

TARGETED COVER CROPS


GRAZE/HAY BETWEEN CASH CROPS

FORAGE OPPORTUNITIES • SOIL IMPROVEMENT
WEED, INSECT & NEMATODE SUPPRESSION




Buffalo Brand
SHARP BROS. SEED CO.
— sharpseed.com —



<div> SHARP BROS. SEED CO.</div>		<div>Minimum / Optimum (°F) Germination Temperature</div>												<div>Maximum / Optimum Seeding Depth (Inches)</div>												<div>Monoculture Seeding Rate (lbs./acre)</div>												<div>Nutrient Repositioning to Surface</div>												<div>Timing of Nutrient Release</div>												<div>Durability of Dead Mulch Cover</div>												<div>Improved Infiltration</div>												<div>Break-up of Compacted Soil Layers</div>												<div>Weed Suppression (in Cover Crop Season)</div>												<div>Approximate Seeds per 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*Approximate seeds per pound is provided as an aid to planning, and varies. Sharp Bros. Seed Co. does not imply or warrant that seed will be of the count per pound listed above.
S = Slow F = Fast VS = Very short L = Long P = Poor M = Moderate G = Good E = Excellent

Minimum/ Optimum Germination Temperatures: The range of germination temperatures to which each crop is adapted.

Maximum/ Optimum Seeding Depths, Inches: The depth of emergence capabilities of each crop.

Monoculture Seeding Rates Per Acre: Suggested range of seeding rates across low moisture/ high moisture environments when planted alone. When planting seed mixes, it is suggested that each cover crop be assigned a desired percentage and seeding rates adjusted accordingly.

Nutrient Repositioning to Surface: Relative ability of a cover crop to move nutrients closer to the surface from deep in the soil profile, thereby improving fertility that is available to seedling cash crops that follow the cover crop.

Timing of Nutrient Release: Cover crops that decay quickly make beneficial nutrients available for cash crops that are planted soon after cover crop termination. Slower decaying, delayed nutrient release may be optimum when cash crop planting is delayed.

Breakup of Compacted Soil Layers: Cover crops with demonstrated ability to extend root growth through compaction zones.

Durability of Dead Mulch: Highly durable, long lasting mulches are desirable where maintaining maximum cover is the first priority. Short lived mulches allow the soil to warm up quickly in the spring and can be desirable when extended cover is not needed.

Improved Infiltration: This is a rating of a cover crop's ability to improve soil surface permeability for increased rate of water absorption.

Weed Suppression During Cover Crop Season: This is a rating of a cover crop's ability to limit weed growth as a result of competition for sunlight and soil moisture as well as possible allelopathic suppression.

TARGETED COVER CROPS

Since we were founded in 1958, our family owned company has continued to look forward, develop and integrate new approaches that promote preservation, protection, and restoration of the land. That is why Sharp Bros. Seed Co. is committed to developing standard and custom cover crop mixes that promote good soil structure development, weed suppression, and erosion control. Let us help you with your conservation and production goals.

STAYING ON TARGET



COMMON COVER CROP QUESTIONS

What are the benefits of cover crops?
Cover crops can improve soil health, hard pan breakup, nitrogen fixation, water infiltration, organic matter content, erosion control, weed suppression, crop diversity and provide an additional grazing opportunity.

Won't cover crops steal moisture from my field?
What benefit is rainfall when it cannot move down into the soil profile? Compaction and plowpans "steal" just as much of our precious moisture. Including brassicas into a simple, water efficient cover crop mix can greatly increase soil structure and water infiltration.

Which varieties are right for me?
Determining the type of varieties to include in your cover crops begins with well-defined goals. Are you looking for nitrogen fixation or nutrient recycling? Maybe you are looking at improving soil structure and water infiltration, or perhaps ground cover and weed suppression are your goals. Some farmers and stockmen use cover crops for additional hay/forage. Knowing and understanding your specific needs and goals is crucial to formulating a cover crop mix that will benefit your operation.

YOUR TRUSTED SEED SOURCE

TARGETED COVER CROP MIXES

Choosing quality products is important to us.
We have created several Targeted
Cover Crop Mixes with proven productivity.

