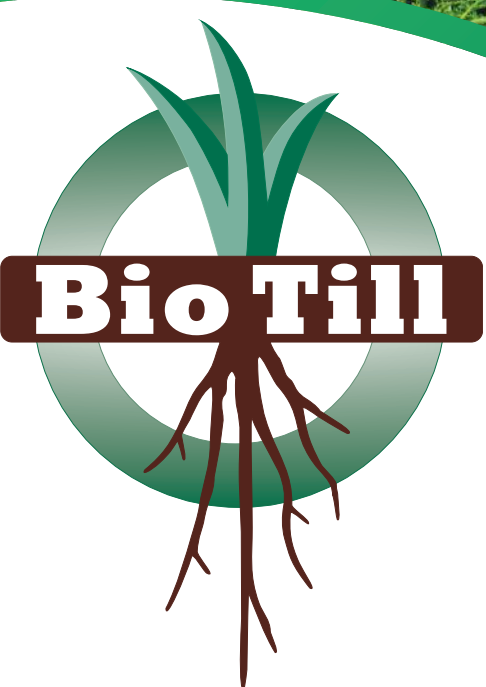




Cover Crops

our roots run deep



PRODUCT CATALOG

Contents

ABOUT BIO TILL

GRASSES

BOUNTY ANNUAL RYEGRASS	2
CEREAL RYE	4
PEARL MILLET	5
SPRING OATS	8
PIPER SUDANGRASS	9
SORGHUM SUDANGRASS	9
TRITICALE	12
WINTER BARLEY	12

BRASSICAS AND OTHER BROADLEAVES

BAYOU KALE	16
AFRICAN CABBAGE	18
SHIELD MUSTARD	19
ENRICHER DAIKON RADISH	19
DWARF ESSEX RAPESEED	22
PURPLE TOP TURNIP	23
BUCKWHEAT	23
FLAX	26
PHACELIA	26
SUNFLOWER	27

LEGUMES

CAHABA VETCH	30
VITAL HAIRY VETCH	32
MIHI PERSIAN CLOVER	32
BALANSA CLOVER	33
BERSEEM CLOVER	36
CRIMSON CLOVER	36
RED CLOVER	37
YELLOW BLOSSOM SWEET CLOVER	37
SUNN HEMP	40
AUSTRIAN WINTER PEAS	40
IRON & CLAY COWPEAS	41
TS7 SPRING PEAS	41
COMMON VETCH	44

COVER CROP MIXES

SYNERGIST MIX	45
3 WAY COVER MIX	46
SOIL BUSTER MIX	46
NITRO MIX	47

ABOUT BIO TILL

Bio Till is a family-owned brand based in Oregon, which places us at the source of the seed where we control quality, packaging, and research. This allows us to provide your farm with the best products at the best price. Bio Till sources seed from farms that embody the same morals and integrity that we value in our dealers. We recognize the importance of soil health and sustainability, we align our brand with individuals that have a mutual respect for the land and the FUTURE of agriculture.

Bio Till is the brand that is owned by farmers, sold by farmers, and used by farmers like you. We partner with the most knowledgeable and innovative dealers in the Midwest, who understand that customer service doesn't stop at seed delivery. Our educated dealer network is available for your cover crop questions and to help you establish the best plan for your FARM.

GRASSES



Grass cover crops including annual cereals, forage grasses, and warm-season grasses are versatile in their benefits and form the foundation of most cover crop programs within the soil health community. The extensive root systems of grasses are especially adept at scavenging nutrients (including nitrogen) and preventing erosion. Large amounts of residue remaining after termination will add organic matter to the soil. Crops with large amounts of tall residue, such as cereal rye, may have high C:N ratios that can cause nitrogen deficiency for subsequent crops. Proper management is crucial to avoid set backs to the cash crop. Early termination, supplemental nitrogen, proper seeding of cash crop, and mixing grasses with legumes and/or brassicas can be beneficial.

BOUNTY ANNUAL RYEGRASS

Annual ryegrass has benefits to offer in both cover crop and forage plantings with easy establishment by drill, broadcast, or aerial seeding. Annual ryegrass enhances water filtration and soil quality and can significantly increase crop yields during stress years. It has been shown to drastically reduce soybean cyst nematode and also has the ability to break compaction both physically (deep root structure) and chemically (root exudates). Non-allelopathic traits, ease of emergence, and shade tolerance make annual ryegrass the primary grass species for interseeding, especially when interseeding into corn. A bonus attribute is the ability to redeposit phosphorous & potassium from the subsoil to within reach of shallower rooting plants.

Don't confuse annual ryegrass (*Lolium multiflorum*) with cereal rye (*Secale cereale*). How they grow and are utilized as a cover crop are different for each specie. Annual ryegrass has a finer leaf blade that is glossy in appearance and a more extensive root system than cereal rye, while cereal rye has more above ground top growth than annual ryegrass.

Bounty annual ryegrass is a consistent, proven variety with an excellent history of winter hardiness and superior rooting depth. Bounty annual ryegrass is also a good choice for late winter/early spring frost seeding where winterkill of other crops was an issue (or planned) and quick spring growth is needed to kick start soil biology. For full termination guidelines, refer to the Annual Ryegrass Management Guide produced by the Oregon Ryegrass Commission.

- *Non-Allelopathic to Corn*
- *Reduces Compaction*
- *Increases Water Infiltration*
- *Excellent Forage*
- *Marestail Suppression*

BENEFIT RATINGS	EROSION CONTROL	
	FORAGE QUALITY	
	NUTRIENT SCAVENGING	
	QUICK GROWTH	
	SOIL BUILDING	
	WEED SUPPRESSION	
	WINTER HARDINESS	
	NITROGEN PRODUCED	-
PLANTING INFO	SEEDING RATE LBS/AC*	DRILLED: 10 - 15 BROADCAST: 15 - 20 AERIAL: 20 - 25
	SEEDING DEPTH	0 - 1/2"
	MIN. GERM. TEMP	40°F
	INTERSEED	EARLY & LATE
	SEEDS/LB	165,000 - 175,000

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.



BENEFIT RATINGS	EROSION CONTROL	
	FORAGE QUALITY	
	NUTRIENT SCAVENGING	
	QUICK GROWTH	
	SOIL BUILDING	
	WEED SUPPRESSION	
	WINTER HARDINESS	
	NITROGEN PRODUCED	-
PLANTING INFO	SEEDING RATE LBS/AC*	DRILLED: 50 - 60 BROADCAST: 60 - 75 AERIAL: 75 - 90
	SEEDING DEPTH	¾ - 2"
	MIN. GERM. TEMP	34°F
	INTERSEED	LATE
	SEEDS/LB	16,000 - 20,000

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.



CEREAL RYE

Cereal Rye has one of the lowest germination temperatures (around 34°F), making it the most winter-hardy cover crop and one of the best choices for later seeding dates.

Its relatively deep, fibrous roots scavenge nutrients lower in the soil profile and redistribute them closer to the surface. These roots also prevent erosion and aid in building soil organic matter. Performing well on most soil types, cereal rye has a wide window in terms of seeding dates and rates. One of the best crops for weed suppression due to its quick, rapid growth and allelopathic effects, cereal rye is particularly effective on winter annuals including marestail. Cereal rye can be an excellent component for a cattle forage system, either for grazing or harvesting due to its fast and early spring growth although care needs to be taken for a timely harvest to ensure good quality.

