



Southern States[®]
carries a full line of
cover crop products
to fit any situation,
including pre-mixes,
individual species
and custom mixes.



**SOUTHERN
STATES[®]**

COVER CROP

Resource Guide

SOUTHERNSTATES.COM

BRASSICAS *for* FALL PLANTING



DAIKON RADISH

Daikon radish is a brassica that produces more root mass than turnips or mustards. The extra large root system allows nitrogen and other nutrients to be pulled from deep within the soil and bring them back to the surface. Upon decomposition, the nitrogen and other nutrients become available to the next crop. Daikon radish reduces soil compaction, increases soil organic matter, improves soil tilth and also enhances soil aeration.

Eco-Till Radish (021-43504)

- Superior, deep penetrating taproot
- Builds organic matter
- Enhances soil tilth
- Reduces soil compaction
- Improves nutrient recycling
- Excellent weed suppression



RAPE

Rape is a brassica that has excellent nutrient scavenging ability, high biomass production and rapid fall growth. It puts large amounts of organic matter into the soil and decomposes quickly after being turned under. Rape's rapid germination and growth make it an ideal choice for fall weed suppression and reducing surface compaction and while providing winter cover. Rape can also scavenge soil nitrogen that has gone below the crop root zone and can be grazed by livestock.



TURNIPS

Turnips are brassicas that have rapid fall growth, excellent nutrient scavenging ability and biomass production. Turnips do not produce as much biomass as other brassicas, but do provide macrochannels that aid in water infiltration. They can survive the winter and hold on to nutrients longer into the spring. Turnips also help suppress weeds in the following crop, reduce surface compaction and can be grazed by livestock.

GRASSES *for* FALL PLANTING



ANNUAL RYEGRASS

As a cover crop, annual ryegrass can break up natural and manmade hardpans with its deep root penetration when planted in a continuous no-till rotation. Up to 30 to 90 pounds of nitrogen per acre can be provided for the following crop by recycling the nitrogen in the soil under no-till farming management as long as it is not harvested or grazed. The ability to capture and keep nitrogen and phosphorus in the soil profile after manure applications, preventing nutrient runoff, is another big plus. Annual ryegrass can also greatly reduce soil erosion, especially when planted after corn. Other benefits include reducing soybean cyst nematode populations and potential increased corn and soybean yields due to improved soil characteristics.

Fria Annual Ryegrass (021-42065)

- Breaks up natural and manmade hardpans
- Deep root penetration
- Captures and keeps nitrogen and phosphorus in the plant
- Winterhardy

Gulf Annual Rye (021-42023)

- Annual bunchgrass with shiny, dark green smooth leaves
- Grows 2 to 3 feet tall with high nutritive quality
- Major use is mainly pasture, although sometimes used for hay or silage
- Natural reseeding is common



CEREAL RYE

Cereal rye is a fall planted, winterhardy species with deep root penetration. The extensive root system enables cereal rye to capture high levels of nitrogen and other nutrients from the soil and reduces soil compaction issues. Cereal rye has the added benefit of late fall and early spring grazing, as well as spring silage or hay.



OATS

Oats are very versatile as they can be planted during various times of the season and used as an excellent cover and forage crop. Oats work well alone, but especially well in mixes with radishes, turnips, berseem clover, crimson clover and Austrian winter peas. Oats perform well for erosion control and are very good nutrient scavengers. Oats (and mixes with radishes or turnips) work very well for manure nutrient management. Consult with an agronomy professional before purchasing or planting any seed variety to confirm adaptability to your local growing conditions.



TRITICALE

Triticale is a hybrid small grain produced by crossing wheat and rye. The name 'triticale' is derived from the combined scientific names of the two crop species wheat and rye. The versatility that triticale offers as a grain, a forage, for straw and as a cover crop adds to the economic viability that sustains the interest in this crop. Consult with an agronomy professional before purchasing or planting any seed variety to confirm adaptability to your local growing conditions.

COVER CROP INOCULANT

Inoculants have become a necessary step to assist in establishing and maintaining a good cover crop stand. The use of biologicals in accomplishing nitrogen fixation and overall plant production has become commonplace. With **Graph-Ex SA™ Alfalfa/Cover Inoculant** (111-00612) and **Graph-Ex SA Cover Crop Inoculant** (111-00628), farmers can expect more out of both their soil and crops.