For More Information On
Standardized & Custom Mixes
Call 620-398-2231

SPRING CROPPER MIX GRAZING/HAYING

Plant - early spring when soil temp is 40°F+
Suggested planting rate - 64lbs/acre

40# Oats
20# Forage Peas
2# Grazing Radish
1# Forage Turnip
1# Forage Rape

WHEAT CROPPER MIX GRAZING/HAYING/COVER

Plant - when soil temperature is 65°F +
Suggested planting rate - 34lbs/acre

25# Cowpeas
5# Grazex III Sorghum/Sudangrass
2# Tillage Radish
1# Forage Turnip
1# Forage Rape

FALL CROPPER B MIX GRAZING/COVER

Plant - August 1-15 • Optimum Biomass Production
& superior feed value from Barley. Barley usually
overwinters to provide spring grazing.
Suggested planting rate - 67lbs/acre

40# Barley
3# Grazex III
20# Forage Peas
2# Grazing Radish
1# Forage Turnip
1# Forage Rape

FALL CROPPER T MIX GRAZING/COVER

Plant - August 1-15 • Optimum Biomass
Production. Triticale frequently
overwinters to provide spring grazing.
Suggested planting rate - 67lbs/acre

40# Triticale
3# Grazex III
20# Forage Peas
2# Grazing Radish
1# Forage Turnip
1# Forage Rape

FALL CROPPER OAT MIX GRAZING/COVER

Plant - August 1- Sept. 10 • Optimum
Biomass Production. Mix will not overwinter,
eliminating need to terminate in spring.
Suggested planting rate - 62lbs/acre

40# Oats
3# Grazex III
15# Forage Peas
2# Grazing Radish
2# Forage Turnip

NEMATILL II Nematode Biofumigant Mix

For nematode suppression and
biological tillage. Plant August to
early September. Can be aerially
seeded over black layer corn,
maturing sunflowers, or early
leaf yellowing on soybeans. When
drilled, it establishes very rapidly
(30-45 days). Can also be grazed!
Suggested seeding rate - 10lbs/acre

3# Tillage Radish
4# Pacific Gold Brown Mustard*
3# Corinne Ethiopian Cabbage *

GRAZING BIOLOGICAL TILLAGE NEMATODE SUPPRESSION

* Small seeded Brassicas are coated to improve canopy
penetration and germination/seedling establishment.

BRASSICAS

VERSATILE COOL SEASON ANNUALS

and effective cover crops when planted in late summer/early fall or late winter/early spring and able to germinate efficiently over a broad range of seed bed temperatures. Brassicas are highly palatable to grazing animals, have aggressive growth, and suppress weeds. In addition radishes, a popular brassica, can have a “preemergent herbicide” effect on some weed species due to allelopathy.

Brassicas move nitrogen and other nutrients scavenged from the subsoil to the upper portions of the plant. This “nutrient recycling” benefit starts to accrue early, within a few weeks of planting. Winter killed plants decay rapidly and deposit absorbed nutrients near the soil surface. Increased biological activity and enhanced fertility levels at the soil surface contribute to vigorous growth by cash crop seedlings and may accelerate the decomposition of crop residue.

Tillage, compaction reduction and infiltration improvement are best achieved with early seeded brassicas that are given adequate time to develop large roots. Brassicas are sensitive to residual levels of some herbicides, particularly triazines and ALS inhibitors. Radishes have been proven to reduce nematode populations and as a class are considered among the most effective biological tillage plants. The addition of 1 to 2 pounds of radish seed per acre to cash crop winter wheat plantings is gaining in popularity as producers observe increased wheat yields due to this practice. Decomposing radishes smell like rotten eggs, an aroma that is noticeable in the vicinity of the field where they were grown. Most varieties of radish used for cover crop originated from oil seed radish genetics and have been bred to favor either tillage or forage production.

Turnips excel as forage providers since top growth and tubers are palatable and efficiently utilized by grazing animals.

FORAGE TURNIP



HYBRID CROSS OF TURNIP & RAPE

Bred for **fast establishment**, with utilization possible in 45-55 days. Similar to a non-bulb producing turnip, only much **leafier** with vigorous regrowth and fast recovery from grazing. Has the ability to yield well into the fourth regrowth cycle with adequate moisture. Does well in heavier soils, but prefers more moisture than forage rape.