Cereal rye is easy to establish in the fall and breaks dormancy early in the spring. When seeded ahead of soybeans, it can be mixed with rapeseed, radish, or other brassicas to enhance overall cover crop benefits. When seeded ahead of soybeans, there is good evidence of reducing white mold and soybean cyst nematode. When planting ahead of corn, additional management is required to avoid tying up too much nitrogen that could result in a yield loss. Yield loss can be reduced by mixing with other species such as oats, legumes, and brassicas.

- *Easy to Establish*
- *Multiple Termination Methods*
- *Allelopathic Effect on Weeds*
- *Scavenge Nitrogen*
- *Weed Suppression*

PEARL MILLET

As a warm season annual forage, pearl millet is fast-growing, high-yielding, and excellent for summer grazing and silage. It is highly palatable and does not produce prussic acid, making it safer for livestock and horses vs. other available options. Increased nitrate levels could be a concern especially in the lower 6" of the plant if drought, excessive heat, cold or high plant stress conditions are present - avoid grazing small plants or overgrazing. It also has some potential to reduce some soil borne diseases as well as root-lesion nematodes. Good biomass production enhances organic matter levels.

- High Quality Forage
- Drought Tolerant
- Fast-Growing Forage
- Extensive Root System



SPRING OATS

Oats are typically spring seeded between March and April for grain production or as a nurse crop for establishing forage legumes. Oats can also be sown in the late summer or fall for a cover crop or forage source. Spring oats are an ideal choice for first-time cover crop users due to their compatibility and ease of winter kill termination. Winter oats are another choice as a cover crop with live roots going further into the fall/winter for increasing soil microbial activity, but they may have to be terminated before planting a cash crop in more southern latitudes.

- Great in Winter-Kill Mixes
- Versatile
- Mycorrhizal Fungi Host

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	5/5	5/5	5/5	5/5	5/5
	NUTRIENT SCAVENGING	5/5	5/5	5/5	5/5	5/5
	QUICK GROWTH	5/5	5/5	5/5	5/5	4/5
	SOIL BUILDING	5/5	5/5	5/5	5/5	5/5
	WEED SUPPRESSION	5/5	5/5	5/5	5/5	5/5
	WINTER HARDINESS	4/5	4/5	4/5	4/5	4/5
	NITROGEN PRODUCED	-				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 10 - 15 BROADCAST: 20 - 25 AERIAL: N/A				
	SEEDING DEPTH	½ - 1"				
	MIN. GERM. TEMP	65°F				
	INTERSEED	Not Recommended				
	SEEDS/LB	60,000 - 80,000				

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	5/5	5/5	5/5	5/5	5/5
	NUTRIENT SCAVENGING	5/5	5/5	5/5	5/5	4/5
	QUICK GROWTH	5/5	5/5	5/5	5/5	5/5
	SOIL BUILDING	5/5	5/5	5/5	5/5	4/5
	WEED SUPPRESSION	5/5	5/5	5/5	5/5	5/5
	WINTER HARDINESS	4/5	4/5	4/5	4/5	4/5
	NITROGEN PRODUCED	-				
PLANTING INFO	SEEDING RATE LBS/AC*	DRILLED: 30 - 60 BROADCAST: 33 - 66 AERIAL: 36 - 72				
	SEEDING DEPTH	½ - 1 ½"				
	MIN. GERM. TEMP	38°F				
	INTERSEED	LATE				
	SEEDS/LB	15,000 - 20,000				

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.

BENEFIT RATINGS	EROSION CONTROL	
	FORAGE QUALITY	
	NUTRIENT SCAVENGING	
	QUICK GROWTH	
	SOIL BUILDING	
	WEED SUPPRESSION	
	WINTER HARDINESS	
	NITROGEN PRODUCED	-
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 15 - 20 BROADCAST: 17 - 22 AERIAL: N/A
	SEEDING DEPTH	½ - 1"
	MIN. GERM. TEMP	65°F
	INTERSEED	Not Recommended
	SEEDS/LB	40,000 - 43,000

PIPER SUDANGRASS

Piper sudangrass works well as a cover crop either seeded alone or in a summer cover crop mix. It has excellent weed suppressing characteristics and produces high biomass levels. The impressive root system breaks compaction and renovates soils. Piper sudangrass is a fast emerging warm season grass with very rapid growth for short-term pasture/grazing, green-chopping or dry hay as a forage. It recovers quickly after cutting or grazing and is generally a little lower in sugar content compared to other sorghums.

- *Drought Tolerant*
- *Very Aggressive Roots*
- *Excellent Forage*

Special Note: Prussic acid levels increase in both sudangrass and sorghum sudangrass after a killing frost. It is recommended not to graze or cut for 10-28 days after a frost. For more information please consult with your area Bio Till Cover Crop specialist.

BENEFIT RATINGS	EROSION CONTROL	
	FORAGE QUALITY	
	NUTRIENT SCAVENGING	
	QUICK GROWTH	
	SOIL BUILDING	
	WEED SUPPRESSION	
	WINTER HARDINESS	
	NITROGEN PRODUCED	-
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 15 - 30 BROADCAST: 17 - 33 AERIAL: N/A
	SEEDING DEPTH	½ - 1 ½"
	MIN. GERM. TEMP	65°F
	INTERSEED	Not Recommended
	SEEDS/LB	14,000 - 20,000

SORGHUM SUDANGRASS

Sorghum sudangrass is a hybrid between sudangrass and forage sorghums (used mainly for once-cut silage). As a cover crop sorghum sudangrass is a rapid growing summer annual grass with a tremendous root system and large amounts of biomass for building soil and suppressing weeds. Best used for haylage, green-chop and short term pasture/grazing, sorghum sudangrass is not as suitable for dry hay due to larger stems than sudangrass.

- *Increase Organic Matter*
- *Deep Rooting*
- *Excellent Forage*



TRITICALE

Triticale is a cross between cereal rye and Durum wheat, therefore having some characteristics of both parents. Triticale is similar in winter hardiness to cereal rye with just a little higher germinating temperature of 38°F. Triticale has a deep and fibrous root system that produces good biomass and will make great forage for grazing, control erosion, build soil organic matter, and scavenge nutrients. Triticale is popular in mixes that include annual ryegrass, radish, rapeseed, oats, peas, vetches, and clovers. Management of triticale is similar to cereal rye.

- *Very Winter-Hardy*
- *Fibrous Root System*
- *Excellent Grazing and Forage*
- *Controls Erosion*
- *Alternative to Cereal Rye*



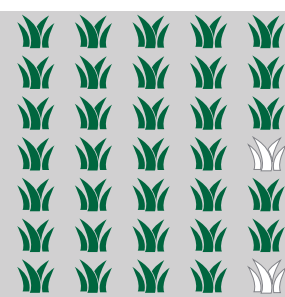
WINTER BARLEY

Winter barley is one of the best annual species for reclaiming overworked and eroded land. It grows upright 1.5-3 feet tall and has broad leaves. Winter barley is very water efficient and capable of handling lower fertility and light soil. Winter barley is a high-quality grain forage source and provides erosion control, nutrient scavenging, soil conditioning, and building organic matter. Winter barley roots can go deep and are very good at supporting mycorrhizal fungi.

