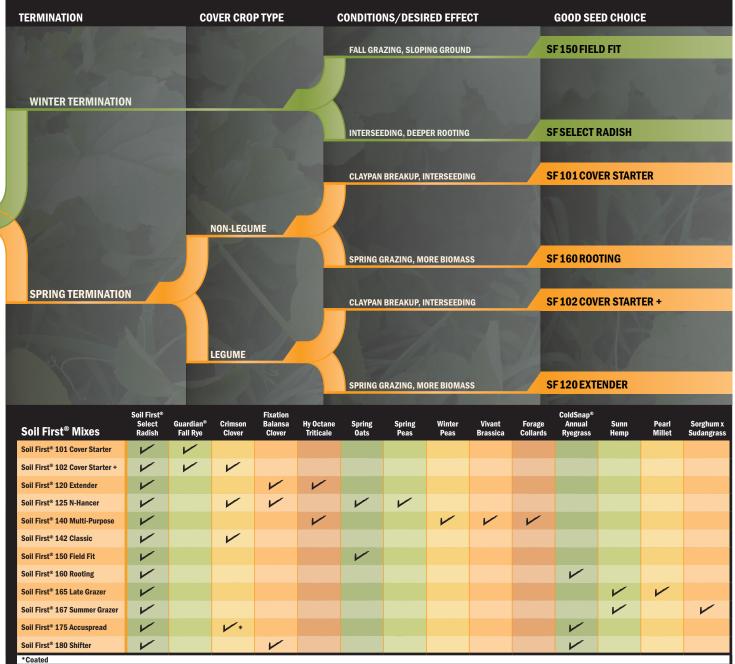




AFTER CORN GRAIN GOING TO SOYBEANS

START

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES



COVER CROPS

AFTER SOYBEANS
GOING TO CORN GRAIN*

or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where

corn will be planted next.

Optional: Adding Winter Peas, Hairy Vetch

START

CONDITIONS/DESIRED EFFECT TERMINATION GOOD SEED CHOICE SF 150 FIELD FIT **FALL GRAZING, SLOPING GROUND** WINTER TERMINATION **DEEPER ROOTING SFSELECT RADISH** NO PREPLANT OR STARTER N SF142 CLASSIC **SPRING TERMINATION** CLAYPAN BREAKUP, LARGE N CARRYOVER SF 102 COVER STARTER + **SF120 EXTENDER** SPRING GRAZING

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

	Soil First® Select	Guardian®	Crimson	Fixation Balansa	Hy Octane	Spring	Spring	Winter	Vivant	Forage	ColdSnap® Annual	Sunn	Pearl	Sorghum x
Soil First® Mixes	Radish	Fall Rye	Clover	Clover	Triticale	Oats	Peas	Peas	Brassica	Collards	Ryegrass	Hemp	Millet	Sudangrass
Soil First® 101 Cover Starter	~	V												
Soil First® 102 Cover Starter +														
Soil First® 120 Extender					~									
Soil First® 125 N-Hancer														
Soil First® 140 Multi-Purpose					~				/					
Soil First® 142 Classic														
Soil First® 150 Field Fit														
Soil First® 160 Rooting											/			
Soil First® 165 Late Grazer														
Soil First® 167 Summer Grazer														
Soil First® 175 Accuspread			*								/			
Soil First® 180 Shifter	~			V							V			
*Coated			, in the second								The state of the s	, in the second		