LEGUMES *for* FALL PLANTING



AUSTRIAN WINTER PEAS

Austrian winter peas are a cool-season, annual legume with good nitrogen-fixing capabilities. Austrian winter peas are a low-growing, viney legume which has been shown to fix over 200 pounds of nitrogen per acre per year under good conditions. It has hollow, slender and succulent stems, 2 to 4 feet long. The foliage is pale green, and the flowers are colored, usually purple, pink or reddish. The leaf consists of one to three pairs of leaflets and terminal branched tendrils. Pods are 1.5 to 2.5 inches long with three to five round, dark-colored seeds. Seed color is commonly gray with purple or brown mottles.



BERSEEM CLOVER

Berseem clover is an annual, non bloating legume that resembles alfalfa in appearance and can be used as a cover crop, pasture or hay. Berseem Clover is not winterhardy, but can create significant biomass and fixate large amounts of nitrogen due to its rapid establishment and fast growth (1.5 times that of alfalfa). An excellent choice for erosion control and weed suppression especially when planted with oats.



CRIMSON CLOVER

Crimson clover has erect stems, grows quickly and has larger seeds than the more commonly used red clover. Crimson clover's primary advantages are rapid growth during cool weather, shade tolerance and good reseeding potential. Crimson clover can be planted early in the spring or fall for weed control, overseeded in corn at second cultivation or in soybeans at leaf drop. Because of its shade tolerance and reseeding potential, crimson clover is also effective as a living ground cover in orchards. Crimson clover has been used effectively to suppress weeds when planted in the early fall following a short-season crop such as potatoes, snap beans, vegetables or following winter wheat. Planting with a grass such as oats, which is also fast-growing, gives additional weed control in these situations.



HAIRY VETCH

Hairy vetch forms ground cover slowly in the fall, but root development continues throughout the winter with substantial biomass production in the spring. For best results, hairy vetch should be in full bloom to allow for peak nitrogen contribution and to mow, roll or spray for maximum vetch kill. Spring oats or winter grains can also be planted with hairy vetch to act as a protective cover for improved winter survival and increased erosion control. Hairy vetch is an excellent cover crop for nitrogen fixation, erosion control, biomass and weed suppression.

Purple Bounty Hairy Vetch (021-11950)

- Ability to fix large quantities of nitrogen
- Winterhardy
- Provides a weed suppressing mulch for no-till corn and other crops

SPRING PLANTING OPTIONS



BUCKWHEAT

Buckwheat, when used as a cover crop, can reduce both the emergence and growth of weeds, there by presenting an easy and economical alternative to herbicides. Buckwheat is a short-duration broadleaved annual species which provides very effective weed suppression due to its rapid early growth that establishes a canopy faster than many weeds.



PHACELIA

Phacelia is a plant that is native to the United States, but was adopted and improved by Europeans for use as a cover crop. Phacelia is quick to establish and will winterkill at 18 degrees Fahrenheit. Phacelia is an excellent source of high quality nectar and pollen which increases the population and diversity of beneficial insects. Phacelia will begin to flower 6 to 8 weeks after emergence and will continue to flower for 4 to 6 weeks. Phacelia is comparable to buckwheat in many ways, but is more tolerant to cold and drought. Phacelia can also be used for forage, as a green manure crop, nematode control and a nitrogen trap crop.



SUNN HEMP

Sunn hemp is a tropical legume that acts like a summer annual in the United States and is an excellent choice for increasing organic matter, nitrogen fixation, nematode suppression and weed control. Sunn hemp, (seed inoculation required) can produce over 5,000 pounds of biomass and 100 pounds of nitrogen per acre in 8 to 12 weeks of frost free growth conditions. It is recommended that sunn hemp be mowed back to 12 to 18 inches high when it reaches 6 feet tall to allow the residue to break down faster. A killing frost will eliminate sunn hemp.



SUMMER ANNUALS

Summer annuals, such as sorghum, pearl millet and sorghum/sudangrass, can provide high quality forage and silage as well as an excellent cover crop in a short period of time during the summer months. Most varieties work well in cover crop situations after wheat or small grain harvest or when cool season grasses are less productive. Heat, moisture, and fertility will make them very productive and when moisture is short, the plants will wait for the rain.