- *Reclaim Eroded Land*
- *High-Quality Forage*
- *Compliments Most Mixes*
- *Mycorrhizal Fungi Host*



BENEFIT RATINGS	EROSION CONTROL				
	FORAGE QUALITY				
	NUTRIENT SCAVENGING				
	QUICK GROWTH				
	SOIL BUILDING				
	WEED SUPPRESSION				
	WINTER HARDINESS				
	NITROGEN PRODUCED				
	-				
PLANTING INFO	SEEDING RATE LBS/AC*				
	SEEDING DEPTH				
	MIN. GERM. TEMP				
	INTERSEED				
	SEEDS/LB				



DRILLED: 50 - 60
 BROADCAST: 60 - 75
 AERIAL: 75 - 90

¾ - 1 ½"

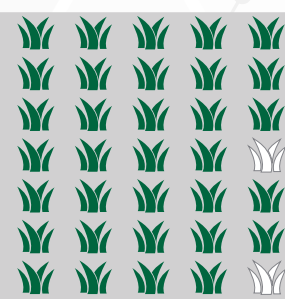
38°F

LATE

18,000 - 23,000

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.

BENEFIT RATINGS	EROSION CONTROL				
	FORAGE QUALITY				
	NUTRIENT SCAVENGING				
	QUICK GROWTH				
	SOIL BUILDING				
	WEED SUPPRESSION				
	WINTER HARDINESS				
	NITROGEN PRODUCED				
	-				
PLANTING INFO	SEEDING RATE LBS/AC*				
	SEEDING DEPTH				
	MIN. GERM. TEMP				
	INTERSEED				
	SEEDS/LB				



DRILLED: 60 - 90
 BROADCAST: 75 - 100
 AERIAL: 90 - 120

¾ - 1 ½"

38°F

LATE

13,000 - 15,000

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.

BRASSICAS AND OTHER BROADLEAVES

There is no doubt that cover crop broadleaves have a positive impact on soil health. From breaking the carbon-phosphorus bond, to exudates that are manufactured by the plant, to the sheer number of deep-penetrating roots, much of broadleaf plants contribution to soil health are still awaiting discovery. Among the other benefits broadleaf plants provide, there is evidence of broadleaf plants functioning as biofumigants that suppress soil pests and root pathogens. Broadleaf plants do not develop mycorrhizal fungi associations and can be included in mixes to promote the efficiency of other mixcomponents that do establish these associations.

Brassicas represent a smaller group of broadleaf plants belonging to the mustard family. This group includes cabbage, collards, mustard, kale, radish, turnip, and rapeseed. While brassicas provide excellent disease suppression, they are not a mycorrhizal fungi host and should be used in mixes with a grass specie. Brassicas are generally small-seeded and require a very low seeding rate.

BENEFIT RATINGS	
EROSION CONTROL	4/5
FORAGE QUALITY	4/5
NUTRIENT SCAVENGING	4/5
QUICK GROWTH	4/5
SOIL BUILDING	4/5
WEED SUPPRESSION	4/5
WINTER HARDINESS	4/5
NITROGEN PRODUCED	-

PLANTING INFO	
SEEDING RATE LBS/AC	DRILLED: 5 - 6 BROADCAST: 6 - 8 AERIAL: 8 - 10
SEEDING DEPTH	¼ - ½"
MIN. GERM. TEMP	43°F
INTERSEED	EARLY & LATE
SEEDS/LB	175,000

BAYOU KALE

Bayou kale is a mid-maturing forage brassica with good winter hardiness, a smooth leaf, and a nutty flavor that is sweet to human taste. This kale variety has a smaller stem but grows to a height of 8 feet when taken for seed production. Bayou has excellent regrowth when rotationally grazed, and the stems are more palatable than forage rapes for cattle and sheep. Used in food plots for deer as well as upland game birds, animals will eat the Bayou first when planted beside Dwarf Essex rapeseed.

When planted in late summer or early fall, it is considerably more winter-hardy than radishes and helps control erosion. The spring green-up of Bayou kale is similar to forage rapes, while its seed size and crop management are similar to other brassicas, like turnips. Seed should be planted at 5-6 lbs/ac when planted as a single specie and 1-2 lbs/ac when mixed with other crops. Planting of Bayou kale should occur July-September for the Midwest and September-October for the south.

- *Cold Tolerant*
- *Breaks Up Soil Compaction*
- *Protects From Erosion*
- *Excellent Regrowth*
- *Shown to Reduce SDS*



AFRICAN CABBAGE

African cabbage is an open leaf cabbage used for cover crops and grazing. African cabbage is branch rooted with deep penetration that will break up hardpans and open up heavy soils. A C:N ratio of 14-25:1 means that stem/root material will not deteriorate until spring. African cabbage is excellent at sequestering nutrients and releasing them in the next growing season. An excellent fertility builder, African cabbage sequesters sulphur and is capable of releasing phosphorous once thought tightly held by the soil colloid.

- *A Large Amount of Organic Matter*
- *Multiple Taproots*
- *Sequesters Nutrients*



SHIELD MUSTARD

Shield mustard is impressive in both cover crops and forage production for grazing livestock. The large leaves of Shield mustard, when planted mid to late summer, provide excellent fall ground cover to protect the soil. Shield mustard and Bayou kale complement each other nicely in mixes. If allowed to grow to maturity, Shield mustard can reach heights more than 7 feet. With a C:N ratio of 12-26:1, Shield mustard sequesters nutrients and releases them in late spring of the next growing season.

- *Reduces White Mold and Sudden Death Syndrome in Soybeans*
- *Quickly Recovers When Rotationally Grazed*
- *Fast Growing*
- *Excellent for Quick Forage*



BENEFIT RATINGS	
EROSION CONTROL	4/5
FORAGE QUALITY	4/5
NUTRIENT SCAVENGING	4/5
QUICK GROWTH	4/5
SOIL BUILDING	4/5
WEED SUPPRESSION	4/5
WINTER HARDINESS	4/5
NITROGEN PRODUCED	-

PLANTING INFO	
SEEDING RATE LBS/AC	DRILLED: 3 - 5 BROADCAST: 5 - 7 AERIAL: 7 - 10
SEEDING DEPTH	¼ - ½"
MIN. GERM. TEMP	45°F
INTERSEED	EARLY & LATE
SEEDS/LB	105,000 - 115,000

BENEFIT RATINGS	
EROSION CONTROL	4/5
FORAGE QUALITY	4/5
NUTRIENT SCAVENGING	4/5
QUICK GROWTH	4/5
SOIL BUILDING	4/5
WEED SUPPRESSION	4/5
WINTER HARDINESS	4/5
NITROGEN PRODUCED	-

PLANTING INFO	
SEEDING RATE LBS/AC	DRILLED: 4 BROADCAST: 5 AERIAL: 9
SEEDING DEPTH	¼ - ½"
MIN. GERM. TEMP	40°F
INTERSEED	EARLY & LATE
SEEDS/LB	185,000 - 205,000

BENEFIT RATINGS	
EROSION CONTROL	4/5
FORAGE QUALITY	4/5
NUTRIENT SCAVENGING	4/5
QUICK GROWTH	4/5
SOIL BUILDING	4/5
WEED SUPPRESSION	4/5
WINTER HARDINESS	4/5
NITROGEN PRODUCED	-

PLANTING INFO	
SEEDING RATE LBS/AC	DRILLED: 6 BROADCAST: 8 - 10 AERIAL: 8 - 10
SEEDING DEPTH	¼ - ½"
MIN. GERM. TEMP	45°F
INTERSEED	EARLY & LATE
SEEDS/LB	32,000 - 35,000

ENRICHER DAIKON RADISH

Radish is a cool season annual, ideally suited for mixes with most other cover crop species. Enricher Radish will scavenge extra nutrients (especially sulfur) and increase soil biology, but will need 60 days of good weather to achieve its full potential.

