

PULSE USA

**PRODUCT GUIDE
2023**

WELCOME

TO ALL OF OUR BUSINESS AFFILIATES,

I hope you find the information contained within this 2023 Pulse USA Product Guide to be valuable as you make your agricultural decisions. Our team works hard every day to ensure we have the knowledge, the resources and the products that are needed by you, our patrons. When we assist our customers in their successes, we are successful in return.

I want to thank everyone who has put their trust in our company and in our products over the past 20 years. Please enjoy the photos on these pages which capture our 20th Anniversary Celebration held in November, 2022. We look forward to the next 20 years of Pulse USA.

Blessings to you in 2023,
Renaë Larson – Manager

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20 YEARS





Pulse USA cover crop aerial application by Schneider Aerial Spraying, Rugby, ND.

COVER CROPS

OUR COVER CROP PROGRAM IS EXPANDING each year with new crop types and species to accommodate the specific goals of your operation. We frequently collaborate with producers and researchers to understand evolving cover crop needs in order to formulate desirable options for you. We work with plant breeders to provide high quality seed options for cover crops and if there is something you are interested in that you do not see listed, please contact us and we would be happy to track it down.

Our goal with recommendations is to achieve your specific goals while creating mixes that are easy to handle and adapted to your geography. Most of our cover crop species are pre-inoculated but some of them must be inoculated prior to planting so we offer a variety of inoculant options for those seeds. Our cover crops are available in bulk, totes and 50# bags. We are excited to work with you to help you achieve your cover crop goals.



Grazer 2.0 Mix at Brian Paul Farm, Rugby, ND

N-Builder

Our most diverse blend to improve soil health in preparation for a subsequent commodity crop.

Grazer

Great blend of grasses, legumes and brassicas recognized for providing a season-long, palatable diet to livestock.

Grazer 2.0

Warm season blend to produce a highly digestible diet for livestock during the summer months.

Trinity

Low C:N ratio blend to help break down crop residues and provide late season cover.

Small Seeded

Easy to handle, great for broadcast and aerial applications.

Salt Tolerant

Great blend for restoring saline acres, designed for soils with EC levels of 8.29 and below.

Pollinator

Annual blend to attract bees, beneficial insects and other pollinators.

Cultivator

50/50 radish/turnip mix for soaking up excess moisture, alleviating soil compaction and creating root channels for air and water movement.

Preventive Plant

Recommended for Preventive Plant acres to utilize moisture, provide late season cover and fixate Nitrogen.

Preventive Plant Grazing

Recommended for Preventive Plant acres considering the November 1st grazing/haying restriction.

There are multiple goals that can be accomplished through the implementation of cover crops. They can be used as a food source for livestock, a shelter for wildlife, a bank for mycorrhizal fungi and so much more. Often, we get the question, "Why should I spend money to plant a cover crop?" For us, cover cropping is more than just soil health. So, follow along with us as we teach you "how you can incorporate a cover crop to both biologically and economically benefit your farm."

Above Ground Biomass

Providing above ground biomass is essential for livestock grazing, wildlife habitats, and attracting pollinators and other beneficial insects.

Living Roots in the Soil

Living roots are vital for accomplishing a number of goals – from promoting mycorrhizal fungi to increasing water infiltration, a living root needs to be in the soil. And it's important to use the right plant species to accomplish these specific goals. For a complete listing of which crops can be used to accomplish specific things refer to our cover crop chart on pages 8 and 9.

Building a Soil Armor

Allows for a reduction (or elimination) of soil erosion, decrease in soil temperatures and evaporative water loss which leads to improved drought tolerance, increase in soil organic matter and water infiltration.

Increasing Soil Fertility

Over time cover crops increase soil organic matter which improves soil structure and its water holding capacity. Adding a legume species to a cover crop will fixate Nitrogen, an essential plant macronutrient. This can reduce the cost of inputs and lower the overall cost of production.

Selecting a Cover Crop

1. Identify Your Goal(s)
2. Determine Your Subsequent Crop
3. Check Herbicide Records
4. **Contact a Specialist at Pulse USA**

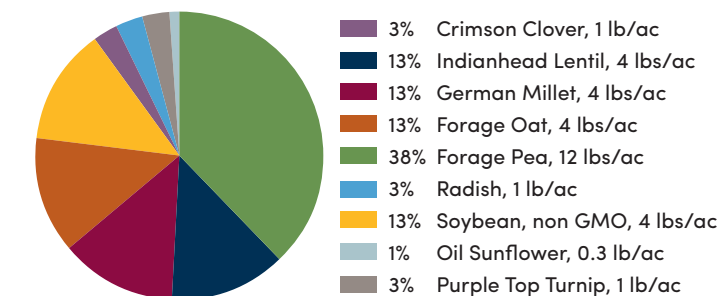
We'll help you decide the rest to get the job done:

- The ideal time to plant
- The best methods for planting
- The appropriate seeds to select

N-Builder



This mix offers a balance of cool and warm season grasses, broadleaves, legumes and brassicas. If you're looking for a mixture to help enhance Nitrogen and build your overall soil health –this is the blend for you! The N-Builder also offers great forage for your livestock.



*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 31.3 lbs/acre

Planting Depth ¾" – 1"

Broadcast Seeding Rate 39 lbs/acre

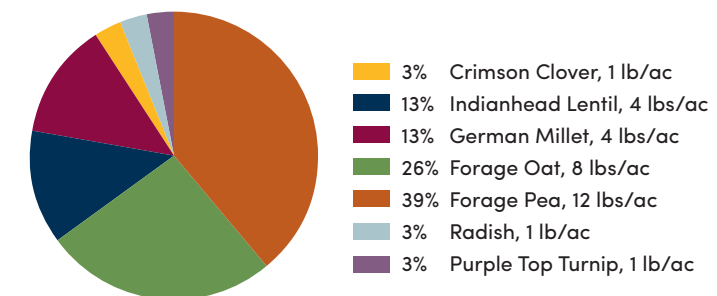
Planting Date May to August

This mix requires inoculant.

Grazer



Grazer is our most popular blend that is designed as a highly digestible and palatable blend for rotational or continuous grazing. Most species in the blend are cool season so grazing can occur later in the year without the crops turning brown at the first sign of cool, autumn temperatures. It fits well for planting early in the year and grazing all season or planting later with extended grazing periods into the winter months. It's also a great soil health promoter.



*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 31.0 lbs/acre

Planting Depth ½" – ¾"

Broadcast Seeding Rate 38 lbs/acre

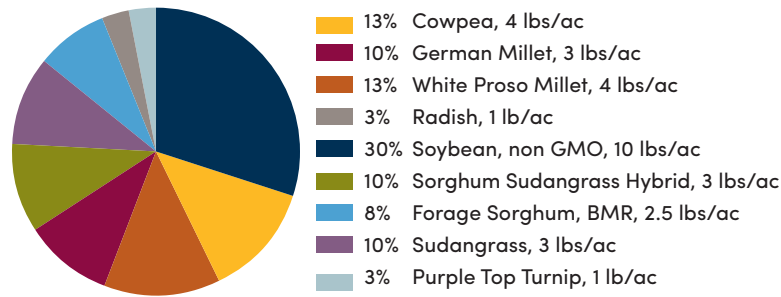
Planting Date April to June

This mix requires inoculant.

Grazer 2.0



Grazer 2.0 is a spin-off of our original Grazer blend. It was designed for planting into warmer soil temperatures and grazing before freeze up. Warm season grasses make up 51% of this blend so higher levels of dry matter intake occur during grazing periods. It's highly palatable and fits well for rotational grazing.



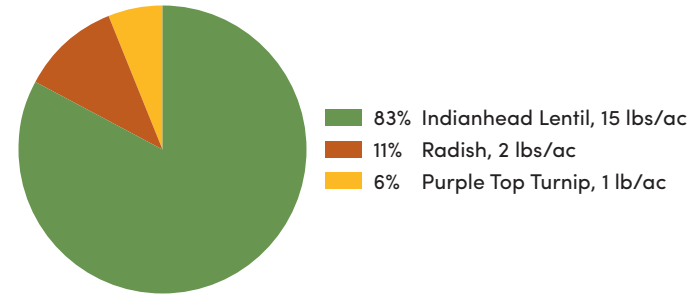
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 31.5 lbs/acre
Planting Depth ½"
Broadcast Seeding Rate 39 lbs/acre
Planting Date June to August
This mix requires inoculant.

Trinity



Trinity is our "simple" brassica and legume blend with cool season components for growth late into the year. It's designed to alleviate soil compaction and soak up moisture. It fits well following small grain harvest in preparation for corn and has a low C:N ratio to help break down crop residue.



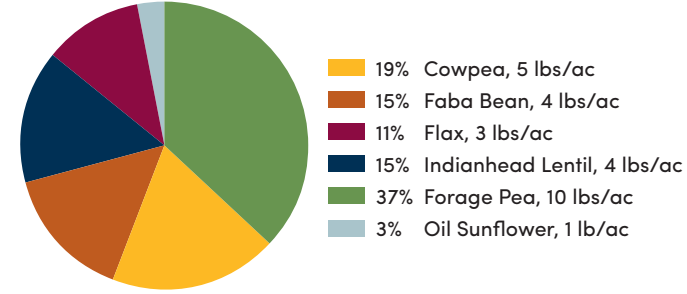
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 18 lbs/acre
Planting Depth ½ - ¾"
Broadcast Seeding Rate 22 lbs/acre
Planting Date July to October
This mix requires inoculant.

Pollinator



The Pollinator is our blend designed for welcoming beneficial species to your fields or gardens. It is an annual blend so its targeted towards being used for a single year. The blend has white, yellow, pink, purple and lavender colored flowers to attract diversity in your pollinators.



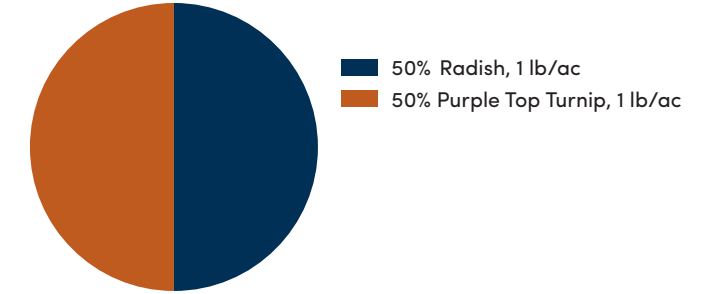
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 27 lbs/acre
Planting Depth ¾" - 1"
Broadcast Seeding Rate 33 lbs/acre
Planting Date April to May
This mix requires inoculant.

Cultivator



Cultivator is our 50/50 radish/turnip mixture. It is a simple solution for soaking up excess moisture, alleviating compaction and creating root channels for air and water movement. The seeding rate could be increased for areas that receive above average precipitation, have high water tables or areas that historically drown out.



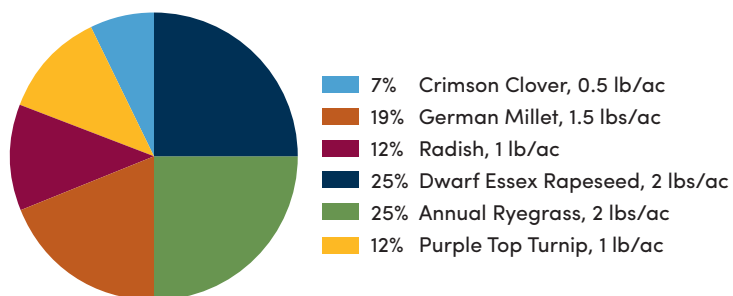
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 2 lbs/acre
Planting Depth ¼ - ½"
Broadcast Seeding Rate 2.5 lbs/acre
Planting Date May to September

Small Seeded



Small Seeded is our blend with the most similar sized seeds which makes it our easiest one to handle. It's specifically designed for aerial or broadcasting applications to provide quick growth to canopy the soil. It fits well flown into standing corn or soybeans and grows late into the season.



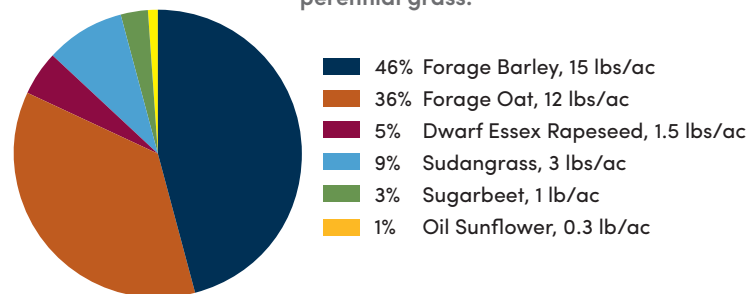
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 8 lbs/acre
Planting Depth ½"
Broadcast Seeding Rate 11 lbs/acre
Planting Date July to September

Salt Tolerant



Salt Tolerant is our blend for restoring saline acres to become more productive and less sour. The components all have certain levels of tolerance and we recommend it to be planted where EC levels are 8.29 and below. Any areas with greater levels should be planted to a salt tolerant alfalfa or a salt tolerant perennial grass.



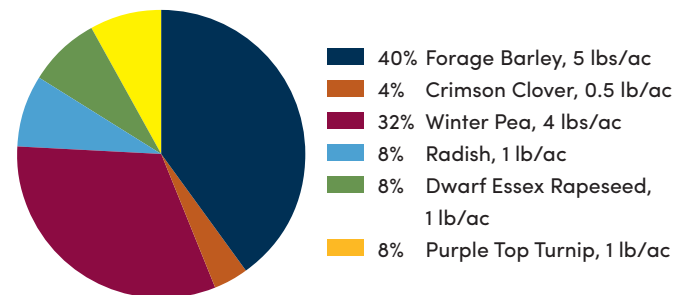
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 32.8 lbs/acre
Planting Depth ½"
Broadcast Seeding Rate 41 lbs/acre
Planting Date June to August

Preventive Plant



Preventive Plant is our blend recommended for Preventive Plant acres to utilize moisture, provide late season cover and to fixate Nitrogen. Since areas with excessive moisture tend to also have saline seeps, we've added barley to help with any saline issues. The inclusion of our winter pea is great for keeping something green out there longer than spring annuals. This mix has approximately 500,000 seeds/acre so you could always increase the seeding rate to provide even more ground cover and soak up more water.