SOUTHERN STATES® COVER CROP AND WILDLIFE MIXES

SOIL ENHANCER MIX

- 50 lb Mix:
- 10% Eco-Till Radish (coated)
 - 20% Crimson Clover (coated)
 - 70% Rye Grain
- Planting Rate:
- 45-50 lbs/A
(broadcast: add 10-15%)
- Use:
- General purpose soil improvement to benefit any crop
- Benefits:
- Recycle nutrients
 - Improve soil tilth
 - Increase root penetration
 - Fix atmospheric nitrogen
 - Possible winter/spring forage

SPRING WILDLIFE MIX

- 25 lb Mix:
- 40% Soybean
 - 20% Sorghum
 - 20% Cowpea
 - 20% Buckwheat
- Planting Rate:
- 25lbs/A
- Benefits:
- Excellent for quail, but will attract other species as well

QUICK COVER MIX

- 50 lb Mix:
- 15% Eco-Till Radish (coated)
 - 85% Triticale
- Planting Rate:
- 25-30 lbs/A
(broadcast: add 10-15%)
- Use:
- Best for use after high nutrient input crops or before legume crops
- Benefits:
- Rapid establishment to reduce wind and water erosion
 - Recycle nutrients
 - Improve soil porosity
 - Increase root penetration
 - Possible winter/spring forage

FALL WILDLIFE MIX

- 50 lb Mix:
- 25% Austrian Winter Pea
 - 22% Barley
 - 12% Rye
 - 11% Oat
 - 10% Wheat
 - 8% Dwarf Essex Rapeseed
 - 7% Crimson Clover
 - 5% Red Clover

YIELD BOOSTER MIX

- 50 lb Mix:
- 19% Eco-Till Radish (coated)
 - 31% Annual Ryegrass
 - 50% Crimson Clover (coated)
- Planting Rate:
- 15-20 lbs/A (broadcast: add 10-15%)
- Use:
- Best used prior to corn, wheat or the crop requiring significant nitrogen inputs
- Benefits:
- Recycle nutrients
 - Fix atmospheric nitrogen
 - Fast establishment to reduce erosion
 - Improve soil tilth
 - Possible winter/spring forage

NITROGEN BUILDER MIX

- 50 lb Mix:
- 30% Eco-Till Radish (coated)
 - 70% Crimson Clover (coated)
- Planting Rate:
- 10-15 lbs/A
(broadcast: add 10-15%)
- Use:
- Widely adapted mix where soil erosion is an issue
- Benefits:
- Fix a significant amount of nitrogen
 - Recycle nutrients
 - Increase soil organic matter
 - Improve overall soil tilth

* CUSTOM COVER CROP MIXES

Southern States carries a full line of proprietary cover crop species. Custom mixes are available with any combination of species. Please contact your local representative for more information.

COVER CROP ATTRIBUTES

For Specific Purpose	Daikon Radish	Rape	Turnips	Annual Ryegrass	Cereal Rye	Oats	Triticale	Winter Peas	Berseem Clover	Crimson Clover	Hairy Vetch	Buckwheat	Phacelia	Sunn Hemp
Soil Improvement	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nitrogen Fixation								X	X	X	X		X	X
Nutrient Recapture	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Reduces Soil Compaction	X	X	X	X							X			X
Quick Forage/Graze	X	X	X	X	X	X				X				X
Performs Well in Droughty Soils												X		X
Hay Crop					X	X	X		X	X				X
Weed Control	X	X	X		X		X		X		X	X		X
Enhances No-Till	X	X	X	X	X	X	X				X			
Prevents Soil Erosion	X	X	X	X	X	X	X	X	X	X	X	X		X
Tolerates Wet Soils				X	X	X	X		X	X				
Cold Tolerant	X	X	X	X	X	X	X	X		X	X	X	X	
Nurse Crop					X	X	X					X		
Broadcast Seeding	X	X	X	X	X	X	X			X	X			X
Aids in Nematode Control	X	X	X										X	X
Seeding Rate Alone (lb/acre)	8-15	5-8	2-8	30-40	90-120	64-120	90-120	40-50	10-20	20-30	20-30	50-60	7-18	15
Seeding Rate in Mix (lb/acre)	2-7	4-6	2-6	6-10	60-90	60-90	60-90	20-30	12-15	5-8	*	*	5-9	3-10
Seeding Depth	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1-2	1-2	1-2	1/2-1	1/4-1/2	1/4-1/2	1	1/2-1	1/4	1/2-1