  Broadcast: 35 pounds per acre
- **Seeding Date:** Summer (May-July)
- Excellent re-growth and excellent seed vigor
- Suitable for pasture or haylage
- Drought tolerant

### SS 1652SS 50-55 DAYS TO BOOT
**Excellent choice for hay.**
- **Seeding Rate:** Drill: 15 to 60 pounds per acre  
  Broadcast: 20 to 65 pounds per acre
- **Seeding Date:** Summer (May-June)
- Excellent recovery after cutting
- High digestibility and palatability
- Dry stalk gene allows quicker dry down

## SUMMER ANNUALS
Make no mistake, weeds are the enemy of any good pasture. Weeds take valuable nutrients and water from the very plants we encourage to grow. Some are even toxic and present a real threat to your horses. Appearance, horse safety and economics are three good reasons to get those pasture weeds under control.

Many horse owners attempt to combat weeds by mowing or using a garden hoe, but both of these methods are ineffective in the long term. The only real way to stop the spread of weeds is by using spray herbicides.

**HORSE-FRIENDLY HERBICIDES**

Southern States® carries several horse-friendly herbicides. These may be broadcast, sprayed over pastures, as well as used to control weeds on fence rows and spot treatments. The only difference is that concentrations are stronger for fence rows or spot applications. There are no grazing restrictions for these horse-safe weed killers. No special license or permit is required for application.

Ask our professionals for recommendations on your pasture.

**HERBICIDE QUICK FACTS**

- An acre is 43,560 square feet (about 200 feet on a side)
- Knowing your acreage will help you determine how much concentrate to buy
- Excess herbicides can be safely stored for two or three years
- Stored herbicides should be kept dry and out of ultraviolet light
- Store in a location to prevent freezing
- Chemicals should be rain-fast 24 hours after application
- Attack weeds as early as possible in the spring and continue as needed throughout growing season
- Stop applications if drought conditions emerge
- Ask your Southern States dealer how to optimize your herbicide application with the use of surfactants
SPRAYER APPLICATION OPTIONS

Your local Southern States® dealer and agronomist can help you identify the most convenient and effective sprayer equipment for your pasture. Here are three of the most common options:

1. For small spot applications, a garden sprayer should be adequate. Sprayers come in several models that hold approximately one to three gallons of pesticide mix.

2. A second option is the backpack-mounted sprayer. Using one of these on your fence row and around gates will vastly reduce the effort needed to keep fences clear of weeds. The tank comfortably holds about 4 gallons of spray mix – about 35 pounds when completely full.

3. Broadcast applications or sprayers require some type of motorized equipment. If you happen to have a Gator™ or ATV there are tanks, booms and sprayers available that can be temporarily mounted to spray herbicides. These tanks should be in the 25 to 30-gallon range. They normally are powered by an electric motor supplied that uses electricity from the vehicle.

The advantage of equipment-mounted tank sprayers is their ability to spread a constant width pattern and, with practice, you can become a proficient DIY spray boom operator. Larger tanks can be mounted in a pickup truck, on a platform made for the three-point hitch on a tractor or even may be mounted on a trailer. Driving power may come from a power take-off connection or a separate gasoline engine. Spray mixes in these larger tanks will weigh approximately eight pounds for every gallon.

Southern States offers a full range of quality sprayers from a one-gallon disposable model to commercial grade systems. All are designed to meet your specific needs. The professionals at Southern States can help determine the right sprayer and weed control program for your pasture.
Revolutionary technological advancements now can change the way crops are managed. When put to work in the field, these options make more nutrients available. When these nutrients become available to the crop, the potential yield increases — as do potential profits.