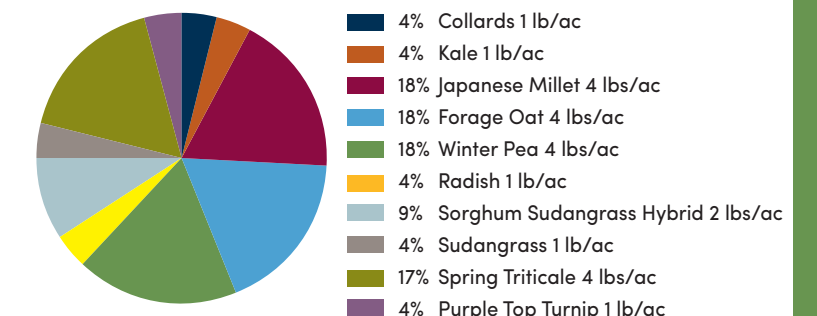
*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 12.5 lbs/acre
Planting Depth ½ - ¾"
Broadcast Seeding Rate 15 lbs/acre
Planting Date April to September
This mix requires inoculant.

Prevent Plant Grazing



Prevent Plant Grazing is designed for Preventive Plant acres with consideration of late season grazing and haying in mind. It is mostly cool season species to ensure that you have adequate forage late in the growing season for your livestock. We do have the option to substitute annuals for winter annuals if you'd like to use up even more moisture the following Spring. The Japanese Millet is great at suppressing weeds, cattle love the sweetness of the hybrid sorghum sudangrass and the Piper sudangrass has relative feed value and plant height as the Japanese Millet for a nice balanced mixture. The inclusion of collards, kale, radish and turnip are going to be great for soaking up moisture and mighty tasty for the livestock.



*Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 23 lbs/acre
Planting Depth ¾" - 1"
Broadcast Seeding Rate 29 lbs/acre
Planting Date April to September
This mix requires inoculant.

Species	Life Cycle	Seeds/lb (000s)	Recommended Seeding Rate (lbs/acre)	Seeding Depth	Nitrogen Fixation	Forage Production	Grazing	Reduce Soil Compaction	Salinity Tolerance	C:N Ratio	Nutrient Scavenging	Weed Suppression	Drought Tolerance	Plant Height	Hard Seed Potential	Species
Alfalfa	Perennial	200	8 - 10	¼" - ½"	Yes	5	5	3	4	Low	4	3	3	24"	Yes	Alfalfa
Balansa Clover	Annual	500	5 - 8	⅙" - ¼"	Yes	5	5	5	3	Low	3	3	1	36"	Yes	Balansa Clover
Berseem Clover	Annual	210	10 - 12	¼" - ½"	Yes	3	5	3	3	Low	5	3	1	24"	Yes	Berseem Clover
Crimson Clover	Winter Annual	150	15 - 20	¼" - ½"	Yes	5	5	3	1	Low	5	3	3	18"	Yes	Crimson Clover
Medium Red Clover	Perennial	275	8 - 10	¼" - ¾"	Yes	3	5	1	1	Low	5	3	3	30"	Yes	Medium Red Clover
Subterranean Clover	Annual	70	10 - 20	¼" - ½"	Yes	5	5	3	3	Low	1	3	5	24"	Yes	Subterranean Clover
White Dutch Clover	Perennial	800	2 - 3	¼" - ½"	Yes	3	3	1	1	Low	5	3	5	8"	Yes	White Dutch Clover
Yellow Sweet Clover	Biennial	250	8 - 10	¼" - ½"	Yes	1	3	3	3	Low	3	3	3	36"	Yes	Yellow Sweet Clover
Faba Beans	Annual	1.1	120 - 150	1½" - 2"	Yes	1	3	3	3	Medium	5	3	1	36"	No	Faba Beans
Forage Peas	Annual	3.5	120 - 160	1" - 2¾"	Yes	3	5	2	1	Low	3	4	2	48"	Yes	Forage Peas
Indianhead Lentils	Annual	18	30 - 40	¾" - 1½"	Yes	3	5	1	1	Low	3	1	5	18"	Yes	Indianhead Lentils
Sainfoin	Perennial	27	25 - 30	¼" - ½"	Yes	4	4	3	1	Low	3	3	3	20"	Yes	Sainfoin
Chickling Vetch	Annual	3	50 - 60	½" - 1½"	Yes	3	3	3	1	Low	4	2	3	40"	No	Chickling Vetch
Common Vetch	Annual	5	55 - 65	½" - 1½"	Yes	3	3	3	1	Low	3	1	3	48"	Yes	Common Vetch
Hairy Vetch	Winter Annual	18	18 - 22	¼" - 1¼"	Yes	3	3	3	1	Low	3	1	3	48"	Yes	Hairy Vetch
Chicory	Perennial	400	5 - 6	⅙" - ¼"	Yes	5	5	5	1	Low	3	3	5	30"	Yes	Chicory
Collards	Annual	175	5 - 8	¼" - ½"	No	5	5	5	1	Low	1	3	5	20"	No	Collards
Flax	Annual	80	30 - 40	¼" - ¾"	No	1	1	1	3	Low	3	1	3	28"	No	Flax
Kale	Annual	130	4 - 6	¼" - ½"	No	3	5	5	1	Low	5	5	3	40"	No	Kale
Mustard	Annual	100	5 - 8	¼" - ¾"	No	1	3	3	1	Low	2	3	4	24"	Yes	Mustard
Phacelia	Annual	225	10 - 12	¼" - ½"	No	2	2	3	1	Low	3	3	4	15"	No	Phacelia
Purple Top Turnip	Annual	150	2 - 4	¼" - ½"	No	1	3	5	1	Low	4	3	2	24"	No	Purple Top Turnip
Radish	Annual	48	4 - 6	¼" - ½"	No	1	4	5	1	Low	4	4	2	24"	No	Radish
Dwarf Essex Rapeseed	Annual	150	4 - 6	¼" - ½"	No	1	4	4	4	Low	4	3	3	24"	No	Dwarf Essex Rapeseed
Sugarbeet	Annual	10	4 - 6	¼" - ½"	No	2	4	5	5	Low	2	3	2	18"	No	Sugarbeet
Forage Barley	Annual	13	90 - 110	¾" - 1½"	No	4	4	3	5	Medium	4	3	4	36"	No	Forage Barley
Forage Oats	Annual	14	64 - 96	1" - 2"	No	5	5	2	3	Medium	4	3	3	36"	No	Forage Oats
Winter Rye	Winter Annual	17	60 - 70	¾" - 1½"	No	5	5	2	5	High	4	3	3	48"	No	Winter Rye
Annual & Italian Ryegrass	Annual	220	12 - 15	¼" - ½"	No	4	4	3	3	Medium	4	3	3	30"	No	Annual & Italian Ryegrass
Spring Triticale	Annual	12	60 - 75	½" - 1½"	No	5	5	3	4	High	4	4	3	42"	No	Spring Triticale
Winter Triticale	Annual	12	75 - 90	1" - 1½"	No	3	4	3	4	High	4	4	2	48"	No	Winter Triticale
Willow Creek Forage WW	Winter Annual	14	85 - 90	1" - 1½"	No	4	4	3	3	High	3	4	3	40"	No	Willow Creek Forage WW
Cowpea	Annual	4	35 - 40	1" - 1½"	Yes	3	5	3	1	Low	3	5	5	30"	No	Cowpea
Mung Bean	Annual	10	8	1" - 1½"	Yes	3	3	2	1	Low	3	3	3	28"	No	Mung Bean
Non GMO Soybeans	Annual	3	50 - 60	1" - 1½"	Yes	3	3	2	1	Medium	2	2	3	36"	No	Non GMO Soybeans
Sunn Hemp	Annual	15	5 - 10	½" - 1"	Yes	2	2	3	2	Low	4	3	5	60"	No	Sunn Hemp
Buckwheat	Annual	15	45 - 50	½" - 1½"	No	1	3	1	1	Medium	5	5	5	30"	No	Buckwheat
Safflower	Annual	13	15 - 25	½" - 1½"	No	2	2	3	5	Medium	4	3	3	34"	No	Safflower
Oil Sunflower	Annual	7	3 - 4	½" - 1½"	No	1	3	3	3	Medium	5	3	1	60"	No	Oil Sunflower
MasterGraze Corn	Annual	1.8	Please Call	1" - 2"	No	3	5	3	1	High	5	3	1	80"	No	MasterGraze Corn
German & Siberian Millet	Annual	150	15 - 25	¼" - ¾"	No	5	4	3	1	Medium	3	4	4	36"	No	German & Siberian Millet
Japanese Millet	Annual	180	15 - 20	¼" - ½"	No	5	4	3	3	High	3	5	4	48"	No	Japanese Millet
Pearl Millet	Annual	80	15 - 20	½" - ¾"	No	5	4	3	2	High	3	4	3	42"	No	Pearl Millet
Red Proso Millet	Annual	80	15 - 25	½" - ¾"	No	3	3	2	2	Medium	3	4	4	30"	No	Red Proso Millet
White Proso Millet	Annual	80	15 - 25	½" - ¾"	No	4	3	2	2	Medium	3	4	4	30"	No	White Proso Millet
Forage Sorghum	Annual	20	6 - 10	¾" - 1¼"	No	4	5	3	3	High	4	4	4	80"	No	Forage Sorghum
Grain Sorghum	Annual	20	Please Call	¾" - 1¼"	No	3	4	2	3	Medium	4	4	4	36"	No	Grain Sorghum
Piper Sudangrass	Annual	44	15 - 25	¾" - 1¼"	No	4	4	2	2	Medium	4	4	4	60"	No	Piper Sudangrass
Sorghum x Sudangrass	Annual	20	20 - 30	¾" - 1¼"	No	5	5	2	3	High	4	4	4	70"	No	Sorghum x Sudangrass
Teffgrass	Annual	1,300	8 - 12	⅙" - ¼"	No	4	4	2	1	High	2	2	3	36"	No	Teffgrass



Garden Mix planted by Karen Lang, Mandan, ND

GARDEN

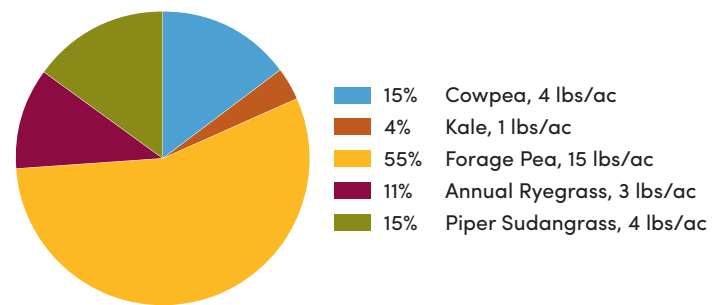
GROWING A GARDEN IS MORE THAN JUST PRODUCING VEGETABLES, IT IS ALSO AN OPPORTUNITY TO IMPROVE YOUR SOIL HEALTH. Planting a cover crop in your garden during or after you've harvested your produce will help improve planting conditions for next year. It can also help to reduce fertilizer inputs, suppress weeds, cycle nutrients and retain moisture over winter. No matter how small or large your garden is we are here to help you be a good steward of the land.

Garden Mix



Our garden mix is designed specifically to provide living ground cover for improving your gardens' soil health. This mix can be planted at the beginning, during or after the growing season

to improve your garden for next year. We recommend leaving the cover crop canopy standing over winter so it can hold snow to increase soil moisture for the following spring. Including legumes in the mix will fixate Nitrogen to be released for next year's garden produce and the grasses will provide biomass to protect against erosion. Our garden mix will help suppress winter annual weeds by shading out the competition.



Amounts are based on percentage of full seeding rate.

Drilled Seeding Rate 0.62 lbs/1000 Ft² (27 lbs/acre)

Planting Depth 1/2" - 3/4"

Broadcast Seeding Rate 0.78 lbs/1000 Ft² (34 lbs/acre)

Planting Date April to October

This mix requires inoculant.



Northern
Pulse Growers
Association



Working For The GROWER

The Northern Tier is the premier growing region and accounts for more than 80% of all U.S. pulse production. U.S. pulse producers supply high quality dry pea, lentils and chickpeas to markets around the globe.

Pulses:

- ✓ Reduce input costs
- ✓ Are water efficient
- ✓ Improve soil health
- ✓ Provide opportunity in global markets

Membership Matters!

The Northern Pulse Growers Association (NPGA) is a membership organization representing Montana & North Dakota pulse producers. The core of the NPGA is our membership - producers and agribusiness partners working together with a common goal of improving the profitability of North Dakota & Montana Pulse Growers. Visit our website for more information & to join today!



Cool Season Forage Plot at Carrington Research Extension Center, Carrington, ND

FORAGES

ANNUAL FORAGES ARE ONE OF OUR SPECIALTIES. We offer cool season, warm season and winter annual crop options in order to fit whatever planting time works for you. We grow several varieties of each crop type so that we can also ensure the maturity and characteristics are the right ones for you. We are always ready to help you with when, why, and how you can utilize an annual forage to achieve your goal(s).

COOL SEASON ANNUALS

Lavina Barley

Lavina barley is a two row, hooded spring forage barley. It was developed by USDA-ARS & the MT experiment station and is recommended in forage, cover crop and wildlife systems. Lavina pairs well with a forage pea to increase protein, tonnage and overall feed value. Barley can grow in EC levels of 8.29 and below, making it a good option in annual cover crop mixes to address salinity issues.

Everleaf® 114 Oats**

Everleaf® 114 is a true spring, black, forage oat with high yield potential. The heading stage is delayed and much of its biomass and quality comes from its extended maturity. It pairs really well with forage peas and is more drought tolerant than Everleaf® 126. We recommend Everleaf® 114 in low-yielding areas.

Everleaf® 126 Oats**

Everleaf® 126 is a true spring, black, forage oat that has really made a name for itself in eastern North and South Dakota. It's bred for high-yielding environments, responds well to added fertilizer and produces high forage yields. The maturity is approximately seven days later than Everleaf® 114.

Proleaf™ 234 Oats***

Proleaf™ 234 is a dual purpose, white oat that gives growers the option to use it for forage or grain. The forage production is slightly lower than the Everleaf® varieties and it beats traditional oat varieties in lodging resistance and grain yields.