FORAGE RAPE



RAPE = HYBRID OF TURNIP & KALE

The **most versatile** brassica, suitable for a wide range of soil fertility and environmental conditions. Early maturing, extremely drought tolerant and suitable for grazing 45-60 days after seeding. Excellent frost tolerance for extended early winter grazing. Exceptional regrowth characteristics, up to 3-4 cycles. Has an upright growth habit, less competitive for space.

GRAZING RADISH



RADISH BRED FOR GRAZING

Bred for maximum grazing production, fast growing, drought tolerant grazing radish designed to withstand multiple grazing cycles. Exceptional palatability and persistence into the heat of the summer without flowering. Leaves are much larger than standard tillage type radishes, and energy levels are superior to corn or sorghums.

BRASSICA Characteristics at a Glance

	Minimum / Optimum (°F) Germination Temperature	Maximum / Optimum Seeding Depth (Inches)	Monoculture Seeding Rate (lbs./acre)	Maturity (Early, Mid, Late)	Grazing/Haying Potential (Fair-Exceptional)	Number of Regrowth Cycles	Root Length (Short-Long)	Planting Time (Spring-Fall)	Drought Tolerance (Good-Exceptional)	Biomass Production	Approximate Seeds per pound*
FORAGE TURNIP	40/45-90°	.75/.25	4	M-L	EX	2-4	LO	SP/F	G	EX	190,000
FORAGE RAPE	40/45-90°	.75/.25	4	L	EX	3-4	LO	SP/F	EX	EX	190,000
GRAZING RADISH	40/45-90°	.75/.25	7-10	L	EX	2-4	LO	SP/F	EX	EX	50,000
VNS/DAIKON TILLAGE TYPE RADISH	40/45-90°	.75/.25	7-10	L	G	2-3	LO	SP/F	EX	G	50,000
PURPLE TOP TURNIP	40/45-90°	.75/.25	3-4	M	G	0	S-LO	F	G	F	190,000

*Approximate seeds per pound is provided as an aid to planning and varies. Sharp Bros. Seed Co. does not imply or warrant that seed will be of the count per pound listed above.

VNS/DAIKON TILLAGE TYPE RADISH



The original biological tillage crop, Daikons produce moderate length taproots of large circumference. Moderate length taproots of large circumference are optimum for opening the soil surface for increased infiltration.



PURPLE TOP TURNIP

Grazing animals will utilize forage above ground as well as the roots. 1.5 to 3 pounds of turnip seed per acre, when added to plantings of winter annual cereal grains, can improve forage production. Turnips may extend the fall grazing period after cereal grains have gone dormant since animals harvest the tubers with increased frequency during that period.

“I COULDN’T BELIEVE THE DIFFERENCE IT MADE!”

“I planted **Fall Cropper Oat Mix** at 62 lbs. to the acre and let it winter kill. The following year I planted a full season grain sorghum on these same acres.

THIS ACREAGE YIELDED
125 BUSHELS PER ACRE

My other acres of grain sorghum yielded 95-100 bushels per acre. The only variable was the cover crop. I couldn’t believe the difference it made!”

MATT CANTRELL
South Central Kansas
Dryland Farmer

IMPROVED WATER INFILTRATION & GREAT RATE OF GAINS

FIRST OF AUGUST

Planted 5 circles of forage peas, sorghum sudangrass, radish, forage turnip and forage rape into heavy irrigated wheat stubble.

MID NOVEMBER

Stocked 2.2 head per acre of 550 lb. steers

AFTER 100 DAYS

263 cattle on 120 acres
2.4 lbs of gain per head
\$265/acre value



“My water infiltration has improved noticeably and I’ve noticed my soil is more mellow when doing my Spring strip tilling prior to corn planting in my cover cropped fields.”

ALAN TOWNSEND
Goodland, Kansas

CEREALS & GRASSES

produce extensive fibrous root systems that build soil structure, increase organic matter and move deep nutrients to the soil surface. These plants were made to be grazed with good regrowth after clipping. A thick stand of grass/cereal cover crop helps suppress weeds. Excellent choice for grazing, hay, soil building or mulch cover.

