



Quality Seeds 

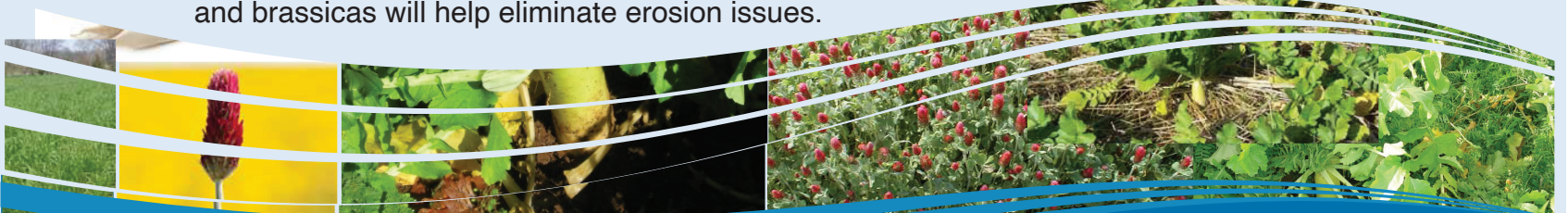
COVER CROP Product Guide

INCREASING THE VALUE OF YOUR LAND

Quality Seeds Ltd. has a progressive cover crop program developed to benefit growers by providing species and mixes that improve soil tilth, 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 like radishes & ryegrass with dense leaf canopies and quick establishment will help suppress weeds.
- Reduce Compaction - Radishes create pilot holes to promote water infiltration and better root penetration while annual ryegrass and hairy vetch simply shatter the soil layers with their high density root system.
- Nitrogen Fixation – Crimson Clover, Austrian Winter Peas and Hairy Vetch, can produce up to 200 pounds of nitrogen per acre by spring when planted in late summer.
- Nematode Control – Many brassicas are natural bio fumigants with studies showing decreased nematode populations.
- Organic Matter – All cover crop species produce significant amounts of biomass that can be worked back into the soil to increase organic matter.
- Erosion Control – Species with quick germination and excellent ground cover such as ryegrass and brassicas will help eliminate erosion issues.



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Cover Crop Mixes

60/20/20 Mix

60% Oats
20% Eco-Till Brand Radish
20% Crimson Clover
Planting rate: 25-30 lbs/acre

- Rapid establishment to prevent wind and water erosion.
- Improves soil permeability for increased air and water penetration: reduces soil compaction, breaks up hardpans & increases root development potential of the following crop.
- Improves organic matter: carbon sequestration.
- Recycles nutrients that would have been lost to leaching or runoff.

Organic Matter Builder Mix

50% Oats
36% Eco Brand Annual Ryegrass
5% Crimson Clover
3% Eco-Till Brand Radish
3% Brassicas
3% Hairy Vetch
Planting rate: 25-30 lbs/acre

- This cover crop mix produces significant amounts of biomass that can be worked back into the soil to increase organic matter

Soil Health Mix

75% Eco Brand Annual Ryegrass
10% Brassicas
10% Hairy Vetch
5% Eco-Till Brand Radish
Planting rate: 25-30 lbs/acre

- A great mix to break up soil hardpan and promote water infiltration

Soil & Feed Mix

55% Oats
25% Peas
8% Berseem Clover
8% Turnip
4% Chicory
Planting rate 20-25 lbs/acre

- A dual purpose soil improver that provides an option for fall feed

70/20/10 Mix

70% Eco Brand Annual Ryegrass
20% Crimson Clover
10% Eco-Till Brand Radish
Planting rate: 15-20 lbs/acre

- Rapid establishment to prevent wind and water erosion.
- Improves soil permeability for increased air and water penetration: reduces soil compaction, breaks up hardpans & increases root development potential of the following crop.
- Recycles nutrients that would have been lost to leaching or runoff.
- Fixes significant atmospheric nitrogen for increased soil nitrogen levels.
- Best used prior to corn, wheat or the crop requiring significant nitrogen inputs.