TriCal® Surge BRAND Spring Triticale**

Surge is a tall, awnless (completely beardless) variety of spring triticale with excellent vigor. It tolerates cool temperatures and is also drought tolerant. It has a high protein content which makes it a good option for haying, grazing or silage.

Fergie Pea***

Fergie is our newest forage pea variety. It has a white flower, yellow seed and a black helium, which makes it our most unique pea. Fergie has a small seed size, making it ideal for cover crop and forage blends. Fergie has excellent standability and high tonnage. In a forage blend, it will match up best with Everleaf® 114 oat, TriCal® Surge triticale, or Lavina barley.

Max Pea***

Max is a white flowered green forage pea. The white flower is a characteristic of better palatability and digestibility compared to forage peas with colored flowers. It has a sound disease package with resistance to multiple viruses and diseases. Max can be used for cover crop, green manure, forage and wildlife purposes. In a forage blend, it will match up best with Everleaf® 126 oat.

Icicle Winter Pea**

Icicle Winter Pea is an extra small, white flowered, green forage pea that can be planted in the spring or fall. We have found that many areas in the Upper Midwest have winters that are too harsh for us to recommend planting Icicle peas in the fall, but testing is still being conducted. Growers in the Central Plains have been planting it successfully as a true winter pea. Icicle is an excellent fit for spring planting in a cover crop, wildlife or forage blend. It has a late maturity and the seed size is approximately 4,400 seeds/lb, which makes it very economical to plant.

***Unauthorized Propagation Prohibited – PVPA 1994 – U.S. Protected Variety – To be sold by variety name only as a class of certified seed.*
****PVP Protections Currently Pending. To be sold by variety name only as a class of certified seed.*

COOL SEASON ANNUAL FORAGE GUIDE

Variety	Recommended Seeding Rate (lbs/acre)	Seeding Depth	Height at Maturity	CP (%)*	TDN (%)*	RFQ*	Tons/Acre*
Lavina Barley	90 - 110	1" - 2"	27" - 32"	11	63	146	2.0
Everleaf® 114**	64 - 96	1" - 2"	33" - 36"	16	58	128	2.3
Everleaf® 126**	64 - 96	1" - 2"	33" - 36"	16	60	142	2.2
Proleaf™ 234***	64 - 96	1" - 2"	34" - 38"	15	56	124	2.3
TriCal® Surge**	60 - 75	¾" - 1 ½"	38" - 42"	15	64	113	2.2
Fergie***	120 - 130	¾" - 1 ½"	29" - 33"	17	58	124	1.6
Max***	130 - 150	¾" - 1 ½"	29" - 33"	17	58	121	1.6
Icicle**	75 - 90	¾" - 1 ½"	29" - 32"	21	66	171	1.6

KEY

CP Crude Protein
TDN Total Digestible Nutrients
RFQ Relative Feed Quality

*Trial data collected from NDSU CREC location 2019.

**Unauthorized Propagation Prohibited – PVPA 1994 – U.S. Protected Variety. To be sold by variety name only as a class of Certified seed.

***PVP Protections Currently Pending. To be sold by variety name only as a class of Certified seed.

FORAGE BLENDS

Our cool season grasses combined with a forage pea will take your forage crop to the next level. These mixes are designed for haying or chopping. The addition of a forage pea will increase palatability, protein content (additional 2-4%) and overall feed quality. The forage peas will fixate Nitrogen in the soil which is great to improve your soil health.

Oat + Pea

Our wide leaved forage oats and long vined forage peas offer high quality and high tonnage hay for producers. If you're looking for **high tonnage** this is the mix you need. We've seen the best results using a 40% oat and 60% pea ratio. There are no adaptability restrictions since we offer multiple varietal options.

Barley + Pea

Our awnless barley variety tillers more than traditional barley varieties and gives growers greater forage values. The inclusion of a forage pea really kicks things up a notch. This blend won't produce as much tonnage as oats and peas so this is your blend for **high quality**. The barley allows you to plant on areas with saline issues.

Triticale + Pea

Our forage triticale and forage pea blend is an excellent option for producers looking for a fast growing hay crop. Two key tips with this blend is to plant early and cut early. Triticale is early emerging and quick growing. The best time to cut this blend is when the triticale reaches the boot stage. Its early maturity gives you the **option for double cropping**.

Winter Triticale + Winter Pea

Our winter triticale and winter pea blend are recommended for Fall seeding in areas with mild winters. It works well following cool season grain or forage harvest since it can be planted in late August to early September. The seed size of Icicle winter pea is extremely small so it allows producers to plant this blend at lower seeding rates while still achieving adequate plants per acre.



Super company! Kim at Pulse worked with me to develop a custom grazing mix with soil building as the primary goal, they help me utilize existing seed that I had and even figured mix ratios for me to follow as I added my seed to theirs. Great germination and a huge biomass! I'll be buying my seed from them again.

- **Steve Hill** of Sunny Hill Ranch, Montana Creek, Alaska



“I like that the fact the Super Sugar is a fine-stemmed super leafy plant that works well for me in a two-cut system providing excellent tonnage and fast drydown in the windrow.”

– **Dustin Frey** Frey Angus Ranch, Granville, ND

WARM SEASON ANNUALS

MasterGraze Corn

MasterGraze Corn is a top-quality forage corn. It's an excellent choice for haylage, baleage, silage or grazing. This variety produces high tonnage for a short season crop. MasterGraze is highly digestible and contains a high sugar content, which makes it extremely palatable.

German Millet

German Millet is a warm season annual that is exceptionally versatile for cover crops, forage or wildlife. It produces a single cutting with the highest tonnage and high protein compared to other millets. It helps build organic matter and improve soil health in cover crops. It also attracts wildlife for feed. It's a low water user that fits well in drier environments.

Hybrid Tifleaf III, Pearl Millet

Tifleaf III is a hybrid pearl millet used for multiple cuttings or for rotational grazing. It produces a high quality forage and has good disease resistances. It's great for managing soil erosion and to build soil structure.

Super Sugar, Sorghum X Sudangrass

Super Sugar has fine, sweet stems that stay sweet late into its life cycle, increasing palatability for livestock. It has quick regrowth making it an option for multiple cuttings or rotational grazing. This hybrid has a high leaf to stem ratio and grows well in drier conditions.

Nutri-King BMR 6, Sorghum X Sudangrass

Nutri-King BMR 6 requires low water, grows quickly and has high yield potential. The brown midrib trait (BMR) reduces lignin which creates higher digestibility for your livestock. Energy will increase on this variety in the early boot stage as sugar forms in the stalks and leaves.

GW-400 BMR, Forage Sorghum

GW-400 BMR has a sweet juicy stalk and produces a high quality forage. It carries the BMR 6 gene so lignin levels are reduced which improves its digestibility and palatability, very similar to corn silage. However, compared to corn silage, it requires less water and inputs than corn so it's an economical and quality alternative.

GW- 1160 Grain Sorghum

GW-1160 is our earliest maturing variety of grain sorghum with good, proven adaptability to the Upper Midwest. It has an excellent disease resistance package which includes Downy Mildew and Fusarium. This variety produces dependable yields even under stressful conditions. Grain sorghum is commonly referred to as "milo."

Piper Sudangrass

Piper Sudangrass requires little moisture and has good drought tolerance. It has an impressive root structure, making it a viable option as an erosion management tool. Piper works well in saline soils so we include it in our Salt Tolerant mix. It's good for forage, grazing, cover crops and wildlife. It's especially attractive to wildlife when it reaches full plant maturity because of its height and seed head.

Japanese Millet

Japanese Millet is fast growing, so it is great at suppressing weeds late in the growing season. Japanese Millet has good re-growth potential so a second cutting is a possibility when planted early in the growing season. It grows well in areas that receive moderate to high levels of annual precipitation and on heavy, wet soils.

Siberian Millet

Siberian Millet is a foxtail type and is the fastest maturing millet. It is used for single cutting hay. It is very drought tolerant and grows well in hot temperatures.

Teffgrass

Teffgrass is fast-growing and high-quality forage ideal for horses, dairy and beef cattle. It is relatively easy to grow and requires very little water. It is important to plant at a shallow seeding depth into a firm seed bed to ensure proper plant growth. It is often recommended to roll seeds prior to planting if they are not firm enough. Teffgrass can be planted with first year alfalfa since the alfalfa would not compete much the first year, but it is generally not recommended to use Teffgrass in cover crop and grazing mixtures due to its inability to compete.

WARM SEASON ANNUAL FORAGE GUIDE

Variety	Recommended Seeding Rate (lbs/acre)	Seeding Depth	Seeding Date	First Cutting	Second Cutting	Silage	Grazing	Height at Maturity ³	Crude Protein (%)
MasterGraze Corn	Please Call	1 ½" - 2"	June - August	N/A	N/A	N/A	Excellent	65" - 72"	12 - 14
German Millet	15 - 25	¼" - ¾"	June - August	60" - 65"	N/A	N/A	Average	34" - 38"	10 - 13
Hybrid Tifleaf III	15 - 20	½" - ¾"	June - August	66" - 68"	N/A	N/A	Good	38" - 42"	11 - 13
Super Sugar	20 - 30	1" - 1 ¼"	June - August	40" - 45"	75" - 80"	68" - 72"	Good	72" - 80"	11 - 13
Nutri-King BMR 6	25 - 35	1" - 1 ¼"	June - August	40" - 45"	75" - 80"	68" - 72"	Excellent	72" - 80"	11 - 13
GW-400 BMR	6 - 10	1" - 1 ¼"	June - August	N/A	N/A	90" - 95"	Good	90" - 96"	10 - 11
GW-1160	Please Call	1" - 1 ¼"	June - August	N/A	N/A	N/A	N/A	N/A	N/A
Piper Sudangrass	15 - 25	½" - 1"	June - August	50" - 55"	78" - 80"	N/A	Good	70" - 75"	10 - 12

³Based on 16" of in-season moisture

WINTER ANNUAL GRAINS & FORAGES

Hazlet Winter Rye

Hazlet Winter Rye is a winter hardy, fast-growing, cereal crop. A key attribute of rye is the natural allelopathic affect which inhibits the growth and reproduction of certain weed species. The massive root structure and winter hardiness make it an excellent cover crop option in preparation for soybeans.

TriCal® Flex 719 BRAND, Winter Triticale**

Flex 719 is an awnleted (reduced beard length) variety from the TriCal® program. It has won many forage trials over the last few years for both tonnage and feed values. Flex 719 has good straw strength and can get very tall, which increases tonnage. With good winter survival, it's an excellent fit for the Upper Midwest.

Willow Creek Winter Wheat

Willow Creek is a forage winter wheat that was developed by Montana State University. This tall, late-maturing, fine-stemmed



Willow Creek Winter Wheat at Riverview Farm, Hazelton, ND

winter wheat offers great forage characteristics. Willow Creek is beardless and highly palatable with good winter hardiness. Willow Creek is a good option for delaying turnout on pastures in the spring.

WINTER ANNUAL FORAGE GUIDE

Variety	Recommended Seeding Rate (lbs/acre)	Seeding Depth	Seeding Dates	First Cutting	Grazing	Height at Maturity ³	Crude Protein (%)
Hazlet	60 - 70	¾" - 1 ½"	September	40" - 45" ¹	Excellent	48"	9 - 11
Flex 719	70 - 90	1" - 1 ½"	September	40" - 45" ¹	Average	48"	10 - 12
Willow Creek	60 - 90	1" - 1 ½"	September	40" - 45" ¹	Good	40"	13 - 14

¹Days to first cutting after emergence in the spring, ³Based on 16" of moisture.



White Proso Millet at Alvin Braun Farm, Bismarck, ND

“I really like the early order discounts that they offer on their forage crops. And the pay when you pick up option that Pulse USA offers on their seed.”

– **Casey Schlosser**

Farmer, McKenzie, ND



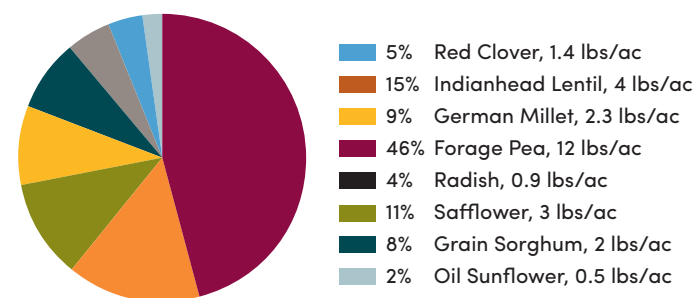
Crowd Pleaser Wildlife Mix at Pulse USA Plot, Bismarck, ND

WILDLIFE

Upland Game



Upland Game is our blend for the avid bird hunter. It's full of plant species that birds love to feed on and take shelter in. It has a short canopy height for them to nestle in and also makes it easier for the hunter to walk through.



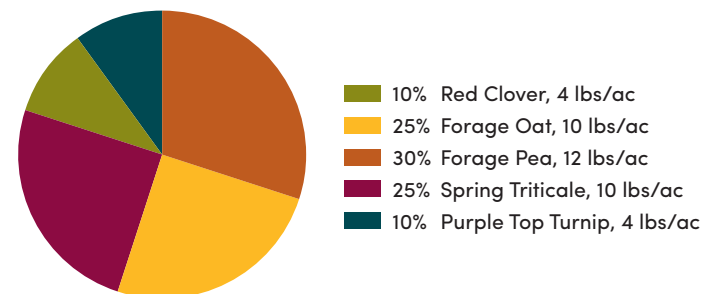
Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 26.1 lbs/acre
 Planting Depth 1/2" – 1 1/2"
 Broadcast Seeding Rate 33 lbs/acre
 Planting Date May to August
 This mix requires inoculant.

Cool Season



Cool Season is our mix for planting in cooler temperatures either early in the spring or later in the fall. It's an excellent source of protein and other nutrients for all types of wildlife. If planted in the fall, it produces a canopy height optimal for hunting over during the winter. The plant species will stay green longer so animals have more to feed on over winter.



Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 40 lbs/acre
 Planting Depth 1" – 1 1/2"
 Broadcast Seeding Rate 50 lbs/acre
 Planting Date April to May, end of August
 This mix requires inoculant.