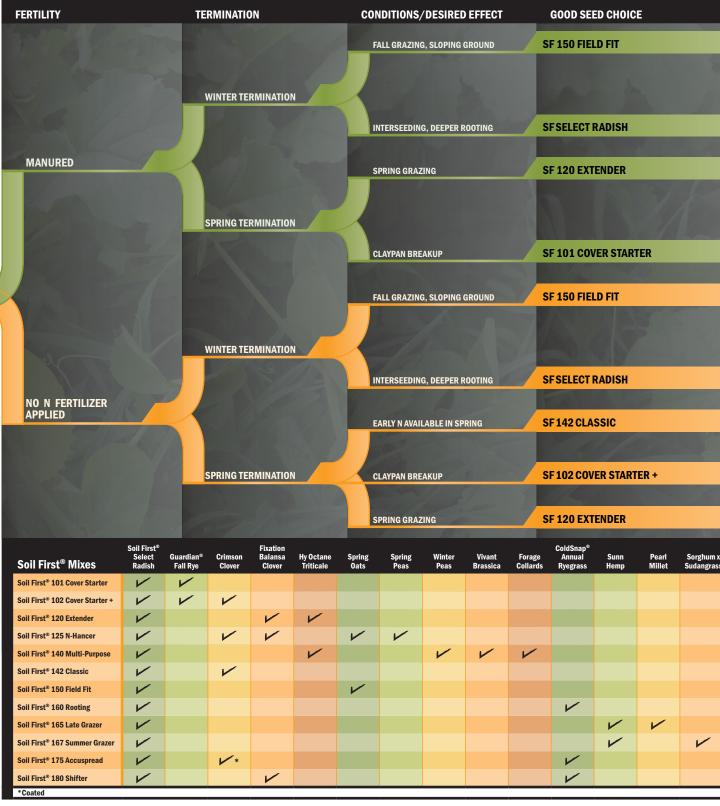


AFTER CORN SILAGE*

START

Optional: **Adding Winter** Peas, Hairy Vetch or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where corn will be planted next.

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES



START

FERTILITY

WINTER TERMINATION **DEEPER ROOTING SFSELECT RADISH MANURED SF 120 EXTENDER SPRING GRAZING** SPRING TERMINATION **CLAYPAN BREAKUP SF 101 COVER STARTER** FALL GRAZING, SLOPING GROUND LEGUME **SF 165 LATE GRAZER or SF 167 SUMMER GRAZER** WINTER TERMINATION **SF 150 FIELD FIT** NON-LEGUME INTERSEEDING, DEEPER ROOTING **SFSELECT RADISH** NO N FERTILIZER APPLIED EARLY N AVAILABLE IN SPRING SF 142 CLASSIC

TERMINATION

SPRING TERMINATION

CONDITIONS/

DESIRED EFFECT

FALL GRAZING, SLOPING GROUND **TYPE**

GOOD SEED CHOICE

SF 102 COVER STARTER +

SF 120 EXTENDER

SF 150 FIELD FIT

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

COVER CROPS

AFTER WHEAT GOING TO CORN

Adding Winter

Peas, Hairy Vetch

or Crimson Clover to an existing mix

can help boost

nitrogen fixation on fields where corn will be planted next.

Optional:

Every Soil First® brand cover crop mix contains Soil First® Select Radish. Each Soil First® mix contains select varieties or species of cover crops that work together to provide a range of benefits when used as part of a well planned crop rotation. Results based on conditions.

Soil First® Mixes	Soil First® Select Radish	Guardian® Fall Rye	Crimson Clover	Fixation Balansa Clover	Hy Octane Triticale	Spring Oats	Spring Peas	Winter Peas	Vivant Brassica	Forage Collards	ColdSnap® Annual Ryegrass	Sunn Hemp	Pearl Millet	Sorghum x Sudangrass
Soil First® 101 Cover Starter	V	~												
Soil First® 102 Cover Starter +	~	~	~											
Soil First® 120 Extender	~			/	~									
Soil First® 125 N-Hancer	~		~	~		~	~							
Soil First® 140 Multi-Purpose	~				~			~	1	~				
Soil First® 142 Classic	~		~											
Soil First® 150 Field Fit	~					V								
Soil First® 160 Rooting	~										~			
Soil First® 165 Late Grazer	~											~	~	
Soil First® 167 Summer Grazer	~											V		~
Soil First® 175 Accuspread	~		/ *								~			
Soil First® 180 Shifter	~			~							~			
*Coated														