**HELP MAKE MORE PHOSPHORUS AVAILABLE TO THE PLANT’S ROOTS**
- Proven to increase phosphate fertilizer availability
- Increased phosphate uptake*, reduced production costs per bushel, results in higher crop profits
- Performance that is as effective applied in the fall as it is in the spring

Following conventional science, typically less than 25% of applied fertilizer is utilized by the plant. Field results utilizing AVAIL® Phosphorus Fertilizer Enhancer have commonly shown to increase yields and crop performance.* Since AVAIL works on the phosphorus fertilizer, it will help any crop that uses phosphorus. Farmers can use AVAIL on dry phosphate and can mix NutriSphere-N® on urea by treating each fertilizer separately before creating the desired blend for their crop needs. Both AVAIL and NutriSphere-N can be added to a phosphate/nitrogen liquid blend. AVAIL and NutriSphere-N are available for both dry or liquid fertilizer application. *Research data on file with SFP.

**INCREASE NITROGEN USE EFFICIENCY, RESULTING IN IMPROVED CROP YIELDS**
- Research shows effectiveness on nitrogen if applied in the fall, winter or spring
- Reduces volatilization and nitrification
- Reduces environmental impact of nitrogen use

NutriSphere-N Nitrogen Fertilizer Manager helps you get the most out of your nitrogen investment. Nitrogen can be lost through volatilization, leaching and denitrification. NutriSphere-N creates a shield that protects nitrogen fertilizers. By increasing nitrogen use efficiency, research shows increased yields in both liquid and dry applications. For more information visit www.sfp.com.
DDP® MICRONUTRIENT TECHNOLOGY DELIVERS PLANT UPTAKE - GUARANTEED

- Unique ability to coat fertilizer results in more consistent fertilizer blends
- Distributed more evenly across the field for easier root access
- Early and effective plant uptake for better plant health

Wolf Trax® DDP® Micronutrients are designed to coat and adhere to each prill of dry N, P or K fertilizer, for consistent blends that deliver the micronutrient throughout the soil profile and right to the plant’s roots, enhancing plant uptake and a healthy crop.

SOUTHERN STATES® SLOW RELEASE LIQUID FERTILIZER SOLUTIONS ARE FORMULATED TO MEET SPECIFIC NUTRIENT DEMANDS AND IMPROVE CROP QUALITY

- Provides slowly available nitrogen for nutrition up to 14 days
- Aids plants during periods of stress and reproductive stages while enhancing growth and quality
- Helps protect against losses associated with insufficient fertility later in the season
- Tank-mix flexibility

Southern States® Slow Release Liquid Fertilizer Solutions are recommended as a supplement to a regular soil fertility program.

THIS SEASON, HARVEST RESULTS WITH MONTY’S®

- Tank-mix flexibility
- Sustainable crop management options for every growth stage
- Soil management options for every soil type
- Stress management options to maximize yield potential

Monty’s line of Plant Foods and OMRI Certified Soil Conditioners have been formulated with some very simple goals: make your current practices more productive, more efficient and more environmentally sound. Tank-mix Monty’s with your next application and see results this season.
Weather-related situations can arise that make quality grass and quality hays hard to come by. How do you replace the forage requirements in your herd’s diet if sufficient grass and hay are unavailable?

**SILAGE**
When planned for in advance, silage is a common answer for both beef and dairy cattle. Silage is a fermented, high-moisture alternative that can be fed to cattle. It is made from grass crops including corn, sorghum or other cereals, using the entire green plant. Silage can be made from many field crops. The most common types are corn silage, alfalfa silage and grass silage. Silage is made either by placing cut green vegetation in a silo, by piling it in a large heap covered with plastic sheet, or by wrapping large bales in plastic film. Bulk silage is commonly fed to dairy cattle, while baled silage (baleage) tends to be used for beef cattle, sheep and horses.

**BEEF COMMODITY BLEND**
Brood cows can be fed up to 2% of their bodyweight of the Beef Commodity Blend along with 1% of bodyweight of silage/baleage as an acceptable form of pasture/hay replacement.