When planted alone, it will increase spring erosion, therefore, seed with peas, oats, annual ryegrass, or other cereal grains. It will also winterkill in the high teens to lower 20's and will decompose by spring. As the radish decomposes, it will release a sulfur smell similar to propane.

Enricher radish will help control several nematode species, and its large taproot is the ultimate bio driller to break compactions and increase water infiltration. The large taproot enables radish to retain a substantial amount of micro- and macronutrients that are prone to leaching during the fallow winter.

- *Rapid Growth*
- *Breaks Up Soil Compaction*
- *Weed Suppression*
- *Increases Water Infiltration*
- *Attractive to Earthworms*



DWARF ESSEX RAPESEED

Rapeseed is a cool season winter annual in the brassica family used in many cover crop mixes. It is easy to establish via drill, broadcast, or aerial application, is fast growing in the fall, and has a fibrous root system that helps break compaction. Rapeseed can be planted later than radishes, and will often survive the winter to continue soaking up nutrients in the spring. If spring termination is necessary contact your Bio Till rep for suggestions on herbicide since glyphosate will not kill rapeseed by itself.

- *Cold Tolerant*
- *Suppresses Disease SDS & SCN*
- *Easy to Establish*



PURPLE TOP TURNIP

Established in mid to late summer, purple top turnips are used for grazing early fall into late winter. Turnips mixed with annual ryegrass and other cereal grains make a good fall feed when broadcast into corn or soybeans before harvest. The turnip tops and bulbs are both edible, highly digestible and a good source of sulfur. Purple top turnips should not be overseeded in excess of 2 lbs/ac in mixes.

- *Early Fall/Late Winter Grazing*
- *Highly Digestible*
- *Good Source of Sulfur*



BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	4	4	4	4	4
	NUTRIENT SCAVENGING	4	4	4	4	4
	QUICK GROWTH	4	4	4	4	4
	SOIL BUILDING	4	4	4	4	4
	WEED SUPPRESSION	4	4	4	4	4
	WINTER HARDINESS	4	4	4	4	4
	NITROGEN PRODUCED	-	-	-	-	-
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 4 - 6 BROADCAST: 6 - 8 AERIAL: 8 - 10				
	SEEDING DEPTH	1/4 - 1/2"				
	MIN. GERM. TEMP	41°F				
	INTERSEED	EARLY & LATE				
	SEEDS/LB	157,000				

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	4	4	4	4	4
	NUTRIENT SCAVENGING	4	4	4	4	4
	QUICK GROWTH	4	4	4	4	4
	SOIL BUILDING	4	4	4	4	4
	WEED SUPPRESSION	4	4	4	4	4
	WINTER HARDINESS	4	4	4	4	4
	NITROGEN PRODUCED	-	-	-	-	-
PLANTING INFO	SEEDING RATE LBS/AC*	DRILLED: 2 - 4 BROADCAST: 2 - 5 AERIAL: 2 - 5				
	SEEDING DEPTH	1/4 - 1/2"				
	MIN. GERM. TEMP	45°F				
	INTERSEED	EARLY & LATE				
	SEEDS/LB	180,000 - 200,000				

* Seeding rate can be increased for forage production. Consult with your Bio Till representative.

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	1/5	1/5	1/5	1/5	1/5
	NUTRIENT SCAVENGING	1/5	1/5	1/5	1/5	1/5
	QUICK GROWTH	4/5	4/5	4/5	4/5	4/5
	SOIL BUILDING	4/5	4/5	4/5	4/5	4/5
	WEED SUPPRESSION	4/5	4/5	4/5	4/5	4/5
	WINTER HARDINESS	1/5	1/5	1/5	1/5	1/5
	NITROGEN PRODUCED	-	-	-	-	-
	PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 20 - 35 BROADCAST: 22 - 39 AERIAL: 34 - 42			
SEEDING DEPTH		1/2 - 1"				
MIN. GERM. TEMP		50°F				
INTERSEED		LATE				
SEEDS/LB		18,000 - 20,000				

BUCKWHEAT

Buckwheat is a summer annual with extremely rapid growth; it can reach maturity in 70-90 days. It is frost sensitive, so it needs to be seeded in a timely fashion to allow enough growth before the frost date. Buckwheat is unique in its ability to make phosphorus and possibly other nutrients more available to the cash crop. It is used to condition topsoil, rejuvenate overworked poor fertility land, weed suppression, and to attract pollinators. Buckwheat is a component in most of our summer mixes and some of our early fall mixes.

- *Conditions Topsoil*
- *Weed Suppression*
- *Excellent for Pollinators*



BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	1/5	1/5	1/5	1/5	1/5
	NUTRIENT SCAVENGING	4/5	4/5	4/5	4/5	4/5
	QUICK GROWTH	4/5	4/5	4/5	4/5	4/5
	SOIL BUILDING	4/5	4/5	4/5	4/5	4/5
	WEED SUPPRESSION	4/5	4/5	4/5	4/5	4/5
	WINTER HARDINESS	1/5	1/5	1/5	1/5	1/5
	NITROGEN PRODUCED	-	-	-	-	-
	PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 2 - 5 BROADCAST: N/A AERIAL: N/A			
SEEDING DEPTH		1/2 - 1"				
MIN. GERM. TEMP		45°F				
INTERSEED		LATE				
SEEDS/LB		80,000 - 85,000				

FLAX

When utilized as a cover crop, flax will help mobilize phosphorus in soils and add organic matter. Since flax is low growing, it does exceptionally well with small-seeded grasses and legumes with early maturity, and smaller leaf area. Although flax does not tolerate flooding, salinity tolerance is fair and flax is generally drought tolerant, surviving when other cover crops struggle with the heat. The nutrient requirements of Flax are lower than other cover crops.

- *Compliments Small-Seeded Mixes*
- *Drought Tolerant*
- *Increase Organic Matter*
- *Attractive to Pollinators*
- *Mychorizae Host*

PHACELIA

Phacelia is one of the top honey-producing flowers for honeybees. Flowering will occur 6-8 weeks after germination and continue for a similar period with plants growing about 2-3 feet tall. Phacelia can germinate well in cooler temperatures (37°F - 68°F) and requires well drained soils. While Phacelia is excellent in improving soil aggregate structure, it is shallow rooted and not tolerant to shade.