CLAYPAN BREAKUP

SPRING GRAZING



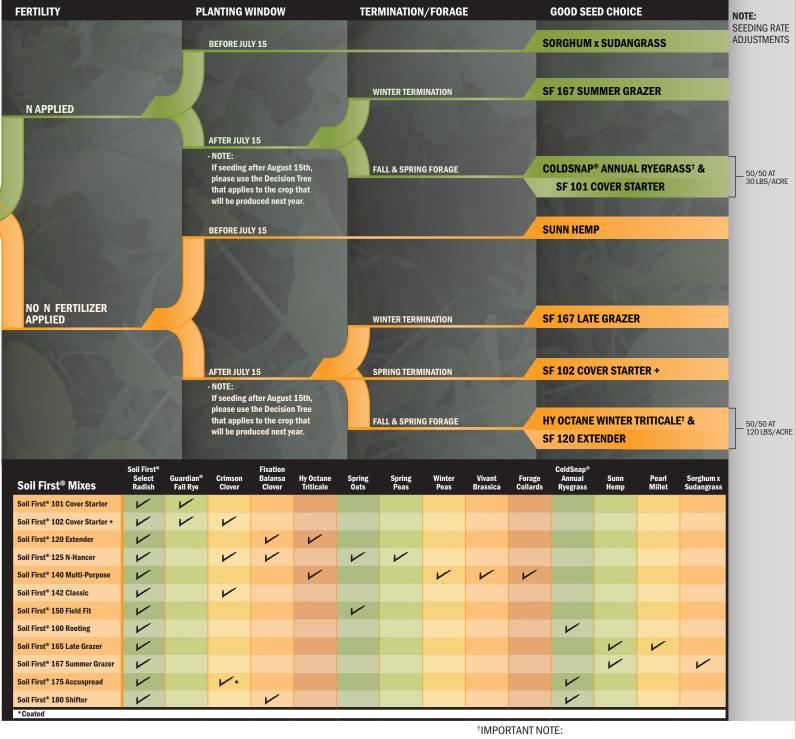
START

FOR **PREVENTED PLANTING**

Optional: **Adding Winter** Peas, Hairy Vetch or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where corn will be planted next.

OUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

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May winter-terminate when planted in July or August if growth is more than 12 inches in height at freeze up.

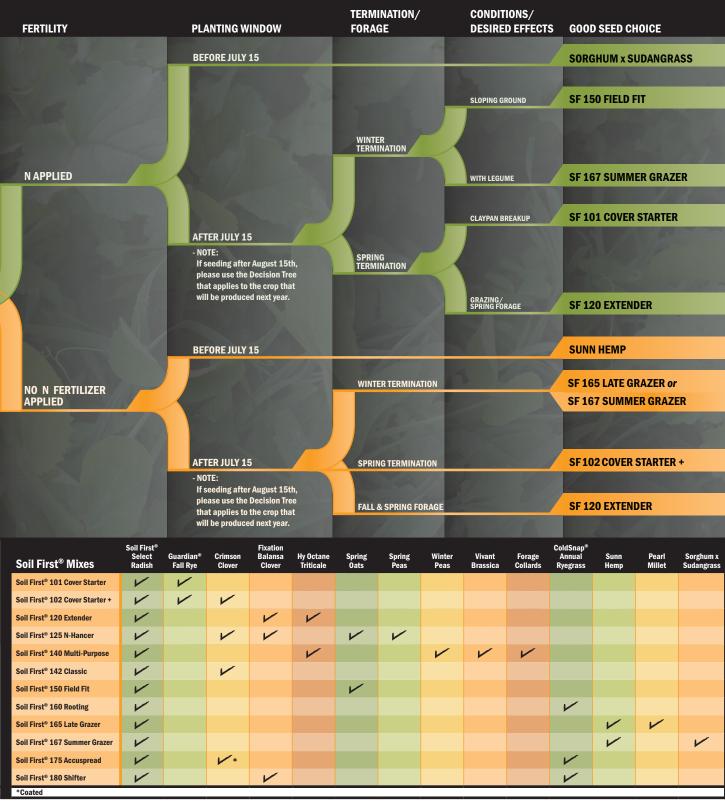


FOR **REMEDIATION**

START

Optional: **Adding Winter** Peas, Hairy Vetch or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where corn will be planted next.