- PRODUCE FORAGE
- SUPPRESS WEEDS
- RECYCLE NUTRIENTS
- GROUND COVER



MASTERGRAZE CORN

WARM SEASON ANNUAL GRASS

A 60 day tillering BMR corn that fits most geographic locations. MasterGraze is unlike anything else in the forage industry. Produces significant biomass when planted as late as August and can add value to a summer cover crop/ grazing system. Minimum soil temperature of 55°.



SORGHUM SUDANGRASS

WARM SEASON ANNUAL GRASS

Warm season annual grasses with fast summer growth, regrowth after clipping and drought tolerance with a deep root system. Capable of producing significant biomass when planted as late as mid August on the central and southern plains. Better iron chlorosis tolerance than forage or grain sorghums. Minimum soil germination temperature is 60 F. Grazing should be delayed until plants have completed the initial 24 inches of growth.

HYBRID PEARL MILLET

WARM SEASON ANNUAL GRASS

This warm season annual grass is similar to sorghum sudangrass in that it regrows well after clipping and is drought tolerant. Germination requires minimum soil temperatures of about 65 F. Pearl millet has no prussic acid risk but is more prone to nitrate toxicity than sorghum sudangrass. Excellent iron chlorosis tolerance.



CEREAL RYE

COOL SEASON ANNUAL CEREAL

Cereal Rye is usually seeded in the fall for cover or grazing use. Very winter hardy and can be successfully planted later than most other cereals, as it can germinate in lower soil temperatures. Capable of early, rapid spring growth, making it very competitive against weeds. Known for its allelopathic properties that can inhibit the germination of small seeded weeds. Be aware of contamination/volunteer issues if planted in rotations using other cereal crops such as wheat.

SPRING TRITICALE

COOL SEASON ANNUAL CEREAL

Spring planted cool season cereal with better stress tolerance and disease resistance than wheat. A durum wheat and rye cross, normally superior to wheat for grazing or hay production. Somewhat better drought tolerance than barley, wheat or oats. Has allelopathic effects on weeds, but to a lesser extent than cereal rye. Sometimes paired with oats in Spring mixes.



Dryland Spring Cropper Mix
Oakley, Kansas



Irrigated Wheat Cropper Mix
Colby, Kansas



WINTER TRITICALE

COOL SEASON ANNUAL CEREAL

Cool season winter annual cereal originally developed from a cross between wheat and rye. It can be planted in the fall approximately 30 days earlier than wheat because of superior disease resistance. Good winter hardiness. A high production forage with palatability somewhat lower than wheat. It produces especially well in the spring.



OATS

COOL SEASON ANNUAL CEREAL

Cool season annual cereal, effectively used as a cover crop in either spring or fall. Oats planted in the fall will usually winter kill any where north of central Oklahoma and the southern Texas panhandle, leaving standing dry hay.



ANNUAL RYEGRASS

COOL SEASON ANNUAL GRASS

Cool season annual grass with a deep, prolific root system. Annual ryegrass must be seeded relatively shallow but is fast to sprout. If allowed to set seed it can become a weed in winter cereals such as wheat.



WINTER BARLEY

COOL SEASON ANNUAL CEREAL

Cool season annual cereal, effectively used as a cover crop in either spring or fall. Outstanding forage quality and fall forage production. Spring forage production is typically lower than triticale.

HIGH
PROTEIN
FORAGE

RAPID
NUTRIENT
RELEASE

ADDS
NITROGEN
TO SOIL

LEGUMES

Nitrogen is the most critical fertility element for most crops but is the only element that is not released to the soil from the parent minerals. Nature transfers nitrogen from the atmosphere to the soil through rainfall and the symbiotic relationship of legumes with Rhizobium bacteria. Each family of legumes requires a specific race of Rhizobium which is unlikely to occur naturally in significant numbers within the field where the legume is to be planted. Maximum nitrogen fixation is best achieved when the correct Rhizobium inoculant is applied to the seed. Legumes planted as seed mixes should be inoculated at a heavy rate to compensate for the “dilution” of inoculant material on non legume seed.