Nematode Control Mix

60% Oats
15% Crimson Clover
15% Brassicas
6% Phacelia
4% Eco-Till Brand Radish
Planting Rate: 20-25lbs/acre

- Brassicas are natural biofumigants with studies showing decreased nematode populations

Corn Interseeding Mix

80% Eco Brand Annual Ryegrass
20% Crimson Clover
Planting Rate: 10-15lbs/acre

- Quick ground cover with nitrogen fixation & erosion control

40/40/20 Mix - NEW

40% Oats
40% Austrian Winter peas
20% Eco-Till Brand Radish
Planting rate 25-30 lbs/acre

- Increased nitrogen fixation & organic matter
- Helps break up soil compaction

Custom Cover Crop Mixes Also Available

Daikon Radish

Eco-Till Brand radish is a true daikon 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. Eco-Till radish reduces soil compaction, increases soil organic matter, improves soil tilth and also enhances soil aeration.



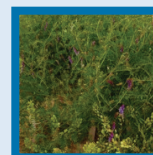
Annual Ryegrass

A diploid annual ryegrass was developed for quick establishment, excellent crown rust resistance, frost tolerance and high forage yield. This exhibits excellent seedling vigor, and medium maturity, allowing consistency in forage yield throughout the season.



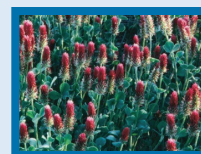
Hairy Vetch

A winterhardy, early maturing hairy vetch for high nitrogen fixation (up to ½ of a subsequent crop's nitrogen requirements). For best results, should be in full bloom to allow for peak nitrogen contribution.



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, nitrogen fixation and good reseeding potential. Crimson clover can be planted early in the spring or fall for weed control.



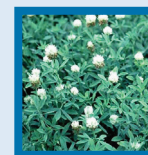
Austrian Winter Peas

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.



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. An excellent choice for erosion control and weed suppression especially when planted with oats.



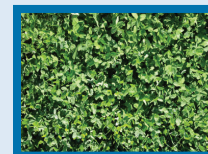
Triticale

Triticale is a hybrid small grain created originally by crossing 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.



Single Cut Red Clover

Single cut Red Clover also known as mammoth red clover, is a lower, later maturing, growing red clover with very minimal regrowth.



Double Cut Red Clover

Double cut Red Clover also known as medium red clover, is a vigorous species to establish with the capability of fixing up to 250 kg/ha of nitrogen in its first year.



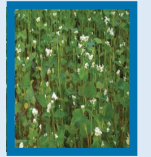
Oats

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 most weeds.



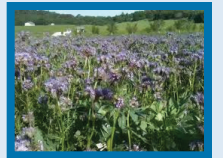
Fall (Cereal) Rye

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



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 an excellent source of high quality nectar and pollen which increases the population and diversity of beneficial insects. Phacelia is comparable to buckwheat in many ways, but is more tolerant to cold and drought.



Sunn Hemp

Sunn Hemp is a tropical legume that acts like a summer annual and is an excellent choice for increasing organic matter, nitrogen fixation, nematode suppression and weed control. A killing frost will eliminate sunn hemp.



COVER CROP CHARACTERISTICS

FOR SPECIFIC PURPOSE	DAIKON RADISH	BRASSICAS	BUCK-WHEAT	WINTER PEAS	CEREAL RYE	ANNUAL RYEGRASS	OATS	TRITICALE	CRIMSON CLOVER	HAIRY VETCH	PHACELIA	SUNN HEMP	BERSEEM CLOVER
ORGANIC MATTER	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
REQUIRES NO HERBICIDE TO KILL	X	X		X						X		X	X
REDUCE SOIL COMPACTION	X	X				X				X		X	
QUICK FORAGE / GRAZE	X	X			X	X	X	X	X			X	X
DROUGHTY SOILS			X									X	
HAY CROP					X		X	X	X			X	X
WEED CONTROL	X	X	X		X			X		X		X	X
ENHANCE NO TILL	X	X			X	X	X	X		X			
PREVENT SOIL EROSION	X	X	X	X	X	X	X	X	X	X		X	X
TOLERATE WET SOILS					X	X	X	X	X				X
COLD TOLERANT	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
NEMATODE CONTROL	X	X									X	X	
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	15#/A	10-20#/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	3-10#/A	12-15#/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"	1/2-1"	1/4-1/2"