- *Attractive to Pollinators*
- *Extensive Root System*
- *Nitrogen Scavenger*
- *Quick Growth*



SUNFLOWER

Sunflowers rapid growth can produce a large amount of biomass very quickly, taking advantage of short growing seasons. Sunflowers have a vigorous root system that enables them to collect nutrients that are available in the soil. Birds, pollinators and other beneficial insects are attracted to the colorful heads of sunflowers. With their upright stalk, sunflowers can provide support for other cover crop plants to climb.

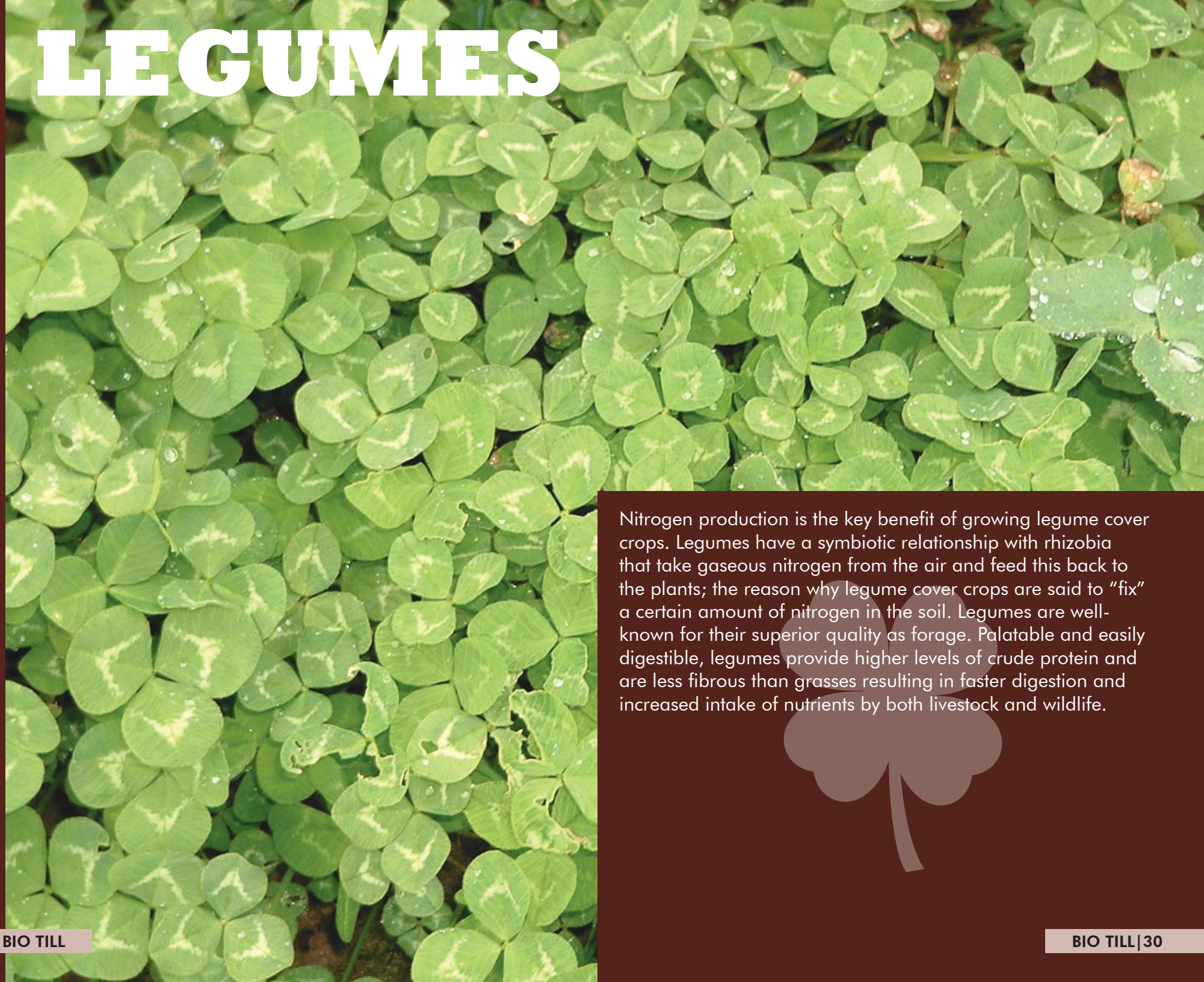
- *Attracts Pollinators*
- *Rapid Growth*
- *Extensive Root System*



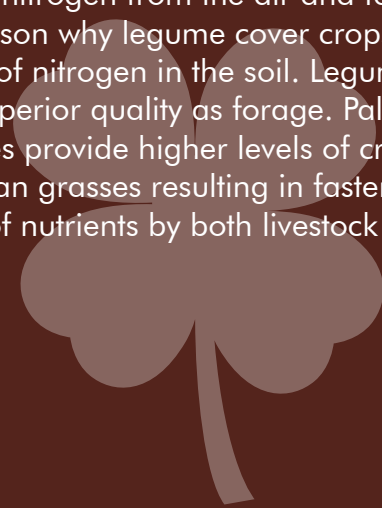
BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	1/5	1/5	1/5	1/5	1/5
	NUTRIENT SCAVENGING	4/5	4/5	4/5	4/5	4/5
	QUICK GROWTH	4/5	4/5	4/5	4/5	4/5
	SOIL BUILDING	4/5	4/5	4/5	4/5	4/5
	WEED SUPPRESSION	4/5	4/5	4/5	4/5	4/5
	WINTER HARDINESS	4/5	4/5	4/5	4/5	4/5
	NITROGEN PRODUCED	-	-	-	-	-
	PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 1 - 3 BROADCAST: N/A AERIAL: N/A			
SEEDING DEPTH		1/4 - 1/2"				
MIN. GERM. TEMP		37°F				
INTERSEED		Not Recommended				
SEEDS/LB		225,000 - 235,000				

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	1/5	1/5	1/5	1/5	1/5
	NUTRIENT SCAVENGING	4/5	4/5	4/5	4/5	4/5
	QUICK GROWTH	4/5	4/5	4/5	4/5	4/5
	SOIL BUILDING	4/5	4/5	4/5	4/5	4/5
	WEED SUPPRESSION	4/5	4/5	4/5	4/5	4/5
	WINTER HARDINESS	4/5	4/5	4/5	4/5	4/5
	NITROGEN PRODUCED	-	-	-	-	-
	PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 3 - 5 BROADCAST: N/A AERIAL: N/A			
SEEDING DEPTH		1 1/2 - 2"				
MIN. GERM. TEMP		42°F				
INTERSEED		Not Recommended				
SEEDS/LB		7,000 - 8,000				

LEGUMES



Nitrogen production is the key benefit of growing legume cover crops. Legumes have a symbiotic relationship with rhizobia that take gaseous nitrogen from the air and feed this back to the plants; the reason why legume cover crops are said to “fix” a certain amount of nitrogen in the soil. Legumes are well-known for their superior quality as forage. Palatable and easily digestible, legumes provide higher levels of crude protein and are less fibrous than grasses resulting in faster digestion and increased intake of nutrients by both livestock and wildlife.



