

## **INCREASING THE VALUE OF YOUR LAND**

Conservation Science Genetics<sup>™</sup> is a progressive cover crop program developed to benefit growers by providing species and mixes that increase crop yields, break disease & pest cycles, reduce soil erosion, increase water infiltration and recycle valuable nutrients

## **Cover Crop Benefits**

- Weed Control Seeding at higher rates or by selecting species with dense leaf canopies will help suppress weeds
- Reduce Compaction Some species create pilot holes to promote water infiltration and better root penetration while others simply shatter the soil layers with their high density root system.
- Nutrient Mining Some cover crops can capture up to 200 pounds of Nitrogen before winterkill occurs.
- Nematode Control Some species are natural bio fumigants with studies showing decreased nematode populations.
- Organic Matter Some species produce a large amount of biomass that can be worked back into the soil to increase organic matter.
- Erosion Control Selecting species with quick germination and excellent ground cover will help eliminate erosion issues.





## **Cover Crop Mixtures**

## **CSG SW-RA**

Austrian Winter Pea = 80% Eco-Till Radish = 20% 25 lbs. per Acre

- Rapid establishment to prevent wind and water erosion
- Fixes atmospheric nitrogen to increase residual nitrogen levels
- Improves soil permeability for increased air and water penetration: reduces soil compaction and increases root development potential
- Recycles nutrients that would have been lost to leaching or runoff
- Produces forage for fall grazing

## **CSG SW-ROP**

Austrian Winter Pea = 50% Jerry Oat= 40% Eco-Till Radish = 10% 50 lbs. per Acre

- Rapid establishment to prevent wind and water erosion
- Improves soil permeability for increased air and water penetration: reduces soil compaction and increases root development potential
- Recycles nutrients that would have been lost to leaching or runoff
- Fixes atmospheric nitrogen to increase residual nitrogen levels
- Produces forage for fall and spring grazing; spring silage or hay

### **CSG SW-RCT**

Triticale = 80% Crimson Clover = 10% Eco-Till Radish = 10% 50 lbs. per Acre

- Rapid establishment to prevent wind and water erosion
- Recycles nutrients that would have been lost to leaching or runoff
- Fixes atmospheric nitrogen to increase residual nitrogen levels
- Improves soil permeability for increased air and water penetration: reduces soil compaction and increases root development
- Best used prior to corn, wheat or other crop requiring significant nitrogen inputs
- Produces forage for fall and spring grazing; spring silage or hay

### **CSG SW-RAR**

DH-3 Annual Ryegrass = 80% Eco-Till Radish= 20% 25 lbs. per Acre

- Improves soil permeability for increased air and water penetration: reduces soil compaction and increases root development
- Recycles nutrients that would have been lost to leaching or runoff
- Holds surface soil in place.
- Improves soil tilth which can benefit any crop that follows
- Produces forage for fall grazing

### **Daikon Radish**

Eco-Till radish is a true variety that ensures consistency and produces more root mass than turnips or mustards. This extra large root system allows Eco-Till to pull nitrogen and other nutrients 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. Eco-Till radish reduces soil compaction and increases soil organic matter.



## **Annual Ryegrass**

DH-3 diploid annual ryegrass was developed for quick establishment, excellent crown rust resistance, frost tolerance and high forage yield. DH-3 exhibits excellent seedling vigor, and medium maturity, allowing consistency in forage yield throughout the season with good transition back into warm-season forage grasses. Fria is a late maturing, widely adapted diploid annual ryegrass with exceptional cold tolerance. Other benefits include improved disease resistance to crown rust, gray leaf spot resistance and helminthosporium leaf spot resistance.

# helminthosporium leaf spot resistance. Hairy Vetch

Purple Bounty is a winterhardy, early maturing hairy vetch variety developed for high nitrogen fixation (up to ½ of a subsequent crop's nitrogen),increased biomass for a thicker mulch and earlier flowering for more flexibility in planting succeeding crops. 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, Purple Bounty 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 Purple Bounty to act as a protective cover for improved winter survival and increased erosion control. Purple Bounty is an excellent cover crop for nitrogen fixation, erosion control, biomass, and weed suppression.

## **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 6-8 weeks after emergence and will continue to flower for 4-6 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.

## **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.

## **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.

### **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.



### 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.



### **Buckwheat**

Buckwheat, when used as a cover crop, can reduce both the emergence and growth of weeds, thereby 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.



## **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.



# COVER CROP FOR A SPECIFIC PURPOSE

	DAIKON		BUCK-	WINTER	CEREAL	ANNUAL			CRIMSON	HAIRY	
FOR SPECIFIC PURPOSE	RADISH	BRASSICAS	WHEAT	PEAS	RYE	RYEGRASS	OATS	TRITICALE	CLOVER	VETCH	PHACELIA
ORGANIC MATTER	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
N FIXATION				Х					Х	Х	Х
NUTRIENT RECAPTURE	Х	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х
REQUIRES NO HERBICIDE TO KILL	Х	Х		Х						Х	
REDUCE SOIL COMPACTION	Х	Х				Х				Х	
QUICK FORAGE / GRAZE	X	Х			Х	Х	Χ	Х	Х		
DROUGHTY SOILS			Х								
HAY CROP					Х		Χ	Х	Х		
WEED CONTROL	Х	Х	Х		Х			Х		Х	
ENHANCE NO TILL	Х	Х			Х	Х	Х	Х		Х	
PREVENT SOIL EROSION	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х	
TOLERATE WET SOILS					Х	Х	Χ	Х	Х		
COLD TOLERANT	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
NURSE CROP			Х		Х		Χ	Х			
BROADCAST SEEDING	Х	Х			Х	Х	Х	Х	Х	Х	
NEMATODE CONTROL	Х	Х									Х
SEEDING RATE ALONE	8-15#/A	2-8#/A	50-60#/A	40-50#/A	90-120#/A	30-40#/A	64-120#/A	90-120#/A	. 20-30#/A	20-30#/A	7-18#/A
SEEDING RATE IN MIX	2-7#/A	2-6#/A	*	20-30#/A	60-90#/A	6-10#/A	60-90#/A	60-90#/A	5-8#/A	*	5-9#/A
SEEDING DEPTH	1/4"-1/2"	1/4"-1/2"	1/2"-1"	1/2"-1"	1"-2"	1/4"-1/2"	1"-2"	1"-2"	1/4"-1/2"	1"	1/4"

<sup>\*</sup>Planting dates vary depending on region. Contact your local SEEDWAY representative for more information.



Call the Seedway location nearest you:

Hall, NY: 800-863-3710 Shoreham, VT: 888-863-9099 Mifflinburg, PA: 800-338-2137 Emmaus, PA: 800-225-4131

www.seedway.com