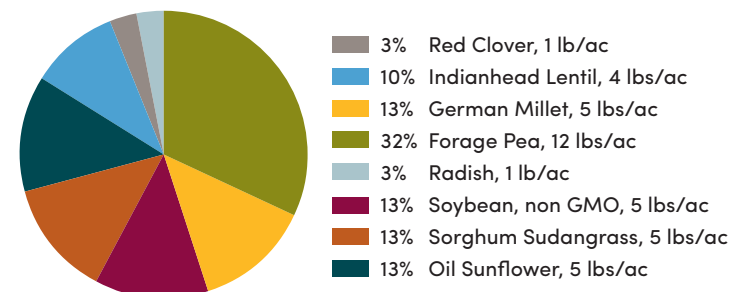
Along with having a wonderful variety of high-quality seed, Pulse USA has great staff to work with. They are full of knowledge, helpful, resourceful, and happy to help you pick out or create your own custom wildlife mix."

– Darcy Fettig, Bismarck, ND

Crowd Pleaser



Crowd Pleaser is our mix for satisfying both deer and game birds. We seed it at a high rate to offer substantial feed to wildlife. It produces a nice thick stand and young birds enjoy the regrowth early in the spring.



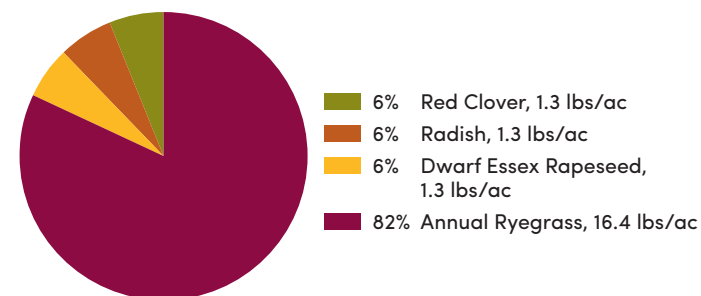
Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 38 lbs/acre
 Planting Depth 1" – 1 1/2"
 Broadcast Seeding Rate 48 lbs/acre
 Planting Date May to August
 This mix requires inoculant.

Throw & Grow



Throw & Grow is our mix for the hunter that seeks the thrill but has limited access to planting equipment. It's easy to handle and was designed specifically to be broadcasted. We do recommend a light raking to increase seed to soil contact if possible.



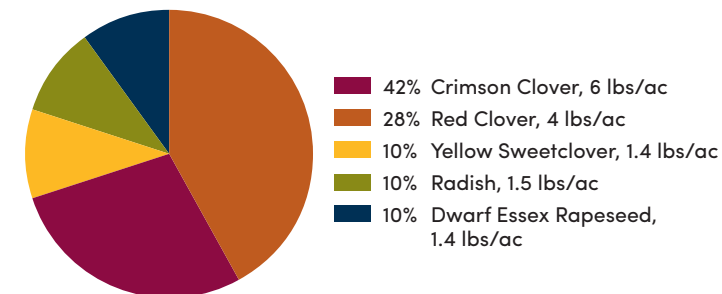
Amounts are based on percentage of full seeding rate

Broadcast Seeding Rate 20.3 lbs/acre
 Planting Date April to October

Clover



Clover is our mixture that combines all of the best clovers we offer. It has high nutritional values and is geared to attract deer. It has an extremely small seed size so it's another great fit for broadcasting.



Amounts are based on percentage of full seeding rate

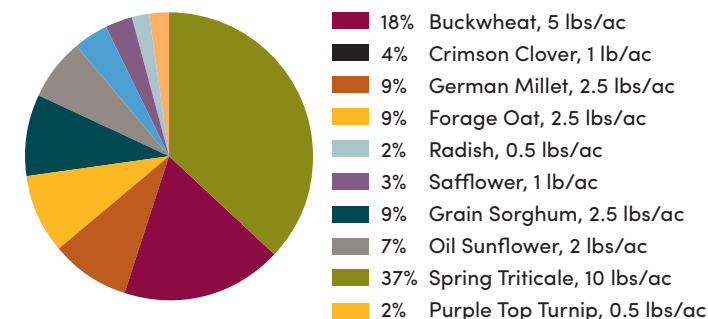
Drilled Seeding Rate 14.3 lbs/acre
 Planting Depth 1/4" – 3/4"
 Broadcast Seeding Rate 18 lbs/acre
 Planting Date April to May or end of August
 This mix requires inoculant.

Habitat



Habitat is our mix that creates a perfect dwelling for game birds with its tall height. It produces a lot of seeds that birds can forage on all winter. The tall species in this mix help to hold birds in the plot while you're hunting.

We've planted this mix in our plot at the office and see pheasants and other birds find shelter in it for months.



Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 27.5 lbs/acre
 Planting Depth 1" – 1 1/2"
 Broadcast Seeding Rate 34 lbs/acre
 Planting Date May to August

OUR WILDLIFE MIXES ARE SPECIFICALLY FORMULATED FOR THE UPPER MIDWEST WINTERS. We consider the needs of both the animal and feed to create our mixtures. Whether you are trying to attract big game, upland birds or beneficial insects, we can provide the right mix for you. We can also work with you to create a custom wildlife blend for you. To ensure a successful plot, we also offer tips for planting and upkeep.

Upland Game

Short canopy height best suited for hunting game birds.

Cool Season

High source of protein and nutritional values for feeding.

Crowd Pleaser

Thick, luscious mix that keeps both deer and game birds fed for an extended period.

Throw & Grow

Easy mix to handle if planting equipment is a limiting factor.

Clover

Highly nutritional mix targeted for attracting deer.

Habitat

Tall height with a dense canopy off the ground to provide adequate shelter.



Wheatgrass Pasture Mix

PASTURE & CONSERVATION

WE UNDERSTAND THE VALUE OF A PASTURE as part of your livestock management practices and the role it plays in conservation management. We provide a wide range of options for your pasture and conservation seed needs including NRCS recommendations, CRP and custom mixes.

Intermediate Wheatgrass

Intermediate Wheatgrass is a long-lived cool season grass used for pasture and hay production and is often used in areas with limited moisture due to its deep root system. It is palatable to all livestock classes and wildlife.

Pubescent Wheatgrass

Pubescent Wheatgrass, similar to Intermediate Wheatgrass but has short, stiff hairs on the seed heads. Slightly more drought tolerant than Intermediate Wheatgrass.

Slender Wheatgrass

Slender Wheatgrass is a short-lived, cool season grass that establishes quickly but then allows other plants a chance to establish. Slightly tolerant of saline soils.

Western Wheatgrass

Western Wheatgrass is a long-lived, cool season grass that is widely used for erosion control and revegetation of saline and alkaline soils. It has high forage quality for pasture and rangeland seeding.

Meadow Bromegrass

Meadow Bromegrass is an introduced, long-lived cool season perennial bunchgrass with short rhizomes. It is well suited for pasture and has excellent forage quality. It is highly palatable to all classes of livestock and wildlife. Meadow Bromegrass is often recommended to plant with alfalfa for hay and pasture where moisture is available.

Meadow Fescue

Meadow Fescue is a cool season perennial grass with excellent winter-hardiness. It can tolerate wet soils better than most common forage grasses.

Orchardgrass

Orchardgrass is a cool season, long-lived bunchgrass that commonly forms clumps by tillers. It is often used in pasture and hay mixes because it establishes rapidly and has excellent regrowth with adequate moisture. An excellent option for use with alfalfa or clovers for hay or pasture.

Tall Fescue

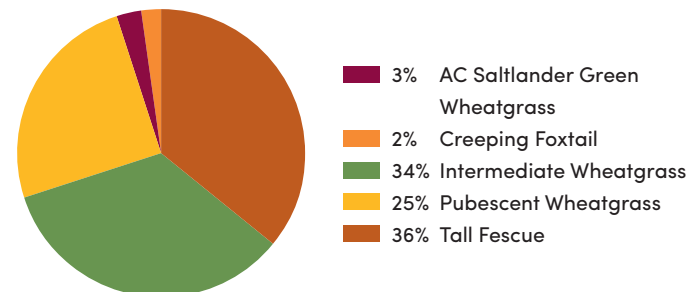
Tall Fescue is an introduced, easy to establish perennial bunchgrass that is robust and long-lived. It is often planted for forage and erosion control. Tall Fescue produces high forage yields and is persistent during hot summer conditions. The variety in our Premium Pasture Mix is endophyte free.

AC Saltlander Green Wheatgrass

AC Saltlander Green Wheatgrass is a hybrid perennial forage grass that is tolerant of high salinity soils and can grow where few other plants will. It spreads through rhizomes with a creeping root system and can compete with undesirable plants in saline areas. It's palatable and nutritious for livestock as well.

Salt Grass Mix

Our custom mix is for those soils that typically drown out or have high salts. It helps to reclaim salty areas while giving you some nice forage production. It's typically one good cutting per year and it'll stick around for a long time. The variance in species helps to alleviate the concerns of having high salt levels transfer into the biomass resulting in feeding issues.

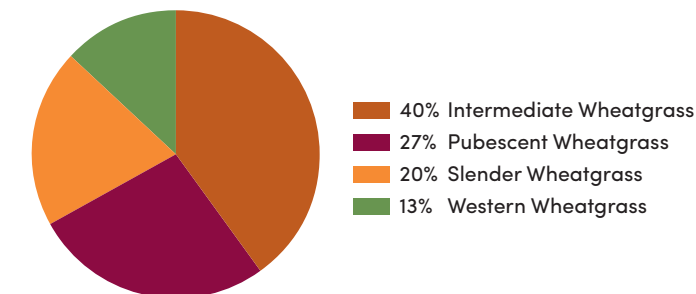


Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 15 lbs/acre
Planting Depth ¼ "

Wheatgrass Pasture Mix

Our custom mix is designed for areas that experience drought conditions. It's great for a single cutting in drier years and, if given adequate moisture, it could re-grow for multiple cuttings. It'll come back for years and years so its longevity makes it economically appealing.

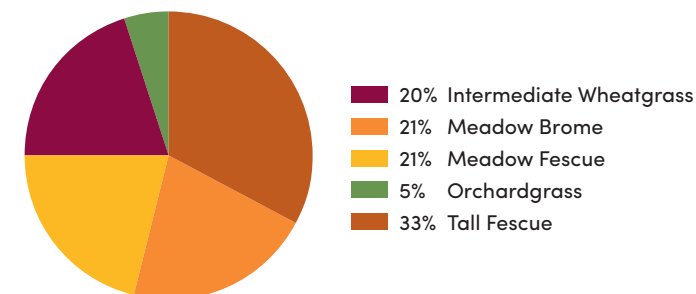


Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 15 lbs/acre
Planting Depth ¼ "

Premium Pasture Mix

Our custom mix that is designed as our "top of the line" option. It should go on your better ground so it can produce multiple cuttings and/or grazings. If you're in a low-yielding arid climate, we would recommend our Wheatgrass Pasture Mix.



Amounts are based on percentage of full seeding rate

Drilled Seeding Rate 19 lbs/acre
Planting Depth ¼ "



First Year Wheatgrass Pasture Mix at Rob Andahl Farm, Bismarck, ND



**RELIABLE
TRUSTED
QUALITY**

With EXCEED® brand inoculants you can always count on quality, reliable products at a great price with exceptional service.

Whatever crop you are planting, Visjon Biologics manufactures inoculant formulations for every legume.

Contact your Pulse USA representative to learn more.



BEST PRACTICES FOR INOCULANT USE



Do consider the field you are planting, what is the legume and inoculation history? What is the soil pH? Soils that have a pH of less than 5.5 require inoculation every time. If it has been 4 years since the legume was grown in this field, be sure to inoculate.



Do use the correct inoculant for the legume you are planting. Each legume type has a specific rhizobium strain that is effective in fixing nitrogen for that legume. Using the correct strain is essential for nodulation formation.



Do use fresh inoculant. Be sure to check the expiration date on your inoculant package. Rhizobia in the soil can become ineffective over time. Although they may remain good nodulators, they can become lazy and not fix nitrogen effectively. Fresh rhizobium will maximize yield benefits as these rhizobia will out-compete the indigenous rhizobia in the soil.



Do consider double inoculating with both on-seed and in-furrow applications. This is especially important when planting in fields that have not grown the legume you are planting, when the pH is less than 5.5 or when you are planting into dry soil.



Do use clean equipment and tanks. It is recommended that you clean your inoculant tank weekly to ensure no remaining residue or fungal growth is present, which could be detrimental to the rhizobium.



Don't use tap water with inoculant. Always use non-chlorinated water. Chlorine has been added to most public water supplies and will be harmful to the rhizobium. If you do not have access to non-chlorinated water, you could optionally use de-chlorination tablets or allow chlorine to dissipate by leaving water in a clean, open container for 24 hours.



Don't leave inoculant or inoculated seed in direct sunlight. Rhizobium are living organisms that need proper care to insure viability. Store inoculant between 40° and 77° F and in areas that will not be fumigated. Do not open package until ready to use and do not allow product or packaging to become wet or exposed to high humidity. Never allow inoculant product to freeze.



Don't wait too long before planting. Inoculants used in conjunction with extenders may have longer planting windows. However, in farmer-applied and planter box treatment, be sure to plant inoculated seed within 24 hours of being inoculated or within 6 hours if the seed has been coated with a fungicide.



Don't mix inoculants directly with fertilizers. Some types of fertilizer can be toxic to rhizobia. Never mix inoculant with any kind of fertilizer or pesticide without first referring to Visjon Biologics compatibility charts.



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visjonbiologics.com

MADE IN THE USA

Visjon Biologics is a family-owned and operated company.
REV1002621 Exceed is a registered trademark of Visjon Biologics.

Soybeans



EXCEED^{SAR} for Soybeans Plant Defense Booster

- An increase of 3.8 bushels over the non-inoculated control was demonstrated in replicated Midwest trial locations.
- By disrupting the life cycle of the J1 and J2 soybean cyst nematode, Exceed^{SAR} can alter the effect the nematode has on young soybean plants.

Package size: 1x500, 2x250 and 4x50

EXCEED^{LIQ} Traditional Liquid for Soybeans Superior Legume Inoculant

Package size: 1x200 and 4x50

EXCEED^{PEAT} Granulated Peat for Soybeans Superior Legume Inoculant

Package size: 40 lb bag and 520 lb tote

EXCEED^{STIC} Stic for Soybeans Superior Legume Inoculant

Package size: 1500# and 300# Treat size

EXCEED^{PEAT} Peat for Soybeans Superior Legume Inoculant

Package size: 1500# and 300# Treat size

Pulse Crops



EXCEED^{SAR} for Garbanzo Beans Plant Defense Booster

- By disrupting the life cycle of the nematode, Exceed^{SAR} can alter the effect the nematode has on young garbanzo bean plants.
- The Exceed^{SAR} mode of action enables the seed to germinate quickly and stimulates plant hormones responsible for root formation and development.