AUSTRIAN WINTER PEAS

COOL SEASON ANNUAL

Winter annual legume that grows rapidly in cool, moist weather. Austrian Winter Peas generally survive the winter south of the Kansas/ Oklahoma border with less dependable winter hardiness north of that point. Most often planted in the fall. Excellent forage quality that is good for haying. Little or no regrowth after grazing. Seed may be planted as deep as 3 inches if necessary and should be placed with moist soil above and below the seed since germination moisture requirements are high. Use pea, vetch, lentil inoculants. Exceed for Cool Season: Rhizobium leguminosarum biovar viceae.



FORAGE PEAS

COOL SEASON ANNUAL

This cool season annual legume is a spring growth habit version of the Austrian Winter Pea, similar to the growth pattern of spring wheat as compared to winter wheat. Planted as either a spring or fall seeded cover crop, it will winter kill when planted in the fall. Forage quality, planting requirements and regrowth characteristics are similar to Austrian Winter Peas. Use pea, vetch, lentil inoculant. Exceed for Cool Season: Rhizobium leguminosarum biovar viceae.



HAIRY VETCH

COOL SEASON ANNUAL

This legume can function as a fall seeded winter annual legume or as a spring seeded cool season annual legume. It is an excellent nitrogen fixer and good forage for haying or grazing. It has vining fine stems, up to 12” long. It will generally survive over the winter in Kansas with occasional winter kill. Winter survivability is enhanced when planted with a companion cereal crop. Good for soil tilth. Hairy Vetch seed may have dormancies as high as 30%. It should be destroyed prior to seed formation in any crop rotation that includes winter annual cereal production such as winter wheat so that it does not become a weed problem. Use pea, vetch, lentil inoculants. Exceed for Cool Season: Rhizobium leguminosarum biovar viceae.

ARE THEY EATING THEIR VEGETABLES?



DRYLAND COVER CROP
South of Olmitz, Kansas.

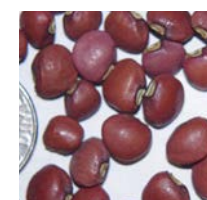
“The cows are eating their vegetables, and I haven’t had to purchase any more mineral tubs to supplement their nutrition intake. Some very happy cows!”

-Tim Frieb, Frieb Seed
Nov. 2015

CRIMSON CLOVER

WINTER ANNUAL

Usually planted as a winter annual legume, crimson clover is a good N scavenger and is capable of fixing 30-60 pounds of N. Prefers cool, moist soils and grows rapidly during cool weather. Can regrow after haying or grazing prior to early bud stage, if 4in+ of growth is maintained. Has good shade tolerance and can be seeded into growing corn or soybeans. Normally seeded in mixtures at 2-5 pounds per acre. Use Exceed for alfalfa/sweet clover/true clover inoculant combination: Sinorhizobium meliloti and Rhizobium leguminosarum biovar trifolii.



COWPEAS

WARM SEASON ANNUAL

Summer annual legume requires 65 F or more to germinate. Tolerates drought, heat, and low fertility. Moderate shade tolerance makes it a good companion with sorghum forages. Use inoculant with Bradyrhizobium sp. (Vigna). Exceed for warm season.



MEDIUM RED CLOVER

PERENNIAL

A short lived perennial legume that thrives wherever corn grows. Good shade tolerance and cool soil germination capability (41 F) make it an excellent companion to grains. It is an aggressive nitrogen fixer, helps suppress weeds and breaks up heavy compacted soils, and is widely adapted to most soil textures. Great for haying, grazing, plow down or no till wilt down. Use Exceed for alfalfa/sweet clover/true clover inoculant combination: Sinorhizobium meliloti and Rhizobium leguminosarum biovar trifolii.

WE CAN MIX IT UP

CONTACT US FOR CUSTOM SEED BLENDS

STANDARD MIXES

SPRING CROPPER
WHEAT CROPPER
FALL CROPPER B
FALL CROPPER T
FALL CROPPER OAT
NEMATILL II

TARGETED COVER CROPS

GRAZE/HAY BETWEEN CASH CROPS

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