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

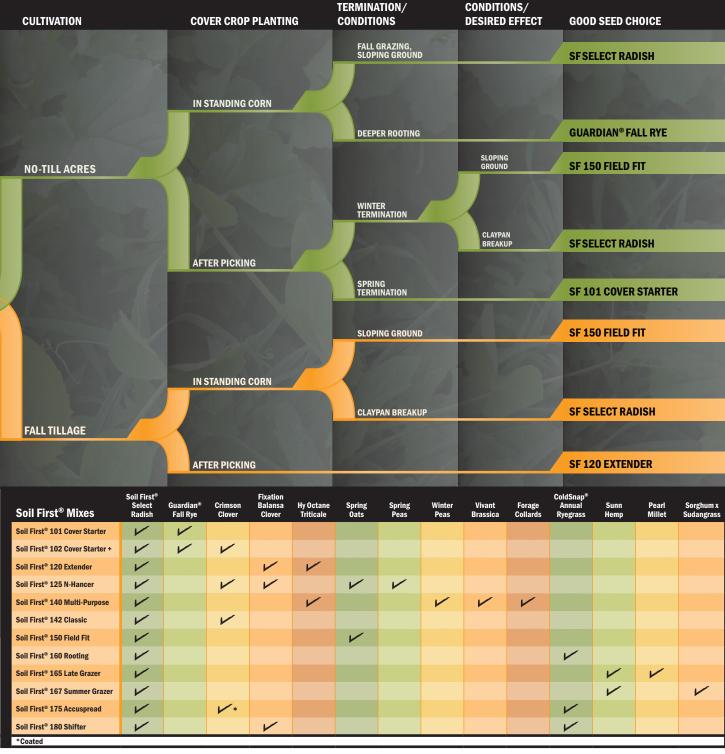




COVER CROPS FOLLOWING SEED CORN

START

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES



TERMINATION/

PLACE IN ROTATION

WINTER TERMINATION

SPRING TERMINATION

SMALL GRAIN, CORN

EARLY SOYBEANS

PLANTED AFTER **SMALL GRAIN, CORN**

SILAGE, EARLY CORN AND

PLANTED AFTER

FEEDING TYPE

GRAZING

FORAGE

SF 165 LATE GRAZER or **SF 167 SUMMER GRAZER COLDSNAP® ANNUAL RYEGRASS &** 50/50 AT 30 LBS/ACRE **SF 101 COVER STARTER HY OCTANE WINTER TRITICALE &** 50/50 AT 120 LBS/ACRE **SF 120 EXTENDER COLDSNAP® ANNUAL RYEGRASS &** 50/50 AT 30 LBS/ACRE SF 102 COVER STARTER + **HY OCTANE WINTER TRITICALE &** 50/50 AT 120 LBS/ACRE **SF 120 EXTENDER** SEED AT 30 LBS/ACRE **SF SELECT RADISH**

NOTE:

SEEDING RATE

ADJUSTMENTS

SEED AT 120 LBS/ACRE

COVER CROPS

FOR FALL GRAZING OR FORAGE HARVEST

START

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

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	200			40-				8	S	SF 120 EXTENDER				
Soil First® Mixes	Soil First® Select Radish	Guardian® Fall Rye	Crimson Clover	Fixation Balansa Clover	Hy Octane Triticale	Spring Oats	Spring Peas	Winter Peas	Vivant Brassica	Forage Collards	ColdSnap® Annual Ryegrass	Sunn Hemp	Pearl Millet	Sorghum x Sudangras
Soil First® 101 Cover Starter	/	V												
Soil First® 102 Cover Starter +	V	V												
Soil First® 120 Extender	/			~	V									
Soil First® 125 N-Hancer	1						V							
Soil First® 140 Multi-Purpose	1				V			~	1	1				
Soil First® 142 Classic	1													
Soil First® 150 Field Fit	1													
Soil First® 160 Rooting	/										V			
Soil First® 165 Late Grazer	1											1	~	
Soil First® 167 Summer Grazer	/											/		/
Soil First® 175 Accuspread	/		*								V			
Soil First® 180 Shifter	V										/			