Package size: 1x200 and 4x50

EXCEED^{LIQ} Traditional Liquid for Peas & Lentils Superior Legume Inoculant

Package size: 1x200 and 4x50

EXCEED^{PEAT} Granulated Peat for Pulse Crops Superior Legume Inoculant

Package size: 40 lb bag and 520 lb tote

EXCEED^{STIC} Stic for Pulse Crops Superior Legume Inoculant

Package size: 1500# and 100# Treat size

EXCEED^{PEAT} Peat for Pulse Crops Superior Legume Inoculant

Package size: 1500# and 100# Treat size

Forage Crops



EXCEED^{PRECOAT} PreCoat Superior Legume Inoculant

- Advantages of Exceed^{PRECOAT}**
- Increased yields
 - Increased nutrient use efficiency
 - Superior seed adhesion

Available for: Alfalfa Sweet Clover, True Clover, Alfalfa/True Clover Combination

Package size: 5,000# and *100# Treat Size

*Alfalfa/True Clover Combination Only

EXCEED^{PEAT} Peat for Forage Crops Superior Legume Inoculant

Exceed^{PEAT} Peat for Alfalfa, True Clover, Bird's Foot Trefoil, Arrowleaf, Subterranean Clover, Sainfoin, Garden Combination, Lupine and Crownvetch. All Visjon Biologics Peat products, excluding Lupine and Crownvetch, are OMRI Listed. Specialty strains also available.

Package size: Varies by product

Visjon Biologics offers the largest selection of OMRI Listed products in the Inoculant industry. (20 currently listed)

Visjon Biologics is a family owned and operated company.



Made In USA



Fairgrounds™ Turf Mix, Bismarck, ND

LAWN & TURF

PICKING THE RIGHT GRASSES FOR YOUR LAWN IS KEY to a vibrant and healthy lawn. We provide lawn and turf seed recommendations based on the light and moisture availability of your planting area. We are happy to assist you in picking the right grass seed for your lawn or turf.

Kentucky Bluegrass

Kentucky Bluegrass is known for producing dense, lush lawns under ideal conditions. "KBG" as it is known, grows most vigorously during the cool seasons of fall and spring. It has a relatively shallow root system and needs more maintenance during hot, dry conditions. This shallow root system of rhizomes helps the grass spread and heal bare spots in the lawn. Prefers direct sunlight but can tolerate partial shade.

Improved Kentucky Bluegrass

Improved Kentucky Bluegrass is designed to withstand more intense lawn maintenance than the public variety of Kentucky Bluegrass. It is more resistant to grass diseases and can withstand more fertilization without the risk of disease.

Fine-leaf Perennial Ryegrass

Fine-leaf Perennial Ryegrass is a turf type cool season grass that flourishes where summers are moderate and winters are cool. It is among the fastest turf grasses to get established, but has a slow spread once established.

Creeping Red Fescue

Creeping Red Fescue is a cool season perennial grass with a very fine texture. It has the ability to spread through rhizomes (underground shoots), allowing it to fill bare spots and repair damaged turf, living up to the term "creeping." It's a good choice for dry shaded areas and may require more water in full sun areas.

Fairway Crested Wheatgrass

Fairway Crested Wheatgrass is a cool season long-lived perennial bunchgrass with good soil stabilization. It spreads by rhizomes that help stabilize the soil and spread to areas that need repair. It is easy to establish and has excellent seeding vigor.

Turf Type Tall Fescue

Turf Type Tall Fescue is a cool season perennial grass that is adaptable to a wide range of climates with tolerance for cold, heat, drought and shade. With roots 2-3 feet deep, it can withstand heat and drought but is limited in ability to spread and repair itself.

Chewings Fescue

Chewings Fescue is a bunch-type fine fescue perennial grass that is easy to grow. It tolerates drought, acidic soil, and shade but is not recommended for high traffic areas.

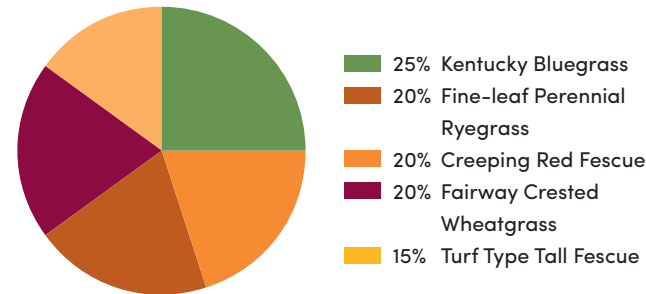
Hard Fescue

Hard Fescue is a fine-bladed cool season perennial bunch grass that is best used in shaded areas of lawn. It's best to use in low traffic areas of the lawn. It can be left without mowing and has a high tolerance for drought, shade and cold temperatures.

Fairgrounds™ Turf Mix



A Millborn mix that's composed of both field and turf species so it's **more drought tolerant** than others. This mix can be used for tree belts, out-buildings and other non-irrigated areas. Fairgrounds™ matches closely with older seedings to help with any repair work or patching up.



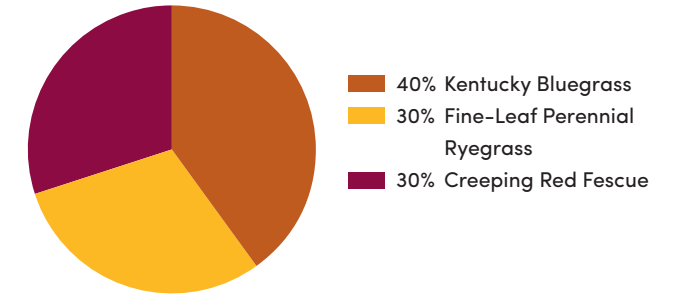
Amounts are based on percentage of full seeding rate

Seeding Rate 2 lbs per 1000 sq ft

Landscapers™ Turf Mix



A Millborn mix that is a **more economical** version of the Quality Sun and Shade™ mix. The combination of Fescue, Ryegrass and Bluegrass result in a turf that will stand up to the hottest summers and the harshest winters in both sunny and shady areas of your lawn.



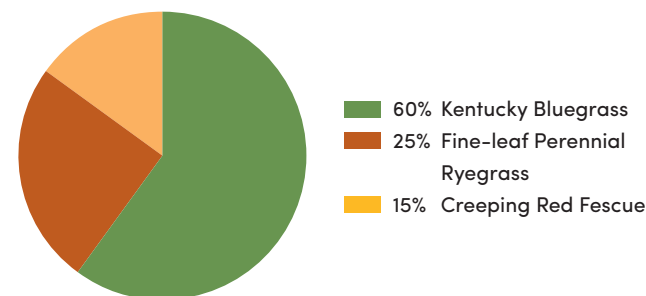
Amounts are based on percentage of full seeding rate

Seeding Rate 5-6 lbs per 1000 sq ft

Quality Sun & Shade™ Turf Mix



A Millborn mix that is considered the "go-to" for lawns. It has **durability and long-lasting quality**. The formulation of this mix is what makes it unique and perfect for any situation. If you're looking for a high quality, attractive, easy-to-take-care-of lawn: this is the perfect mix for you.



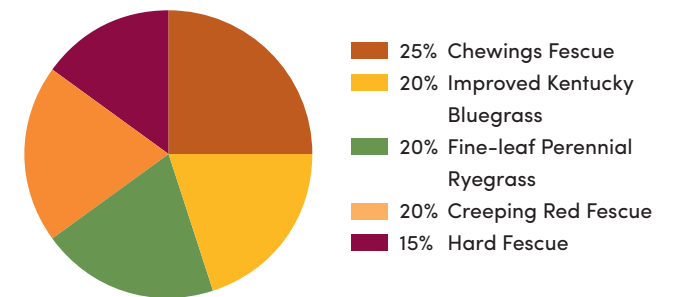
Amounts are based on percentage of full seeding rate

Seeding Rate 5-6 lbs per 1000 sq ft

Supreme Shade™ Turf Mix



A Millborn mix for those **areas that are mostly in shade** or transition. It requires only 3 to 4 hours of filtered sunlight per day for optimal growth.



Amounts are based on percentage of full seeding rate

Seeding Rate 6-7 lbs per 1000 sq ft



Fairgrounds™ Turf Mix

In the spring of 2021, I planted Pulse USA Fairgrounds Turf Mix on a portion of my front yard that was in need of a replant. The result was a plush and picture-perfect lawn. There was such a distinct difference in both color and quality between the previously established grass and the new Pulse USA grass that I went back to purchase more of the Fairgrounds Turf Mix from Pulse. I spread the mix throughout the remainder of my yard in late summer and the result has been astonishing. I take great pride in my yard and can tell you my lawn has never looked so good. I highly recommend working with the experts at Pulse USA. They will assist with any lawn improvements you may need or lawn concerns you may have.

- Kurt Ternes Bismarck, North Dakota



FIELD PEAS

FIELD PEAS ARE AN ANNUAL, COOL SEASON LEGUME (PULSE) CROP grown on conventional and organic acres worldwide. Pulse crops are where our story began and remain an important part of our company culture.

With an extensive network of field pea growers and dealers across the Midwest and beyond, we have the ability to service farmers across the United States. We have a sophisticated genetic selection process, working with plant breeders across the globe to select genetics that growers and industry processors desire.

The primary markets for field peas traditionally include livestock feed, pet food, and human consumption. The market for human consumption is expected to increase as pea protein becomes more widely used in nutrition products, plant-based meat products, and plant-based dairy products. The use of pea protein isolates are being recognized as a high quality and protein rich alternative ingredient for vegans, vegetarians, lactose-intolerant consumers, and individuals looking for nutrient-rich protein alternatives.

FAQS

When should field peas be seeded?

Early. Fields peas can germinate at soil temperatures of 40°F so they should be the first crop you plant. Delayed seeding can greatly reduce yields by increasing the risk of heat stress and disease issues.

What is the seeding rate?

Field peas are seeded on a pure live seed (PLS) basis at a recommended seeding rate of 350,000 PLS/A on dryland. High-yielding environments could be pushed to higher rates of up to 400,000 PLS/A and irrigated fields are recommended at 400,000-420,000 PLS/A. We encourage you to **always purchase Certified seed** from a licensed grower so you can plant your seed, on a PLS basis, in confidence. Please see the following calculation as an example.

Targeted PLS per Acre / (Seed Count x Germination) = Seeding Rate (lbs/acre)

$$350,000 / (2,224 \times .96) = 163.93 \text{ lbs/acre}$$

Certified
FIELD PEA LG SUNRISE
Lot Number : PUSA-PB-18
Purity : 99.99%
Other Crop : 0.00%
Weed Seed : 0.00% Germination: 96.00%
Inert Matter : 0.01% Date: 08/2018
Hard Seed : 0.00%
Approx. 2,224 seeds/lb
Origin: ND
#R72062
PULSE USA INC
2002 NORTHERN PLAINS DR
BISMARCK, ND 58504
Unauthorized Propagation Prohibited
PVPA 1994 – U.S. Protected Variety

Divide lbs/acre by 60 to convert to bushels per acre

$$163.93 / 60 = 2.73 \text{ bushels per acre}$$

What type of soil is best?

Field peas should be planted on well-drained soils. Peas respond well to in-season moisture but they do not grow well if your soils become heavy and water-logged. Soil pH levels should be between 5.5 and 8.0.

What are their nutrient needs? Do I need to fertilize?

Field peas typically require very little added fertilizer. Broadcasting Phosphorus, Potassium and Sulfur is commonly recommended. Peas should be planted into fields with approximately 35-40 lbs/acre of available Nitrogen (N). Nodulation is inhibited once available N exceeds 50 lbs/acre. Do not place fertilizers high in salts directly on/with inoculum to avoid harming the rhizobia in the inoculant.

Do I need to inoculate my seed?

Yes. Peas must be inoculated each time they are planted. If you've planted peas before, you still need to inoculate because the rhizobia will not have remained viable in the soil for proper nodulation to occur again. Liquid formulations are not recommended for drier areas.

Can I use my soybean inoculant for peas?

No. Field peas and soybeans have different strains of rhizobia

that are specific to each crop. Using an incorrect strain of inoculant has the same effect as not using any.

How deep should I seed them?

We recommend 2-3" deep as long as you have 0.50" of soil moisture above the seed. In sandy, light soils its best to plant at a deeper depth in order to reach soil moisture.

Should I roll the field?

If you have wet heavy soils and/or incorporate tillage on your farm we don't advise this practice. If you no-till it is acceptable after planting. The optimum time for rolling is post-emergence at the 3-5 leaf stage.

What if my peas are hit by frost?

Peas are tolerant of frost. Growing points on a field pea are referred to as nodes. The first node stays underground until the plant reaches the 4th node stage so if you have a frost prior they'll be able to regrow. Repeated frost periods may be detrimental to survival.

What kind of herbicides can I use?

Pre and post-applied herbicides are available. We encourage you to contact us or your local agronomist for recommendations. Identifying node staging is important as it determines the appropriate time to apply herbicides. Most broadleaf herbicides perform best when applied at the 2-5 node stages.

How can I manage diseases?

Best method of control is seed treatment. We recommend to use fungicide each year. A diverse crop rotation and disease-free Certified seed are also key.

How are peas harvested?

Straight cutting is excellent and commonly done using a flex head with draper bars. Swathing is also an option. Commodity peas should be harvested around 15% moisture while seed peas should be harvested closer to 18%.

Is handling and storing similar to other crops?

Peas are extremely sensitive and should be transferred as little as possible. The ideal moisture for storing is 13.5%. If you have hopper bottom bins and/or bean ladders, we encourage you to use them to alleviate cracking the seed. Avoid handling seed at temperatures below 45° F since they're susceptible to seed and germination damage in cold temperatures.

What crop should I plant following peas?

Peas help to "mellow out" ground and growers claim planting small grains into pea stubble is their favorite. All non-legume and deep-rooted crops thrive following peas. It's best to avoid a cool season broadleaf.

How can I fit field peas into my crop rotation?