**TOTALAC™ DAIRY FEED**
Totalac™ Dairy Feeds is often used to stretch a herd’s forage supply. It is a feeding program that minimizes the use of farm produced forages and maximizes the use of selected fibrous by-product ingredients. Forage quality and quantity have always been a big problem in the Southeast, and this program goes a long ways toward eliminating this issue. Totalac feed is formulated to be fed at rates of about 75% of the dry matter intake of a milk cow — and even higher in some cases! This allows the dairy producer to stretch forage supplies over a longer period of time, giving dairymen a way to cope with forage shortages during normal and drought years alike. In addition, dairies can expand their herd size beyond the level supported by current acreage.
TRIPLE CROWN® PREMIUM CHOPPED ALFALFA FORAGE BLEND 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 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.

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.

TRIPLE CROWN PREMIUM FORAGE CUBES

Offers 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. Less feeding waste than conventional baled hay. Replaces up to 100% of hay or pasture requirements.

TRIPLE CROWN ALFA-LOX

An alfalfa-based horse feed supplement to be fed at 2 to 4 pounds daily. Alfa-Lox contains several feed additives to promote health of the entire digestive tract.

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 and added alfalfa meal improves palatability for consistent consumption.

FORAGE REPLACEMENT FOR HORSES
At Southern States® we pride ourselves on providing personal, friendly solutions to your hay and pasture needs. We’re also proud to introduce you to our team of expert Agronomists available throughout our territory to help you with all of your forage concerns. Our Agronomists are educated and trained to provide the best in technical expertise. They can help you design a forage program tailored specifically for your animals’ needs and help with pasture management. Southern States is with you all the way, from seed to harvest. From analyzing your soil to recommending the best inputs, to identifying problems before they erupt, we’ll be there to help at every step, ensuring that your land gives back more than you put in. To find an agronomist in your area, visit us at www.southernstates.com/specialists.

**IN-HOUSE AGRONOMIST SERVICES**
Cost effective, agronomically sound and environmentally responsible custom solutions.

**The Southern States® Agronomist Team Includes:**
- Certified Crop Advisors (CCA) and Certified Professional Agronomists (CPA) (Certified by the American Society of Agronomy)
- Southern States Certified Applicators tested annually for equipment application accuracy. They are also required to have a valid Commercial Drivers License (CDL) and participate in product and application technology training
- Certified spreader and sprayer equipment evaluated each year to ensure proper calibration

**Southern States Agronomist Services Include:**
- Recommendations for all crop inputs such as seed, crop protectants and nutrients
- Identification of crop diseases, insects, weed and plant growth problems
- Interpreting soil and nutrient analysis
- Preparing state-approved nutrient management plans
- Assisting with record keeping and profit analysis
- Soil testing
- Site-specific inputs application with GPS technology
  (See your dealer for availability)
Southern States® Feed Sales and Technical Representatives (FSTR) are available to work with you to meet either the goals of your livestock operation or help your horses perform to their utmost potentials. From nutritional and management consultation to health recommendations, our FSTRs are experts in their field. Our FSTRs hail from production agriculture backgrounds and are eager to help Southern States’ customers optimize profits of their livestock and horse operations. To find an FSTR in your area, visit us at www.southernstates.com/specialists.

All Southern States employees who are heavily involved in selling feed to customers undergo annual feed, animal health and ag-industry training. The training program is designed to augment the existing knowledge base of employees involved in advising the co-op’s customers on issues related to feeding various types of animals.

The program provides new and updated information and qualifies for continuing education units by the American Registry of Professional Animal Scientists, a national organization that certifies animal scientists through examination.

Professors from land grant universities in the Southern States service area, industry nutritionists and veterinarians are among those conducting technical sessions during the program that employees attended.

“With all the research and new developments occurring, animal owners need and want the best possible counsel on feed nutrition and feed solutions in general,” states Rich Schneider, who helped develop the training program. “Our feed training programs instill knowledge in our people, so that we can truly provide people who know.”

At the end of each training school, attendees have the opportunity to take the American Registry of Professional Animal Scientist (ARPAS) certification exam.