ANNUAL

RYEGRASS OPTION

ANNUAL RYEGRASS

NON-Annual Ryegrass

ANNUAL RYEGRASS

NON-ANNUAL RYEGRASS

GOOD SEED CHOICE

SF 150 FIELD FIT

TIMING/

COVER CROP OPTIONS

AFTER SMALL GRAIN. CORN SILAGE OR

EARLY CORN AND **SOYBEANS**

NON-LEGUME

LEGUME

For

COVER CROPS

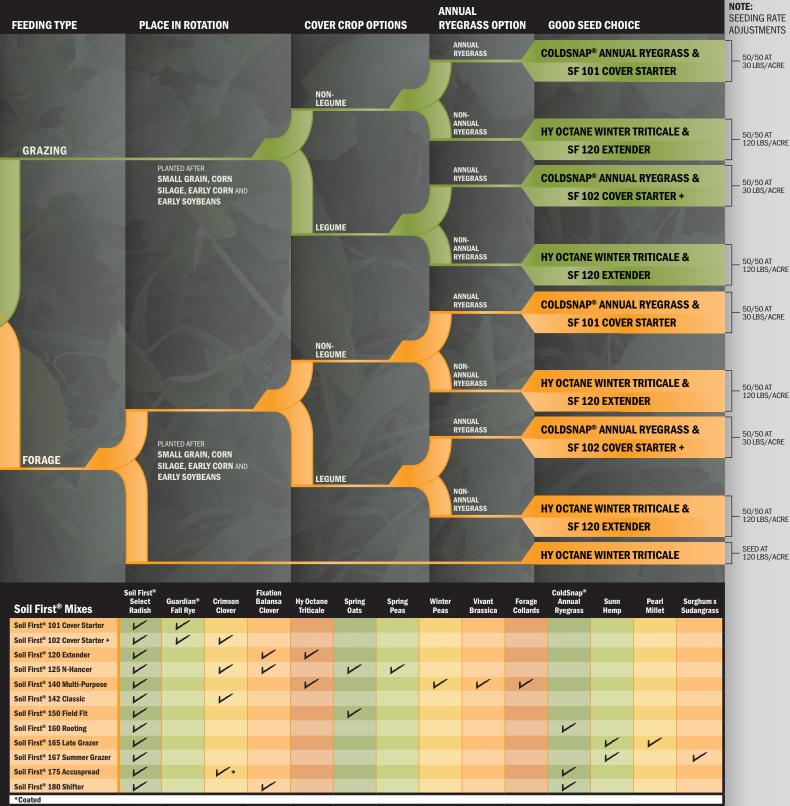
FOR SPRING GRAZING OR FORAGE HARVEST

START

NOTES:

Adding Winter Peas, Hairy Vetch or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where corn will be planted next.

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES



PLANTING WINDOW

BEFORE JULY 15

GOOD SEED CHOICE SORGHUM x SUDANGRASS SF 165 LATE GRAZER or **SF 167 SUMMER GRAZER GUARDIAN® FALL RYE HY OCTANE WINTER TRITICALE**