To avoid contamination and disease carry over from pathogens it is best to use a rotational frequency of 4-5 years. Tighter rotation windows were previously recommended but severe disease issues and added research have expanded this rotation window. It is also important to check herbicide records to avoid any rotation restrictions.



YELLOW FIELD PEAS

DL Apollo**

DL Apollo will be grown for its **high protein** potential. It has been out-performing current yellow field pea varieties being marketed for high protein and also producing impressive yields. We're noting it as a tall variety, medium maturity and good harvest ease.

LG Stunner*

LG Stunner is a newer release that is scoring some of the **highest yield and highest protein** levels that we've seen from our yellow field pea lineup. It is out-performing competing lines and we are hoping to have Certified seed available in 2024. Keep your eye on this one and contact us to get your name on seed once it is available.

LG Amigo**

LG Amigo will be **your friend in the field** because of its sound disease package and high yield potential. Growers are experiencing excellent harvest ease and harvest dates slightly earlier than LG Sunrise.

LG Sunrise**

LG Sunrise will **stand through the sunshine and the rain**. It has a little more height than LG Amigo and has notably better standability than other varieties in side-by-side trials. This one will be a leader in the next era of top-end genetics of yellow peas.

Durwood*

Durwood is known for its ability to **stand tall and strong** all season even through inclement weather. It's broadly adapted and is great for whole pea markets and fractionation. Durwood is a preferred variety for high protein and is consistently high yielding.



Pulse USA is one of the best seed companies we work with! They get a five-star rating from me! They are a great crew."

– **Steve Lange**

Rupp Seeds, Wauseon, OH

Nette 2010**

Nette 2010 is **known by name** to farmers, processors and researchers across the Midwest because of its superb quality and high yields. It speaks for itself in the field, especially when it comes to yield.

Korando**

Korando is one of our **high protein** and largest sized yellow pea varieties. Processors are willing to pay for peas that are high in protein so if you tie into one of those markets this is the variety you'll want.

Mystique**

Mystique exhibits an **extended bloom duration** when conditions remain cool and damp during flowering which has turned into high yields. It's our latest maturing so it fits well alongside an earlier variety to extend your harvest window.

DS-Admiral**

DS-Admiral is tried and true which makes it known as the **industry standard**. It produces a very uniform round seed that processors can pick out from any other variety. It's our most broadly adaptable variety as we've been able to successfully grow it all across the US, and it is also the 'check' variety at many agriculture experiment stations field pea variety trials.

YELLOW FIELD PEA VARIETY TRIAL DATA

Variety	Days to Maturity	Disease Resistance	Harvest Ease	1000 KWT/Gram	Seed Protein (%)	Yield (Bushels/Acre)	Trial Year
DL Apollo***	93.0	None Known	2.3	216.8	24.40	39.0	2022
LG Stunner***	93.8	R-FW	2.3	235.5	27.40	30.2	2022
LG Amigo*	93	R-PM, R-FW	4.8	234.8	25.78	44.0	2019
LG Sunrise**	93.8	R-PM	2.5	246.9	24.75	64.3	2019
Durwood**	94.3	None Known	2.3	259.9	24.70	37.3	2022
Nette 2010**	90.5	None Known	1.5	235.2	24.23	45.1	2019
Korando**	93	MR-PM	4.8	267.1	25.80	37.3	2022
Mystique**	93.8	MR-PM	2.5	251.9	25.05	49.3	2019
DS-Admiral**	92.5	R-PM	4.3	247.0	24.70	45.4	2022

Trial data collected from NDSU CREC location.

Harvest ease: 0= all plants upright and easy to harvest; 9= all plants flat on the ground and difficult to harvest.

KEY

R = Resistant
 MR = Moderate Resistance
 PM = Powdery Mildew
 FW = Fusarium Wilt

*Unauthorized Propagation Prohibited – PVPA 1994 – U.S. Protected Variety
 To be sold by variety name only as a class of certified seed.

**Unauthorized Propagation Prohibited – PVPA 1994 Title V – U.S. Protected Variety
 To be sold by variety name only as a class of certified seed.

***PVP Protections Currently Pending. To be sold by variety name only as a class of certified seed.



Kim & Tyler at CDC Striker Production Field, Coleharbor, ND



GREEN FIELD PEAS

Aragorn*

Aragorn is the **industry standard for high-quality** green peas. It has a smooth seed coat with extra dark green cotyledons and improved bleach resistance. It is contracted through Identity Preserved (IP) programs so full productions must be contracted back to the processor.

Arcadia**

SW Arcadia is the **highest yielding green pea in our lineup**. It has performed very well in drier climates and has a favorable bleach tolerance. When yields are high for SW Arcadia it typically doesn't stand as well as our other varieties.

Banner*

Banner is demanded for its desire in **edible green pea markets**. It has an early maturity with a medium plant height. It is another IP variety that must be sold under full production contracts.

Ginny*

Ginny is best known for its **bleach tolerance** characteristic. Because of this it produces a dark green smooth round seed that is very enticing to processors. It is an IP variety so it must be sold under full production contracts. It also has a very high yield potential and stands well.

Greenwood*

Greenwood is best described as **consistent** in its shape, size and dark green color. It has an excellent disease package and good standability making it easier to harvest. It's also an IP variety that must be sold under full production contracts.

LG Koda**

LG Koda has a medium physiological maturity and medium seed size. It's **resistant to Powdery Mildew** and has excellent standability.

Viper*

Viper is known for its strongest characteristic, **standability**. It does well in dry climates of MT and ND and has a round smooth seed coat with good bleach tolerance.

**Unauthorized Propagation Prohibited – PVPA 1994 – U.S. Protected Variety.*

To be sold by variety name only as a class of certified seed.

***Unauthorized Propagation Prohibited – PVPA 1994 Title V – U.S. Protected Variety.*

To be sold by variety name only as a class of certified seed.

**** Unauthorized Propagation Prohibited – Under Patent Protection.*

To be sold by variety name only as a class of certified seed.

GREEN FIELD PEA VARIETY TRIAL DATA

Variety	Days to Maturity	Disease Resistance	Harvest Ease	1000 KWT/Gram	Seed Protein (%)	Yield (Bushels/Acre)	Trial Year
Aragorn	NA	R-PSMBV, R-FW1, MR-DM, MR-MB	NA	NA	24.30	35.0	2022
Arcadia ¹	92.3	FT-PM	8.5	199.8	23.60	41.4	2022
Banner ²	77	MR-PM	NA	190	24.20	41.4	2019
Cruiser ¹	93.5		6.3	213.8	26.45	42.8	2019
Ginny ²	77	FT-FRR	NA	185	26.10	32.5	2019
Greenwood	NA	R to FW, FT to PM, MR to DM, MR to MB	NA	NA	NA	NA	2019
LG Koda ¹	93.8	R-PM	6	225	24.23	37.4	2019
Viper ¹	93.8	MR to PM MR to FW ₂	3.5	240.9	26.48	44.2	2019

¹ Trial data collected from NDSU CREC location

² Trial data collected from NDSU HREC location

Harvest ease: 0= all plants upright and easy to harvest; 9= all plants flat on the ground and difficult to harvest.

KEY

R=Resistance	FW ₂ =Fusarium Wilt Race 2
MR=Moderate Resistance	DM=Downy Mildew
FT=Fair Tolerance	PM=Powdery Mildew
PSBMV=Pea Seed Borne Mosaic Virus	FRR=Fusarium Root Rot
FW ₁ =Fusarium Wilt Race 1	MB=Mycosphaerella Blight



LENTILS

LENTILS ARE AN ANNUAL, COOL SEASON LEGUME (PULSE) CROP. We offer both conventional and Clearfield® tolerant seed. A major benefit of the Clearfield® lentil seed system is its natural resistance to Beyond® herbicide to control annual grass and broadleaf weeds. We have exclusive rights to the Clearfield® lentil system in the United States and we oversee all aspects of seed production, new genetics, and marketing.

We have experienced lentil producers across the Midwest who believe in the benefits of lentils and provide quality seed. Lentils are an attractive cash crop with favorable market prices. Used in a diverse cropping system they can help improve soil health, help control weed problems, and reduce certain diseases.

CDC Impala CL®*

An extra-small red lentil with an early maturity and excellent tolerance to diseases. Marketing this variety is more challenging because of its seed size so we encourage you to **contract with a merchandiser before growing this variety.**

CDC Impress CL®*

A medium green lentil that **fits the Richlea market** very well but yields (on average) about 5% less than Richlea. It has good standability and holds its color really well.

CDC Invincible CL®*

A small green lentil that **fits the Viceroy market** very well. It has high yield potential and a good disease package.

CDC Maxim CL®**

A small red lentil that's known for being the **industry standard.** It relocates very well allowing us to grow it across most of the Upper Midwest. CDC Maxim CL® is one of the highest yielding lentil varieties you'll find with disease tolerances that are unmatched.

We also offer one conventional lentil variety, Avondale**

A medium green lentil that is the most recent addition to our lineup. It was released by the Washington Crop Improvement Association and we've been so pleased with its performance (yield, standability, color retention). With confidence, we say, "It's better than Richlea."

The recommended seeding rate for lentils is 12 plants/square foot and depending on seed size varies from 40-80 #/acre by variety.

Variety	Seed Color	Beyond® Tolerant	Anthrancnose Race 1	Ascochyta Blight	Yield Potential	Plant Height
CDC Impala CL®*	Red	Yes	MR	MR	Good	Medium
CDC Impress CL®*	Green	Yes	MS	MR	Good	Medium
CDC Invincible CL®*	Green	Yes	MR	MR	Excellent	Medium
CDC Maxim CL®**	Red	Yes	MR	MR	Excellent	Tall
Avondale**	Green	No	N/A	S	Good	Tall

* Unauthorized propagation prohibited – PVPA 1994 – U. S. protected variety. To be sold by variety name only as a class of certified seed.
 ** Unauthorized propagation prohibited – PVPA 1994 Title V – U. S. protected variety. To be sold by variety name only as a class of certified seed.

KEY
 MR= Moderate Resistance
 S = Susceptible
 MS = Moderate Susceptibility
 N/A = Not Applicable

FABA BEANS

FABA BEANS ARE AN ANNUAL COOL SEASON LEGUME (PULSE) CROP adapted to the Northern United States. Faba beans tolerate frost and do well in cool, wet soils. They are highly nutritious, non-GMO and have a protein content similar to peas. Their primary use is livestock feed and some go into human consumption as well. They have the ability to fixate more Nitrogen than field peas making them a great fit for cover cropping systems.

CDC SNOWDROP*

CDC Snowdrop is a zero-tannin small seed size faba bean with excellent standability. We offer Certified seed for commercial production and also as an option in our cover crop program. Its small seed size makes it a really good fit for blending and planting in a cover crop mix. It has a smooth, cream colored seed with a white flower. The white flower is a representation of its zero-tannin characteristic which makes it a fit for our forage mixes. Its physiological maturity is 104 days and reaches a height around 38". It has resistance to Aphanomyces root rot.

*Unauthorized Propagation Prohibited – PVPA 1994 – U.S. Protected Variety- Pending

Variety	Days to Bloom	Plant Height	Plant Lodging	1000 KWT/Gram	Seed Protein (%)	Yield (Bushels/Acre)
CDC Snowdrop	51	31.6"	0.8	447	20.4	44.4

Trial data collected from NDSU CREC location 2019.

Lodging : 0 = all plants upright and easy to harvest; 9 = all plants flat on the ground and difficult to harvest.

FAQS

When should faba beans be seeded?

Early. Faba beans have seeding recommendations very similar to field peas. They handle frost well and should be planted early April to mid-May; before or at the same time as your field peas.

What is the seeding rate?

Faba beans are seeded on a pure live seed (PLS) basis at a recommended rate of 195,000 PLS/A on dryland. We recommend to target 4-5 plants per square foot with a row spacing of 7 ½" – 10". Faba beans should not be seeded heavy because both lodging and disease pressures will increase. We encourage you to always purchase Certified seed from a licensed grower so you can plant your seed, on a PLS basis, in confidence. (An example calculation is located on page 39 to help you with this).

What soil types and crop rotation are best to plant them in?

Faba beans perform best planted into cool, wet soils with a high water holding capacity. Avoid heavily compacted soils and fields that previously had a legume crop. A four year crop rotation window is recommended. They perform best in high moisture areas and planting into small grain stubble is best. Do not plant them in fields with high Nitrogen levels or fields that had manure applied.

What are their nutrient needs?

Faba beans require very little nutrients and are very similar to peas in their needs. They respond well to an application of Phosphorous and do not require Potassium. An application of Sulfur will help achieve optimal yields.

Do I need to inoculate?

Yes. Each time they're planted. They have a specific strain of rhizobia so its important to purchase the right product. Liquid

formulations are not recommended for drier areas.

How deep should I seed them?

We recommend 2" – 3" with soil moisture above the seed. Faba beans are better to plant too deep than too shallow.

How can I manage disease?

Best method of control is seed treatment. We recommend to fungicide. A diverse crop rotation and disease-free Certified seed are also key.

Should I desiccate my field?

Faba beans need to be desiccated before full maturity, near 80%. Desiccation is ideal when all lower pods are brown to black and top pods are green. Glyphosate is registered for pre-harvest weed control.

When will they be harvested?

Faba beans are approximately 115-120 days to full physiological maturity. They should be straight cut about 4"-6" above the ground. Do not use crop lifters in the event of causing pod loss and shatter.

How should I store them?

Recommended moisture for storage is 16% and storage aeration is preferred. To avoid cracking of the seed, handle them with conveyors and bean ladders and store them in hopper bottom bins. Avoid handling seed at temperatures below 40° to 45° F.

What crop should I follow faba beans with?

All non-legume and/or deep-rooted crops do well following faba beans. Avoid other cool season broadleaf crops. Use a four to five year crop rotation.