BENEFIT RATINGS	EROSION CONTROL	☘ ☘ ☘ ☘ ☘
	FORAGE QUALITY	☘ ☘ ☘ ☘ ☘
	NUTRIENT SCAVENGING	☘ ☘ ☘ ☘ ☘
	QUICK GROWTH	☘ ☘ ☘ ☘ ☘
	SOIL BUILDING	☘ ☘ ☘ ☘ ☘
	WEED SUPPRESSION	☘ ☘ ☘ ☘ ☘
	WINTER HARDINESS	☘ ☘ ☘ ☘ ☘
	NITROGEN PRODUCED	60 - 120 LBS/AC
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 15 - 20 BROADCAST: 20 - 25 AERIAL: N/A
	SEEDING DEPTH	1/2 - 5/8"
	MIN. GERM. TEMP	60°F
	INTERSEED	EARLY & LATE
	SEEDS/LB	10,000 - 12,000

CAHABA VETCH

Cahaba vetch provides a means of supplying an excellent forage source in the eastern and southern parts of the United States during summer months. It does not tolerate cold temperatures and will begin to die off around 20°F. As a summer legume, it can be used to follow wheat or other summer grains to fix nitrogen and provide a grazing or forage source. An added benefit to your cover cropping programs – Cahaba vetch can assist in controlling some nematode species.

- Increase Nitrogen and Soil Organic Matter
- Erosion Control
- Resistant to Races 3 & 4 of Soybean Cyst Nematode
- Roots can reach 50"

BENEFIT RATINGS	EROSION CONTROL	☘ ☘ ☘ ☘ ☘
	FORAGE QUALITY	☘ ☘ ☘ ☘ ☘
	NUTRIENT SCAVENGING	☘ ☘ ☘ ☘ ☘
	QUICK GROWTH	☘ ☘ ☘ ☘ ☘
	SOIL BUILDING	☘ ☘ ☘ ☘ ☘
	WEED SUPPRESSION	☘ ☘ ☘ ☘ ☘
	WINTER HARDINESS	☘ ☘ ☘ ☘ ☘
	NITROGEN PRODUCED	90 - 200 LBS/AC
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 15 - 20 BROADCAST: 17 - 22 AERIAL: 18 - 22
	SEEDING DEPTH	1/2 - 1 1/2"
	MIN. GERM. TEMP	60°F
	INTERSEED	LATE
	SEEDS/LB	12,000 - 16,000

VITAL HAIRY VETCH

Vital hairy vetch is a more winter-hardy variety that can produce upwards of 200 lbs/ac of nitrogen depending on termination timing. With a C:N ratio in the teens, it makes a large contribution to soil organic matter and breaks down quickly. Cover crop mixes consisting of five pounds of Vital hairy vetch and twelve pounds Bounty annual ryegrass is a great cover crop before corn. Inoculate Vital hairy vetch before planting to ensure maximum nitrogen production.

- Produces Up to 200 lbs of Nitrogen
- Fast Break Down
- Winter-Hardy

MIHI PERSIAN CLOVER

An annual forage legume that can be fall seeded for spring growth, Mihi persian clover can be sown as a specialty crop for forage or sown in a mix with oats and annual ryegrass. Either an oat/clover or ryegrass/clover mix will reduce the risk of bloat. Additional bloat control measures are necessary when cattle are grazing pastures of persian clover, but it has not been observed to cause bloat in sheep. Persian clover has become increasingly popular as a high quality and high yielding hay crop when grown in a mix with other annual grasses as a rotation crop. Persian clover is a very palatable and nutritious specie that can be grazed, cut for silage/hay, used for green manure, or a combination. It recovers well from grazing provided it is allowed to attain complete ground cover before being regrazed. Two spring hay cuts are possible. Persian clover is adapted to a range of soils from clay loams to heavy clay soils and is tolerant of both poor drainage and lower pH levels.

- *Palatable With Fast Regrowth*
- *Fibrous Root System*
- *Excellent Growth*
- *Great for Pollinators*
- *High Protein Feed*

BENEFIT RATINGS	EROSION CONTROL	☘ ☘ ☘ ☘ ☘
	FORAGE QUALITY	☘ ☘ ☘ ☘ ☘
	NUTRIENT SCAVENGING	☘ ☘ ☘ ☘ ☘
	QUICK GROWTH	☘ ☘ ☘ ☘ ☘
	SOIL BUILDING	☘ ☘ ☘ ☘ ☘
	WEED SUPPRESSION	☘ ☘ ☘ ☘ ☘
	WINTER HARDINESS	☘ ☘ ☘ ☘ ☘
	NITROGEN PRODUCED	75 - 120 LBS/AC
	PLANTING INFO	SEEDING RATE LBS/AC
	SEEDING DEPTH	¼ - ½"
	MIN. GERM. TEMP	52°F
	INTERSEED	LATE
	SEEDS/LB	260,000



BENEFIT RATINGS	EROSION CONTROL				
	★★★★★				
	FORAGE QUALITY				
	★★★★★				
	NUTRIENT SCAVENGING				
	★★★☆☆				
	QUICK GROWTH				
	★★★☆☆				
SOIL BUILDING					
★★★★★					
WEED SUPPRESSION					
★★★★★					
WINTER HARDINESS					
★★★☆☆					
NITROGEN PRODUCED					
50 - 200 LBS/AC					
PLANTING INFO	SEEDING RATE LBS/AC				
	DRILLED: 5 BROADCAST: 8 AERIAL: 8				
	SEEDING DEPTH				
	1/8 - 1/4"				
	MIN. GERM. TEMP				
	42°F				
INTERSEED					
LATE					
SEEDS/LB					
500,000					

BALANSA CLOVER

Balansa clover is a cool-season annual legume that can grow over a wide range of soils. As with most legumes fall growth is slow but once dormancy breaks in the spring Balansa clover can grow up to 10 feet in length. Flowering of Balansa clover will occur about 2 weeks later than crimson clover, making balansa an excellent addition to a pollinator mix. Balansa clover is typically hard seeded meaning 1/3 - 1/2 of the seeds may germinate over several years, this could be an advantage to anyone wanting to retain the annual species in a pasture or food plot.

- *Attracts Pollinators*
- *Nitrogen Production*
- *Hard-Seeded*
- *Tolerates Wet Soils*



BENEFIT RATINGS	EROSION CONTROL				
	★★★★☆				
	FORAGE QUALITY				
	★★★★★				
	NUTRIENT SCAVENGING				
	★★★☆☆				
	QUICK GROWTH				
	★★★☆☆				
SOIL BUILDING					
★★★★★					
WEED SUPPRESSION					
★★★★★					
WINTER HARDINESS					
★★★☆☆					
NITROGEN PRODUCED					
75 - 170 LBS/AC					
PLANTING INFO	SEEDING RATE LBS/AC				
	DRILLED: 8 - 15 BROADCAST: 9 - 17 AERIAL: 10 - 18				
	SEEDING DEPTH				
	1/4 - 3/8"				
	MIN. GERM. TEMP				
	42°F				
INTERSEED					
EARLY					
SEEDS/LB					
180,000 - 205,000					

BERSEEM CLOVER

Berseem clover is one of the better legume selections when looking to fix nitrogen for the next year's cash crop. Both nitrogen fixing and deep rooting benefits contribute to berseem clover's reputation as an excellent contributor to soil health. In a mixed sward, berseem clover will make good late summer to early-fall grazing and will work well in the early seeding of corn for interseeded planting. Be sure to inoculate berseem clover before planting.