COVER CROPS

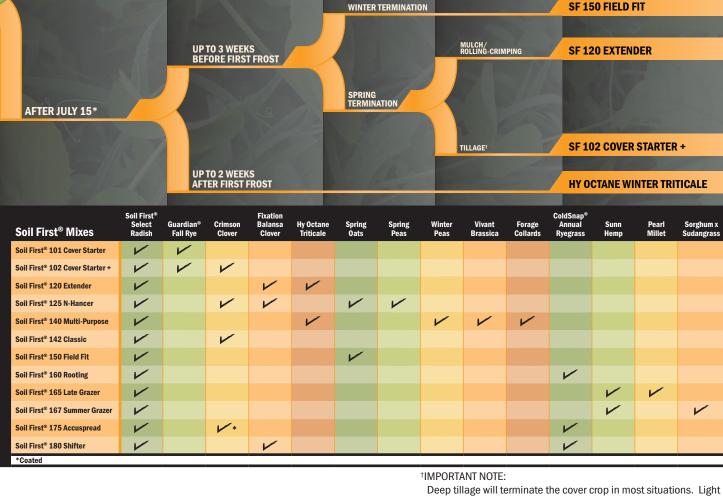
START

FOR **EARLY VEGETABLES**

Optional: **Adding Winter** Peas, Hairy Vetch or Crimson Clover to an existing mix can help boost nitrogen fixation on fields where corn will be planted next.

QUICK REFERENCE GUIDE TO SOIL FIRST® COVER CROP MIXES

Every Soil First® brand cover crop mix contains Soil First® Select Radish. Each Soil First® mix contains select varieties or species of cover crops that work together to provide a range of benefits when used as part of a well planned crop rotation. Results based on conditions.



TERMINATION

WINTER TERMINATION

SPRING TERMINATION

MANAGEMENT

RESEEDING POTENTIAL

NO RESEEDING POTENTIAL

OPTIONS

ROTATION PLACE/

FALL SEEDED COVER CROP

PLANTING WINDOW

GREEN MANURE TO FALL VEGETABLE CROP

tillage requires an herbicide application for cover crop termination.

SOIL FIRST® 101 COVER STARTER

Guardian™ Fall Rye + Soil First® Select Radish

Simple and practical, a low-risk option for both early adopters and growers looking

for more flexibility.

- · Low risk, starter mix
- · Ideal for fall manure applications
- · Winter-hardy rye with excess nitrogen

SOIL FIRST® 102 COVER STARTER +

Guardian™ Fall Rye

- + Soil First® Select Radish
- + Crimson Clover

Building nitrogen and root mass while improving soil tilth and biomass potential.

- · Perfect before corn or soybeans
- Good for prevent plant
- Ideal for Southern Corn Belt

SOIL FIRST® 120 EXTENDER

Hy Octane Triticale

- + Fixation Balansa Clover
- + Soil First® Select Radish

Extended soil coverage mixing

traditional biomass options with the improved winter-hardiness and rooting potential of balansa clover.

- Mix components equal up to 120 days of grazing
- Extended ground cover (7 8 mths.)

SOIL FIRST® 125 N-HANCER

Soil First® Select Radish

- + Spring Oats
- + Spring Peas
- + Fixation Balansa Clover
- + Crimson Clover

Heavy legume mix intended for adding Nitrogen.

- · Relatively low risk mix
- · Ideal as fall forage mix
- · Strong nitrogen fixing mix

SOIL FIRST® 140 MULTI-PURPOSE

Vivant Brassica +
Soil First® Select Radish +
Hy Octane Winter Triticale +
Forage Collards + Winter Peas

Formulated with the livestock grazer in mind, providing soil protection and biomass from fall through spring.

- · Early seeding/Late fall silage opportunity
- Ideal for beef/non-lactating dairy

SOIL FIRST® 142 CLASSIC

Crimson Clover + Soil First® Select Radish

Simple combination for early planting windows – double-crop, prevent plant, inter-seeding too.

- · Perfect before corn or soybeans
- · Good for prevent plant
- Ideal for Southern Corn Belt

SOIL FIRST® 150 FIELD FIT

Spring Oats + Soil First® Select Radish

Straightforward and flexible mix for growers looking for very minimal spring management.