PULSE PROCESSORS	BUYER OF						
	Yellow Peas	Green Peas	Red Lentils	Green Lentils	Chickpeas	Faba Beans	Edible Beans
Alliance Grain Trading www.agtfoods.com 1611 E. Century Ave. Suite 102 Bismarck, ND 58503 701-751-1623 625 42nd Street NE. Minot, ND 58703 701-839-7530 505 26th Ave. NE. Williston, ND 58801 701-572-4070	●	●	●	●	●	●	●
ADM www.admfarmview.com 5525 136th Ave. SE. Enderlin, ND 58027 701-437-3000 108 Minnesota Ave, Galesburg, ND 58035 701-488-2214 804 Front St, Casselton, ND 58012 701-347-5321	●				●		●
Anchor Ingredients www.anchoringredients.com 803 Boeddeker Drive N. Hillsboro, ND 58045 701-499-1480 13 1st St. NE. Hillsboro, ND 58045 701-499-1480 80 W. Main St. Buffalo, ND 58011 701-499-1480 2154 Road 2059 Culberston, MT 59218 406-787-5338	●	●	●	●	●	●	●
Columbia Grain International, LLC www.columbiagrains.com 2051 Wilma Drive Clarkston, WA 99403 509-758-1000 225 E. Northern Ave Plentywood, MT 59254 406-765-4778 4458 Hwy 16 S. Plentywood, MT 59254 406-765-1778 500 E. Blaine Wolf Point, MT 59201 406-653-2809 40355 US Hwy 2 Chinook, MT 59523 406-357-2790 600 1st St. N. Havre, MT 59501 406-265-5451 3365 Whitlash Road, Chester, MT 59522 406-759-5146 8840 62nd St. NW, Ross, ND 58776 701-755-3207 1920 Hwy 32 N., Walhalla, ND 58285 701-549-3721 7400 55th St. S., Merrifield, ND 58201 701-775-3317 103 N. L St. Lind, WA 99341 509-677-3441 116 South Dakota St., Conrad, MT 59425 406-278-3256 4935 E J St., Hastings, NE 68901 402-463-8162	●	●	●	●	●	●	●
Dakota Dry Bean, Inc. www.dakotadrybean.com 43485 Business Hwy 2 East Grand Forks, MN 56721 701-746-7493 215 Main St. Crary, ND 58327 701-398-3112 8735 Hwy 2 E. Devils Lake, ND 58301 701-662-3357 500 Laurel St. Lansford, ND 58750 701-784-5466	●	●					
Golden Valley Ingredients www.beachcoop.com 850 E. Main St. Beach, ND 58621 701-872-3761	●	●		●			
Great Northern Ag www.greatnorthernag.com 6373 39th St. NW. Plaza, ND 58771 701-497-3082 8521 144th Ave. SW. Bowman, ND 58623 701-523-5392	●	●	●	●	●	●	●
Legume Matrix www.legumematrix.com 901 14th Ave. SE. Jamestown, ND 58401 701-252-4757	●	●	●	●	●	●	●
New Alliance Bean www.westco.coop 2371 Hwy. 2 Alliance, NE 69301 308-762-8014 9260 S. Railroad Ave. Bridgeport, NE 69341 308-262-1222 801 Railroad St. N. Gering, NE 69341 308-436-2186 951 Rundell Road Gering, NE 69341 308-436-5849	●						●
The Redwood Group, LLC Head Office www.theredwoodgroup.com 5920 Nall Avenue STE #400 Mission, KS 66202 913-416-5660 Receiving Plant: Agriforce Seed www.agriforceseed.com 75740 Road 316 Venango, NE 69168 308-883-6456 Receiving Plant: Stricks Ag www.stricksag.com 114 Washington Avenue Chester, MT 59522 406-759-6489 Safflower Technologies Int. www.safflowertech.com 626 S. Montana Ave. Fairview, MT 59221 701-844-4797 112 S. 1st Ave. Laurel, MT 59044 406-480-4797 9015 Quest Ave, Billings, MT 59101 406-702-7742	●	●	●	●	●	●	●
Stone Mill www.stonemill.net 3754 Hwy. 8 S. Richardton, ND 58652 701-974-2106	●	●	●	●	●		
Viterra USA, LLC www.viterra.com #25 27th St. SE Minot, ND 58701 701-837-4777	●						

ORGANIC PULSE PROCESSORS	BUYER OF						
	Yellow Peas	Green Peas	Red Lentils	Green Lentils	Chickpeas	Faba Beans	Edible Beans
Anchor Ingredients www.anchoringredients.com 803 Boeddeker Drive N. Hillsboro, ND 58045 701-499-1480 13 1st St. NE. Hillsboro, ND 58045 701-499-1480 80 W. Main St. Buffalo, ND 58011 701-499-1480 2154 Road 2059 Culberston, MT 59218 406-787-5338	●	●	●	●	●	●	●
Columbia Grain International, LLC www.columbiagrains.com 103 N. L St. Lind, WA 99341 509-677-3441	●	●	●	●	●		
Pipeline Foods www.pipelinefoods.com 1250 E. Moore Lake Dr, Ste 200 Minneapolis, MN 55432 763-999-7556	●	●	●	●	●		
The Redwood Group, LLC Head Office www.theredwoodgroup.com 5920 Nall Avenue STE #400 Mission, KS 66202 913-416-5660 Receiving Plant: Agriforce Seed www.agriforceseed.com 75740 Road 316 Venango, NE 69168 308-883-6456 Receiving Plant: Stricks Ag www.stricksag.com 114 Washington Avenue Chester, MT 59522 406-759-6489 Safflower Technologies Int. www.safflowertech.com 626 S. Montana Ave. Fairview, MT 59221 701-844-4797 112 S. 1st Ave. Laurel, MT 59044 406-480-4797	●	●	●	●	●		●
Stone Mill www.stonemill.net 3754 Hwy. 8 S. Richardton, ND 58652 701-974-2106	●	●	●	●	●		
Stengel Grain (toll processing only) www.stengelgrain.com 14698 State Hwy. 15 Millbank, SD 57252 605-432-6030	●	●	●	●	●	●	●

CL® LENTIL RETAILER	Phone	Address	City, State, Zip
NORTH DAKOTA			
Beach Cooperative	701-872-3761	590 E Main Street	Beach, ND 58621
Birdsall Grain & Seed	701-453-3300	33602 Highway 2 West	Berthold, ND 58718
Central Dakota Frontier Coop	701-843-7577	416 8th Street N	New Salem, ND 58563
Dakota Agronomy Partners, LLC	701-377-2325	98 Main Street	Bowbells, ND 58721
Dakota Agronomy Partners, LLC	701-852-3567	1800 13th Street SE	Minot, ND 58701
Great Northern Ag	701-523-5392	8521 144th Avenue SW	Bowman, ND 58623
Great Northern Ag	701-497-3082	6373 39th Street NW	Plaza, ND 58771
Helena Agri-Enterprises, LLC	701-579-4891	103 McKenzie Street	New England, ND 58647
Helena Agri-Enterprises, LLC	701-444-3772	1164 Highway 1806 West	Waford City, ND 58854
Kenmare Farmers Union Oil	701-385-4277	49211 Highway 52 N	Kenmare, ND 58746
Kenmare Farmers Union Oil	701-464-5416	200 Railroad Avenue	Powers Lake, ND 58773
Legume Matrix	701-252-4757	901 14th Avenue SE	Jamestown, ND 58401
Larry's Seed & Ag	701-770-2500	2961 Highway 23	Waford City, ND 58854
Larson Grain Co	701-883-5201	104 1st Street NE	LaMoure, ND 58458
Missouri Valley Ag	701-782-4401	711 65th Street SE	Hazleton, ND 58544
New Century Ag	701-834-2311	100 N Main Street	Fortuna, ND 58844
New Century Ag	701-925-4550	10865 ND Highway 5 NW	Noonan, ND 58765
Scheresky Ag Service	701-679-2578	206 345th Avenue SE	Max, ND 58759
Southwest Grain	701-843-7555	4456 CR 139	New Salem, ND 58563
Tuttle Farmers	701-867-2559	102 S. Main Street	Tuttle, ND 58488
United Agronomy	701-572-3227	1109 6th Street E	Williston, ND 58801
Wholesale Ag	701-442-3610	67 Highway 83	Underwood, ND 58576
MONTANA			
Cahill Seeds	406-783-5510	669 Highway 5	Flaxville, MT 59222
Mountain View Coop	406-753-2241	102 RR Street NE	Brady, MT 59416
Mountain View Coop	406-278-3591	19 South Main	Conrad, MT 59425
Mountain View Coop	406-467-2563	306 Central Avenue	Fairfield, MT 59436
Mountain View Coop	406-622-3271	2920 High Street	Fort Benton, MT 59442
Mountain View Coop	406-463-2281	317 Cascade Avenue	Power, MT 59468
Mountain View Coop	406-547-3931	107 6th Avenue SW	White Sulphur Springs, MT 59645
Nutrien Ag Solutions	406-453-3227	708 Highway 87 N	Great Falls, MT 59404
Nutrien Ag Solutions	406-252-8012	1400 Minnesota Avenue	Billings, MT 59101
Nutrien Ag Solutions	406-278-9189	109 8th Avenue NE Building B	Conrad, MT 59425
Nutrien Ag Solutions	406-622-5481	2811 Saint Charles Street	Fort Benton, MT 59442
Nutrien Ag Solutions	406-434-5000	200 Marias Fair Road	Shelby, MT 59474
Pro Coop	406-487-2741	3 Daniels Street	Scobey, MT 59263
Safflower Technologies International	701-844-4797	626 S Montana Avenue	Fairview, MT 59221
Safflower Technologies International	406-480-4797	112 S 1st Avenue	Laurel, MT 59044
Stricks Ag LLC	406-759-6489	114 Washington Avenue E	Chester, MT 59522
SOUTH DAKOTA			
Howe Seeds, Inc	605-823-4892	11198 272nd Avenue	McLaughlin, SD 57642
Karlen Ranch	605-473-5605	33055 235th Karlen Ranch Road	Reliance, SD 57569
Stiegelmeier Farms	605-845-6034	13402 306 Avenue	Selby, SD 57472
WASHINGTON			
Inland Empire Milling	509-648-3366	4 N. Park Avenue	St. John, WA 99171



Flute Organic Green Pea at Blaine's Best Seeds LLC, Rugby, ND

ORGANIC

FIELD PEAS

We are proud to be the first, and only, company in the seed industry to offer field pea varieties exclusive to organic growers, processors and end-users. We currently have an organic green field pea variety, Flute, and we continue to invest time and resources on expanding our organic field pea lineup. We are testing promising varieties and hope to have an additional release in the near future.

Flute*

Flute is always the latest to bloom but has a short bloom duration so it matures out similar to other varieties. It produces really impressive yields for a green. Prior to naming it was tested as PUSA 0114.

Variety	Days to Maturity	Disease Resistance	Plant Lodging	1000 KWT/Gram	Seed Protein (%)	Yield (Bushels/Acre)
Flute**	87.8	R - PM	0.8	210.2	25.40	40.1
DS-Admiral**	80.5	R - PM	1.8	215.6	23.20	44.9

KEY

R = Resistant
PM = Powdery Mildew

Trial data collected from NDSU CREC organic trial location 2019

**Unauthorized Propagation Prohibited - PVPA 1994 Title V - U.S. Protected Variety - To be sold by variety name only as a class of Certified seed.



OMRI LISTED PRODUCTS

We warehouse OMRI certified seed inoculants and have access to OMRI certified seed treatments through our relationship with Albaugh, LLC. Through that relationship, we are able to promote and provide their BIOST® seed treatment technology platform which is OMRI certified. We are committed to the organic farming industry so if you have any questions on availability or specific products please contact us.

We carry the below brands of OMRI listed seed inoculants.

Exceed™ is an OMRI listed product line that is made available from Visjon Biologics. Visjon Biologics offers the largest selection of OMRI listed products in the inoculant industry with 23 currently listed products.

Exceed™ is labeled for:

Field peas (liquid), lentils (liquid), pulse (peat), soybeans (liquid and peat), alfalfa sweet clover (pre-coat), true clover (pre-coat), alfalfa/true clover combination (pre-coat) and other small market crops.

HARD RED SPRING WHEAT



Red Spring Wheat at Bernston Seed Farm, Adams, ND.

WE TEAMED UP WITH LIMAGRAIN CEREAL SEEDS (LCS) twelve years ago to provide high quality spring wheat varieties to our farmers. LCS varieties top the charts in trials across the Upper Midwest by combining three important characteristics: protein, yield and standability. Their breeding program is focused not only on the front end of a variety, but also the end use quality to ensure it's desirable to bakers and millers.

Planting certified seed gives you assurance that your seed is clean and pure so you can make the most of your input investments.



Prestige*

Prestige is a high yielding and good protein wheat. It's early maturing and handles drought stress really well. It has good standability and features a high-test.

Redstone*

Redstone is a high yielding and late maturing variety. It is best suited for areas with high moisture and performs well under irrigation. It has strong resistance to stripe rust and is best suited for areas in eastern ND and MN.



LCS Cannon***

LCS Cannon is a high yielding variety that has shown great adaptation for the Red River Valley. It has excellent straw strength, heavy test weight and offers a great

combination of high yield plus high protein. The overall end use quality of LCS Cannon is listed as desirable according to data obtained from the LCS Quality Laboratory.

LCS Nitro*

LCS Nitro has proven to be one of the best yielding varieties across the Northern Plains. It has a short to medium height and stiff straw that helps it to stand really well. In 2018 and 2019 it was the highest yielding variety in NDSU western trial sites.

LCS Trigger*

LCS Trigger is one of the highest yielding Hard Red Spring Wheat varieties available in the market today. It is the winner of the National Wheat Yield Contest, and also has very good straw strength, and an excellent disease package. Trigger is adapted for all of North and South Dakota, Eastern Montana, and North West Wyoming.

LCS Iguacu*

LCS Iguacu is a high yielding variety that performs well in areas with high moisture. This variety has very good straw strength resulting in excellent standability. LCS Iguacu features a unique resistance to Fusarium Head Blight.



Variety	Days to Heading	Plant Height	Straw Strength	Protein (%)	Test Weight
Prestige*	60-62	Short-Medium	Good	14½-15½	Very Good
Redstone*	66-70	Medium-Tall	Good	14-14½	Average



Variety	Days to Heading	Plant Height	Straw Strength	Protein (%)	Test Weight
LCS Cannon***	46.8	28.6	Very Good	14.7	60.2
LCS Iguacu*	65-67	Medium	Very Good	13½-14	Excellent
LCS Nitro*	65-68	Short-Medium	Excellent	13-14	59.3
LCS Trigger	55.6	Medium	Very Good	12.8	59.3

*Unauthorized propagation prohibited - PVPA 1994 - U.S. protected variety. To be sold by variety name only as a class of certified seed.