- *Excellent Nitrogen Source*
- *Early Seeding*
- *Deep Roots*

CRIMSON CLOVER

Crimson clover is a cool season annual legume used as both forage and as a green manure crop. In no-till, strip-till and organic applications, it is used for soil cover and nitrogen fixing; having the ability to provide from 70-130 lbs/ac of nitrogen for the following crop. Establish crimson clover six weeks before frost and expect slow fall growth with rapid spring growth.

- Nitrogen Fixing
- Rapid Spring Growth
- Performs Best on Wet Soils



RED CLOVER

Red clover is a short-lived perennial clover that is very winter-hardy and will work well interseeded into wheat or other cereals in the spring, a few months before harvest. Part of the red clover protein is a bypass protein allowing it to make an excellent livestock feed. While being both heat and shade tolerant, red clover can fix nitrogen and can produce upwards of 100 lbs/ac of nitrogen under optimal conditions.

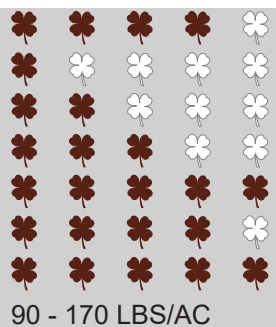
- Can Be Frost-Seeded
- Winter-Hardy
- Heat and Shade Tolerant



BENEFIT RATINGS	EROSION CONTROL					
	EROSION CONTROL	☘	☘	☘	☘	☘
	FORAGE QUALITY	☘	☘	☘	☘	☘
	NUTRIENT SCAVENGING	☘	☘	☘	☘	☘
	QUICK GROWTH	☘	☘	☘	☘	☘
	SOIL BUILDING	☘	☘	☘	☘	☘
	WEED SUPPRESSION	☘	☘	☘	☘	☘
	WINTER HARDINESS	☘	☘	☘	☘	☘
	NITROGEN PRODUCED	70 - 130 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 12 - 15 BROADCAST: 15 - 18 AERIAL: 15 - 18				
	SEEDING DEPTH	¼ - ½"				
	MIN. GERM. TEMP	42°F				
	INTERSEED	LATE				
	SEEDS/LB	140,000 - 150,000				

BENEFIT RATINGS	EROSION CONTROL					
	EROSION CONTROL	☘	☘	☘	☘	☘
	FORAGE QUALITY	☘	☘	☘	☘	☘
	NUTRIENT SCAVENGING	☘	☘	☘	☘	☘
	QUICK GROWTH	☘	☘	☘	☘	☘
	SOIL BUILDING	☘	☘	☘	☘	☘
	WEED SUPPRESSION	☘	☘	☘	☘	☘
	WINTER HARDINESS	☘	☘	☘	☘	☘
	NITROGEN PRODUCED	70 - 100 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 8 - 10 BROADCAST: 9 - 11 AERIAL: 10 - 12				
	SEEDING DEPTH	¼ - ½"				
	MIN. GERM. TEMP	41°F				
	INTERSEED	EARLY & LATE				
	SEEDS/LB	270,000 - 275,000				

BENEFIT RATINGS	EROSION CONTROL				
	FORAGE QUALITY				
	NUTRIENT SCAVENGING				
	QUICK GROWTH				
	SOIL BUILDING				
	WEED SUPPRESSION				
	WINTER HARDINESS				
	NITROGEN PRODUCED				
	PLANTING INFO	SEEDING RATE LBS/AC			
SEEDING DEPTH					
MIN. GERM. TEMP					
INTERSEED					
SEEDS/LB					



DRILLED: 6 - 10
 BROADCAST: 7 - 11
 AERIAL: 7 - 12
 1/4 - 3/4"
 42°F
 EARLY & LATE
 250,000 - 260,000

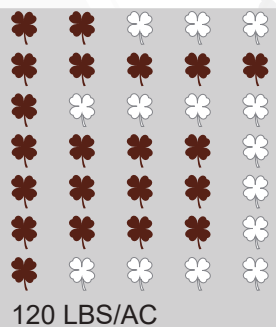
YELLOW BLOSSOM SWEET CLOVER

Yellow Blossom sweet clover is a biennial (2-year) legume that has a deep root system capable of pulling phosphorous and potassium up from the subsoil and redepositing it in the topsoil layer. It is very winter-hardy, drought tolerant, and has an average nitrogen production around 100 lbs/ac. Yellow Blossom sweet clover will produce the greatest summer biomass of any legume in its second production year, but it needs well-drained soils with a neutral pH for optimum growth. It should be noted, however, that Yellow Blossom is a host for soybean cyst nematode.

- *Biennial*
- *Drought Tolerant*
- *High Nitrogen Production*
- *Attracts Pollinators*



BENEFIT RATINGS	EROSION CONTROL				
	FORAGE QUALITY				
	NUTRIENT SCAVENGING				
	QUICK GROWTH				
	SOIL BUILDING				
	WEED SUPPRESSION				
	WINTER HARDINESS				
	NITROGEN PRODUCED				
PLANTING INFO	SEEDING RATE LBS/AC				
	SEEDING DEPTH				
	MIN. GERM. TEMP				
	INTERSEED				
	SEEDS/LB				



DRILLED: 6 - 10
 BROADCAST: N/A
 AERIAL: N/A
 3/4 - 2"
 65°F
 Not Recommended
 15,000

SUNN HEMP

Sunn Hemp is a tropical legume that can produce 120 lbs/ac of nitrogen and transfer residual phosphorous and potash from the subsoil to the topsoil. In just 60 days, sunn hemp can grow up to 6 feet tall, creating up to 4 tons of organic matter. Primarily used in cover crop summer mixes after small grains, sunn hemp is an excellent forage for grazing mixes. Sunn hemp is excellent at weed suppression and has been shown to reduce soybean cyst nematode. Well-drained, sandy soils with a pH between 5 and 8.2 are preferred for planting sunn hemp with a soil temperature of 65°F - sunn hemp will terminate at 28°F and below.

- *Reduce Soybean Cyst Nematode*
- *Weed Suppression*
- *Substantial Bio-Mass*

AUSTRIAN WINTER PEAS

A quick-growing legume that can produce 90-150 lbs/ac of nitrogen, Austrian winter peas can be seeded with barley, oats, triticale and cereal rye for improved forage quality. In cover cropping, it can be used with Enricher radish in alternating rows drilled in a mix containing annual ryegrass, cereal grains, and rapeseed after a soybean harvest. Austrian winter peas grow best in lower temperature, moist areas. It will likely winterkill when sustained temps are below 18°F if there is no snow cover.

- *Ideal Legume Ahead of Corn*
- *Easy Termination*
- *Low C:N Ratio*



IRON & CLAY COWPEAS

Iron & Clay cowpeas protect soil from erosion, smother weeds, and produce 100-150 lbs/ac of nitrogen. They are drought and heat tolerant while being moderately shade tolerant and will grow on lower fertility soil. Originally used as a forage crop for cattle and sheep, Iron & Clay cowpeas are now primarily used in summer cover crop mixes. Cowpeas are late maturing and have the ability to climb tall species when used in a mix.