- · Ideal for low spring management
- Excellent option for multiple grazing periods in the fall

SOIL FIRST® 160 ROOTING

Soil First® Select Radish + ColdSnap™ Annual Ryegrass

Sensible blend of radish and ryegrass

developed for maximizing root mass and capturing nutrients.

- Best combination for breaking up compaction and catching leftover nutrients
- · Perfect in manure systems

SOIL FIRST® 165 LATE GRAZER

Soil First® Select Radish + Pearl Millet + Sunn Hemp

Seed in summer to tolerate warm

temperatures while transitioning to a safe forage option into late fall.

- · Perfect before corn or soybeans
- · Good for prevent plant
- · Ideal for Southern Corn Belt





SOIL FIRST® 167 SUMMER GRAZER

Soil First® Select Radish + Sorghum x Sudangrass + **Sunn Hemp**

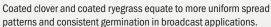


Summer seeded mix where the focus is quick tonnage and over - biomass production.

- Tolerates poor soil environments
- · Formulations for fall grazing
- Sorghum x sudangrass offers increased tonnage in warm and dry climates

SOIL FIRST® 175 ACCUSPREAD

Coated Crimson Clover + Soil First® Select Radish -Coated ColdSnap™ **Annual Ryegrass**



- Facilitates more accurate broadcast seeding patterns
- Best combination for compaction alleviation & nutrient scavenging

SOIL FIRST® 180 SHIFTER

Fixation Balansa Clover + Soil First® Select Radish + ColdSnap™ Annual Ryegrass

Three-way blend utilizing balansa clover for more consistent tolerance to cold

temperatures and poor soil conditions.

- · Will lead to greater biomass production
- Perfect for catching and later releasing nutrients needed by cash crops

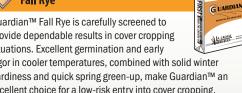
ColdSnap® **Annual Rvegrass**

- · Excellent for scavenging nutrients and holding them for following crop
- Known for its dense root structure for added compaction relief
- Provides a uniform stand maturity for easier spring control
- · Slower to mature than cereal rye and other cereal grains ColdSnap® has been screened and selected for cover crop use
- · Superior winter hardiness when compared to other annual rvegrasses

GUARDIAN® Fall Rye

Guardian™ Fall Rye is carefully screened to provide dependable results in cover cropping situations. Excellent germination and early vigor in cooler temperatures, combined with solid winter hardiness and quick spring green-up, make Guardian™ an excellent choice for a low-risk entry into cover cropping.

- Screened for purity and cleanliness
- Sclerotinia (white mold) free
- Professionally grown for seed, not grain



- Clear tag certified noxious weed free

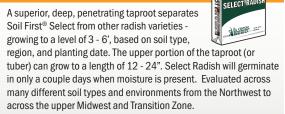
- Strong winter hardiness
- Excellent germination and early vigor

Hy Octane Winter Triticale

Hy Octane is a new winter triticale variety that has shown favorable forage yield and winter hardiness across the Midwest. Hy Octane makes a great option for fall and winter grazing, extending the season far past brassicas or cool-season perennial grasses.

- Reduced awned variety to aid in livestock palatability
- Good early season vigor and earlier heading date than traditional varieties with excellent standability
- Allows greater flexibility for potential double cropping
- Medium Straw length allows for easier hay wilting and silage packaging

Soil First® Select Radish



- · Reduces compaction and improves drainage and air/water movement (through rapid spring decay)
- · Soaks up and releases nitrogen and other nutrients in spring when cash crops need it most
- · Winterkills with temperatures in the teens