- *Control Erosion*
- *Great for Deer Food Plots*
- *Low Soil Fertility Tolerant*



BENEFIT RATINGS	EROSION CONTROL					
	EROSION CONTROL	☘	☘	☘	☘	☘
	FORAGE QUALITY	☘	☘	☘	☘	☘
	NUTRIENT SCAVENGING	☘	☘	☘	☘	☘
	QUICK GROWTH	☘	☘	☘	☘	☘
	SOIL BUILDING	☘	☘	☘	☘	☘
	WEED SUPPRESSION	☘	☘	☘	☘	☘
	WINTER HARDINESS	☘	☘	☘	☘	☘
	NITROGEN PRODUCED	90 - 150 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 30 BROADCAST: N/A AERIAL: N/A				
	SEEDING DEPTH	1 - 2"				
	MIN. GERM. TEMP	40°F				
	INTERSEED	Not Recommended				
	SEEDS/LB	3,500 - 4,500				

BENEFIT RATINGS	EROSION CONTROL					
	EROSION CONTROL	☘	☘	☘	☘	☘
	FORAGE QUALITY	☘	☘	☘	☘	☘
	NUTRIENT SCAVENGING	☘	☘	☘	☘	☘
	QUICK GROWTH	☘	☘	☘	☘	☘
	SOIL BUILDING	☘	☘	☘	☘	☘
	WEED SUPPRESSION	☘	☘	☘	☘	☘
	WINTER HARDINESS	☘	☘	☘	☘	☘
	NITROGEN PRODUCED	100 - 150 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 30 - 60 BROADCAST: N/A AERIAL: N/A				
	SEEDING DEPTH	1 - 1 ½"				
	MIN. GERM. TEMP	58°F				
	INTERSEED	Not Recommended				
	SEEDS/LB	4,000 - 4,500				

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	4	4	4	4	4
	NUTRIENT SCAVENGING	4	3	3	3	3
	QUICK GROWTH	4	4	4	4	4
	SOIL BUILDING	4	4	3	3	3
	WEED SUPPRESSION	4	4	4	3	3
	WINTER HARDINESS	3	3	3	3	3
	NITROGEN PRODUCED	30 - 80 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 25 - 50 BROADCAST: N/A AERIAL: N/A				
	SEEDING DEPTH	1 - 2"				
	MIN. GERM. TEMP	41°F				
	INTERSEED	Not Recommended				
	SEEDS/LB	2,000 - 3,500				

BENEFIT RATINGS	EROSION CONTROL					
	FORAGE QUALITY	4	4	3	3	3
	NUTRIENT SCAVENGING	4	3	3	3	3
	QUICK GROWTH	4	4	4	3	3
	SOIL BUILDING	4	4	3	3	3
	WEED SUPPRESSION	4	4	4	4	3
	WINTER HARDINESS	4	4	4	3	3
	NITROGEN PRODUCED	50 - 100 LBS/AC				
PLANTING INFO	SEEDING RATE LBS/AC	DRILLED: 15 - 20 BROADCAST: 18 - 25 AERIAL: 20 - 25				
	SEEDING DEPTH	½ - 1 ½"				
	MIN. GERM. TEMP	42°F				
	INTERSEED	EARLY & LATE				
	SEEDS/LB	6,000 - 8,000				

TS7 SPRING PEAS

Plant TS7 spring peas as soon as temperatures, in the top 1" of soil, reach 40°F or frost seed to allow more time for biomass accumulation. Spring peas typically outgrow spring-planted winter peas and are often mixed with oats, barley, triticale, rye, or wheat. Green manure is an option with TS7 peas and residues will break down quickly once cut. TS7 peas can leave up to 80 lbs/ac of nitrogen if terminated mid-season or up to 30 lbs/ac of nitrogen after a pea harvest at the end of the season. Used in dryland cereal rotation to prevent saline seeps by utilizing excess soil moisture, TS7 peas are effective at breaking pest and disease cycles.

- *Attractive to Pollinators*
- *Quick Growth*
- *Weed Suppression*

COMMON VETCH

Common vetch not only excels as a winter cover crop, it also does well during the spring to provide weed suppression and provide high amounts of nitrogen to cash crops. The taproot of common vetch can reach depths of 3 to 5 feet and is better adapted to well-drained soils. Unlike hairy vetch, common vetch is not hard seeded and is less likely to become a weed problem. When utilized in a mixture, the speedy decomposition of common vetch will lower the overall C:N ratio of mixes that include it.

- *Decomposes Quickly*
- *Erosion Control*
- *Reduces Compaction*



COVER CROP MIXES

Cover crop mixes provide increased benefits to soil health and soil conservation. Mixes offer a higher level of success by reducing risk and increasing productivity. It is important to incorporate the correct species and seeding rates to improve your success rate. The Bio Till Network includes several custom mixing facilities for your convenience. Let us help you design a mix to achieve your cover crop goals and fit your seeding window.



SYNERGIST MIX

88% Bounty Annual Ryegrass
12% Dwarf Essex Rape

- *Deep Roots*
- *High C:N Ratios*
- *Weed Suppression*
- *Increase Organic Matter*
- *Soybean Cyst Nematode Reduction*

Excellent mix for added diversity ahead of corn or soybeans due to aggressive compaction breaking characteristics, along with documented disease suppression and nutrient cycling.

3 WAY COVER MIX

56% Bounty Annual Ryegrass
32% Crimson Clover - Coated & Inoculated
12% Enricher Radish

- *Deep Roots*
- *Reduces Compaction*
- *Nutrient Recycling*
- *Nitrogen Production*
- *Erosion Control*
- *Increases Water Infiltration*

The ideal mix for any field going to a corn crop the following year that has compaction issues. The 3 Way Cover Mix is excellent at sequestering and recycling nutrients as well as potentially building nitrogen resources for subsequent crops.

SOIL BUSTER MIX

80% Bounty Annual Ryegrass
20% Enricher Radish

- *Deep Roots*
- *Increase Organic Matter*
- *Reduces Compaction*
- *Excellent for Nutrient Recycling*
- *Weed Suppression*
- *Soybean Cyst Nematode Reduction*
- *Increases Water Infiltration*

An ideal mix for compacted, low organic matter soils. The addition of radish will provide deep rooting activity to aid in water infiltration as well as assisting in sequestering of nutrients especially nitrogen. Soil Buster Mix works well ahead of corn or soybeans.

NITRO MIX

80% Bounty Annual Ryegrass
20% Crimson Clover - Coated & Inoculated

- *Deep Roots*
- *Increase Organic Matter*
- *Erosion Control*
- *Weed Suppression*
- *Reduces Compaction*

An excellent mix to seed into soybeans going to corn by providing season-long soil cover with deep roots. Along with potential nitrogen production, this mix also sequesters nitrogen and other nutrients from previous crops.



**FOR MORE INFORMATION OR TO LOCATE A DEALER WITH EXPERTISE
IN YOUR AREA
BIOTILL.SADDLEBUTTE.COM**