KIND OF SEED	APPROX. SEEDS/LB	LBS/BU	PLANTING RATE LBS/ ACRE	PLANTING RATE LBS/ACRE IN MIXES	SEEDING DEPTH	SUGGESTED PLANTING DATES	EMERGENCE TIME (DAYS)	PRIMARY USE	LIFE
Brassicas, Hybrid	165,000	N/A	4 - 6	2 - 3	1/4"	Jul - Sep	4 - 6	Cover Crop	Annual
Cereal Rye Grain	18,000	56	30 - 50	20 - 40	3/4" - 1"	Mar - Apr, Aug - Sep	5 - 8	Cover Crop	Annual
Clover, Balansa	500,000		3 - 6	1 - 4	1/4"	Feb - Mar, Aug - Sep	14	Cover Crop	Perennial
Clover, Crimson	150,000	60	10 - 15	4 - 8	1/4"	Aug - Oct	7 - 10	Cover Crop	Annual
Millet, Pearl	60,000	52	10 - 30	5 - 20	½" - 1"	May - Jul	3 - 5	Pasture, Silage	Annual
Oats, Spring, Fall	16,000	32	30 - 50	20 - 40	3/4" - 1"	Mar - Apr, Aug - Sep	5 - 8	Cover Crop	Annual
Peas, Austrian Winter	2,000	60	30 - 80	10 - 30	1"	Aug - Sep	9	Cover Crop	Annual
Radish	35,000	N/A	3-8	1 - 3	1/4" - 1/3"	Aug - Sep	14	Cover Crop	Annual
Ryegrass, Annual	227,000	24	15 - 30	10 - 15	1/4"	Mar - Apr, Aug - Oct	7	Cover Crop	Annual
Ryegrass, Perennial	227,000	24	30 - 40	6 - 10	1/4" - 1/2"	Feb - May, Aug - Sep	14	Hay, Pasture	Perennial
Sorghum x Sudangrass	21,000	56	25 - 50	5 - 20	3/4" - 1 1/2"	May - Jul	10	Hay, Pasture	Annual
Sorghum x Sudangrass BMR	21,000	56	15 - 35	N/A	1"	May - Jul	10	Hay, Pasture	Annual
Sunn Hemp	15,000	N/A	15	5-8	1/2" - 1"	Jul - Sep	3 - 7	Cover Crop	Annual
Triticale	15,000	48	30 - 50	20 - 40	3/4" - 1"	Mar - Apr, Aug - Sep	6 - 8	Hay, Pasture	Annual
SOIL FIRST® COVER CROP MIX	(PLANTING RATE LBS/ACRE	PLANTING RATE LBS/ACRE FOR FORAGE	SEEDING DEPTH (WITH DRILL)	SUGGESTED PLANTING DATES	EMERGENCE TIME (DAYS)	NITROGEN FIXES OR SCAVENGES	GERM SOIL TEMP (F)
Soil First® 101 Cover Starter			30 - 35	40 - 50	1/4" - 1"		Varies	Scavenger	45⁰
Soil First® 102 Cover Starter			30 - 35	40 - 50	1/4" - 1"		Varies	Both	45⁰
Soil First® 120 Extender			35 - 40	40 - 50	1/4" - 1"		Varies	Both	45°
Soil First® 125 N-Hancer			35 - 40	40 - 50	1/4" - 1"		Varies	Fixer	45°
Soil First® 140 Multi-Purpose			35 - 40	40 - 50	1/4" - 1"		Varies	Both	45°
Soil First® 142 Classic			12 - 15	15 - 20	1/4" - 1/2"	See Soil First®	Varies	Both	45⁰
Soil First® 150 Field Fit			30 - 35	40 - 50	1/4" - 1"	Seed Guide	Varies	Scavenger	45°
Soil First® 160 Rooting			15 - 20	20 - 25	1/4" - 1/2"		Varies	Scavenger	45⁰
Soil First® 165 Late Grazer			20 - 25	20 - 25	1/4" - 1"		Varies	Both	60-65°
Soil First® 167 Summer Grazer			25 - 30	25 - 30	1/4" - 1"		Varies	Both	60-65°
Soil First® 175 AccuSpread			20 - 25	25 - 30	1/4" - 1/2"		Varies	Both	45⁰
Soil First® 180 Shifter			20 - 25	25 - 30	1/4" - 1/2"		Varies	Both	45°