**Unauthorized propagation prohibited - PVPA 1994 Title V - U.S. protected variety. To be sold by variety name only as a class of certified seed.

***PVP Protections currently pending. To be sold by variety name only as a class of certified seed.

2023 GROWER SPOTLIGHT: ALBERT LEA SEED

Interview conducted by Tyler Kress, Genetics Lead



BACKGROUND OF ALBERT LEA SEED:

Albert Lea Seed is a third-generation family- and employee-owned farm seed company located in Albert Lea, MN. This coming year (2023) marks our 100th year in business. Mac and Tom Ehrhardt took over ownership of the business from their father and grandfather (George and Lou respectively). In 2020 the company moved to an employee-ownership model with three employees and one former employee joining the Ehrhardt's in owning shares in the business.

We serve rural communities and farm families of all sizes all across the United States with a wide diversity of certified organic and non-GMO farm seed of all types including: corn, soybeans, small grains, alfalfa, grasses, clovers, forages, cover crops, native seed and garden seed. In 2022 we completed the purchase of Blue River Organic Seed and will be integrating their employees, product offerings and expertise in a phased integration over the next two years. This integration will position us to be one of the largest suppliers of certified Organic farm seed in the nation.

When did you decide to add cover crops to your offering and produce organic seed? Since our founding in 1923, we've always been very diversified, supplying a wide-range of farm seed to farming operations of all types. That diversity has carried through to the present day and cover crops remain a very important part of our business. In essence we've always supplied cover crops but our business has grown along with the concurrent interest in cover crops amongst grain and livestock farmers over the past 20 years.

We produced our first organic seed crop in 1999, before the formal creation of the National Organic Program in 2002. As our organic seed offerings have grown, our commitment to certified organic farmers has never wavered. It now makes

up over half of our total business and, again, speaks to our diversity and values as a company.

With the many challenges of growing seed organically, why did Albert Lea decide to go that route versus conventional methods? As any certified organic farmer can attest, there is no easy button in organic production! Organic farmers routinely face weed pressure challenges and nutrient availability/nutrient management challenges to maintain adequate yields. But along with those challenges comes numerous strengths; organic farmers are often more diversified than conventional neighbors allowing for nimbleness and resiliency in the face of climatic and production difficulties. The strength of organic production is the focus on systems management and long-term soil health which means organic producers often are more insulated from seasonal pest and climatic concerns. There are also clear economic development ripple effects to organic operations; areas with robust organic operations support smaller-to-medium-sized farms, circulate wealth in their local communities and enable land and resources to be passed to future generations. This strengthens rural communities and takes care of the people and the landscape all at once.

We work with both conventional and organic seed producers, and both are critical to our success as a company. We don't own our own production land, so all of our seed is contract grown with farmer partners. Not only do these folks have to be good farmers, but they also have to be attentive seed producers (two important and not exactly complimentary skill sets).

We're fortunate to have a dedicated group of organic and conventional seed producers that we work with; many of whom we've done business with for decades.

How has your business benefited from having pulse

crops in your offering, and your customer's rotations?

Since our company has been highly focused on farm seed diversity from the beginning; pulses are a natural fit with our farm seed offerings. We've used things like field peas and lentils in cover crop mixes and livestock forage mixes. They provide excellent forage potential and nitrogen-fixing ability for soil building (especially in organic rotations).

With high prices for soybeans, more livestock growers are looking at field peas as a protein source and we have seen growth in pulse crop demands due to these factors. There are also robust emerging markets for pea proteins/plant-based meats so pulse growers have a wider market to access than in the past.

Being in an area that is predominantly corn and soybeans, how do you encourage farmers to try growing pulse crops? What advantages do you see? We almost always meet folks where they are at; rotationally and otherwise, but there are clear benefits to a crop rotation to being more diversified.

Row crops benefit from having third crops in rotation, pest

and disease issues are lessened, and economic returns are often higher.

We always strive to place the right seed on the right acre but we truly believe that cover crops can work for all farming rotations and certainly recommend pulses in rotation (either for forage, cover crop or grain) in the right scenario.

What advice would you give to someone who is new to growing pulse crops? Like most new ventures, we'd say to start small to gain experience and scale-up appropriately from there.

If raising for grain, contact your end markets to find out what they're looking for, what type of quality specs they require and if your farming climate is conducive to meeting those demands.

There are a lot of great educational resources out there on growing pulse crops for grain that we connect folks with.

For cover crop or forage; pulse crops grow vigorously in the upper Midwest, are cold- and drought-tolerant and offer quality benefits for forage rotations and soil building needs all across the upper Midwest.

2023 GROWER SPOTLIGHT: CLINT GJELLSTAD

Interview conducted by Kim Kuhlmann, Sales Consultant

BACKGROUND: I grew up on the farm where my dad farmed until 2007. I learned so much about farming from my dad during that time. In 2011 I started my own operation on the same farm where I grew up north of Velva. Prior to farming, I attended NDSU where I played as a defensive end for Bison football and received a degree in accounting. After college, I moved to Minneapolis for 9 years where I worked in banking and lending. In 2006, I married my wife Jamie, and we now have two children, Odin (9) and Izzy (7). Along with growing peas for seed, we grow soybeans and wheat for seed. We also grow corn and canola.

When and why did you decide to grow peas? I started growing pulse crops in 2015. At that time, the market for peas had developed with local processors buying peas and the market was doing well. I was also interested in the benefits adding peas to my rotation would have on the soil.

How has your operation benefitted from including peas in your rotation? I really enjoy seeing the improvements in the soil from growing peas. Following a pea crop, I can see the soil is more mellow. Growing seed has also provided additional income for my operation. Another benefit of growing peas is reduced fertility inputs.

What challenges have you experienced growing peas? Will you share what you learned from these challenges? Some of our biggest challenges have come in harvesting peas. Making sure that you have a variety with good standability is important to avoid lodging. It's also important to have an even stand. At first we tried harvesting without desiccating the peas, but we learned that it makes harvesting them difficult and now we use desiccation.



What advice would you give to someone who is new to growing peas or growing seed? One key to growing peas I found is the importance of having a good herbicide program to keep your fields clean, especially if you are growing for seed. This includes using a pre-emergent herbicide to give the peas a head start on any weeds that will come up. My advice for anyone growing seed is to make sure that you keep your fields, equipment and storage facilities clean to avoid cross contaminating seed.

FORAGE OAT

Proleaf™ 234

Class	Grower Name	City, State	Phone Number	Email
Registered	Wisness Ag Seed Service LLC	Arnegard, ND	Andrew: 701-770-1927	andrewwisness@gmail.com
Foundation	Wisness Ag Seed Service LLC	Arnegard, ND	Andrew: 701-770-1927	andrewwisness@gmail.com

FORAGE PEA

Fergie

Class	Grower Name	City, State	Phone Number	Email
Registered	Jerry Blotter	Coleharbor, ND	701-337-6505	jerico@rtc.coop

GREEN FIELD PEAS

Arcadia

Class	Grower Name	City, State	Phone Number	Email
Certified	Jerry Blotter	Coleharbor, ND	701-337-6505	jerico@rtc.coop
Foundation	Jerry Blotter	Coleharbor, ND	701-337-6505	jerico@rtc.coop
Certified	Mike Zook	Beach, ND	701-872-6109	frturbo@midstate.net
Foundation	Mike Zook	Beach, ND	701-872-6109	frturbo@midstate.net

Banner

Class	Grower Name	City, State	Phone Number	Email
Registered	Paul Zook	Beach, ND	701-872-6164	N/A

Cruiser

Class	Grower Name	City, State	Phone Number	Email
Foundation	Jerry Blotter	Coleharbor, ND	701-337-6505	jerico@rtc.coop

Flute

Class	Grower Name	City, State	Phone Number	Email
Certified	Hildebrant Farms	Beach, ND	Meilon: 701-872-6054	tenbuffalo@midstate.net

LG Koda

Class	Grower Name	City, State	Phone Number	Email
Certified	Hildebrant Farms	Beach, ND	Meilon: 701-872-6054	tenbuffalo@midstate.net

Viper

Class	Grower Name	City, State	Phone Number	Email
Registered	Fladstol Farms, Inc.	Conrad, MT	Brian: 406-750-0846	ffinc@3rivers.net

LENTILS

Avondale

Class	Grower Name	City, State	Phone Number	Email
Certified	Dwight Johnson	Roseglen, ND	701-898-4230	dwightjohnson@restel.net
Registered	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com

CDC Impala CL®

Class	Grower Name	City, State	Phone Number	Email
Certified	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com

CDC Impress CL®

Class	Grower Name	City, State	Phone Number	Email
Registered	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com
Foundation	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com
Certified	Fladstol Farms, Inc.	Conrad, MT	Brian: 406-750-0846	ffinc@3rivers.net
Certified	Tyler Grubb	Powers Lake, ND	701-339-0332	tylergrubb@hotmail.com

CDC Invincible CL®

Class	Grower Name	City, State	Phone Number	Email
Certified	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com
Foundation	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com
Certified	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com
Certified	Wisness Ag Seed Service LLC	Arnegard, ND	Andrew: 701-770-1927	andrewwisness@gmail.com
Certified	Mike Zook	Beach, ND	701-872-6109	frturbo@midstate.net

CDC Maxim CL®

Class	Grower Name	City, State	Phone Number	Email
Certified	Cahill Seeds	Flaxville, MT	Charlie: 406-783-7509 Office: 406-783-5510	charlie@cahillseeds.com
Foundation	Dwight Johnson	Roseglen, ND	701-898-4230	dwightjohnson@restel.net
Certified	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com
Certified	Mark Stiegelmeier	Selby, SD	605-845-6034	mstiegel@venturecomm.net

WINTER PEA

Icicle

Class	Grower Name	City, State	Phone Number	Email
Certified	Advanced Agri-Solutions	Crook, CO	Dusty: 720-352-3315	cowsncorn@gmail.com
Certified	Sioux Nation	Fort Pierre, SD	Cody: 605-280-6674	cody.hostler@plantpioneer.com

WHEAT

LCS Cannon

Class	Grower Name	City, State	Phone Number	Email
Certified	Kent Myhre	Sheyenne, ND	701-302-0029	myhre@gondtc.com

Prestige

Class	Grower Name	City, State	Phone Number	Email
Registered	Fladstol Farms, Inc.	Conrad, MT	Brian: 406-750-0846	ffinc@3rivers.net
Foundation	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com

YELLOW FIELD PEAS

DL Apollo

Class	Grower Name	City, State	Phone Number	Email
Certified	Dwight Johnson	Roseglen, ND	701-898-4230	dwightjohnson@restel.net
Registered	Dwight Johnson	Roseglen, ND	701-898-4230	dwightjohnson@restel.net

DS-Admiral

Class	Grower Name	City, State	Phone Number	Email
Certified	Agriforce Seed	Venango, NE	Steve: 308-289-4853	steve@agriforceseed.com
Foundation	Becker Farms	McHenry, ND	Mark: 701-302-0219 Tim: 701-302-0077	Mark: mlbecker@gondtc.com Tim: tnbecker@gondtc.com
Foundation	Ben Barnhart	Sidney, NE	308-249-0979	benbarnhart64@yahoo.com
Registered	Ben Barnhart	Sidney, NE	308-249-0979	benbarnhart64@yahoo.com
Certified (Organic)	Blaine's Best Seeds LLC	Rugby, ND	701-208-0061	bbestseeds@gondtc.com
Registered	Jordan Carlson	Callaway, NE	308-529-0125	carlsonjordan@hotmail.com

Durwood

Class	Grower Name	City, State	Phone Number	Email
Certified	Agriforce Seed	Venango, NE	Steve: 308-289-4853	steve@agriforceseed.com
Certified	Berntson Seed Farm	Adams, ND	Andy: 701-331-1450	Andy: berntsonseed@gmail.com
Registered	Berntson Seed Farm	Adams, ND	Andy: 701-331-1450	Andy: berntsonseed@gmail.com
Certified	Drift Prairie Farm	Rolla, ND	Cameron: 701-550-9332	dppfarm@utma.com
Registered	Fladstol Farms, Inc.	Conrad, MT	Brian: 406-750-0846	ffinc@3rivers.net
Foundation	Gjellstad Farms	Velva, ND	Clint: 701-833-8383	cgjellstad@gmail.com
Certified	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com

Korando

Class	Grower Name	City, State	Phone Number	Email
Certified	Berntson Seed Farm	Adams, ND	Andy: 701-331-1450	Andy: berntsonseed@gmail.com
Certified	Lipp Farms, Inc.	Hingham, MT	Dillon: 406-390-5282	dlippinc@itstriangle.com
Certified	Brad Maus	Golva, ND	701-218-0001	rainman58621@yahoo.com

LG Amigo

Class	Grower Name	City, State	Phone Number	Email
Foundation	Ben Barnhart	Sidney, NE	308-249-0979	benbarnhart64@yahoo.com
Registered	Ben Barnhart	Sidney, NE	308-249-0979	benbarnhart64@yahoo.com

LG Sunrise

Class	Grower Name	City, State	Phone Number	Email
Foundation	Jerry Blotter	Coleharbor, ND	701-337-6505	jerico@rtc.coop
Foundation	Pulse USA	Bismarck, ND	701-530-0734	tyler@pulseusa.com

LG Stunner

Class	Grower Name	City, State	Phone Number	Email
Breeder	Brad Maus	Golva, ND	701-218-0001	rainman58621@yahoo.com

Nette 2010

Class	Grower Name	City, State	Phone Number	Email
Registered	Becker Farms	McHenry, ND	Mark: 701-302-0219 Tim: 701-302-0077	Mark: mlbecker@gondtc.com Tim: tnbecker@gondtc.com
Certified	Ben Barnhart	Sidney, NE	308-249-0979	benbarnhart64@yahoo.com
Certified	Berntson Seed Farm	Adams, ND	Andy: 701-331-1450	Andy: berntsonseed@gmail.com
Registered	Fladstol Farms, Inc.	Conrad, MT	Brian: 406-750-0846	ffinc@3rivers.net
Foundation	Pulse USA	Bismarck, ND	701-530-0734	tyler@pulseusa.com
Certified	Safflower Technologies Int.	Fairview, MT	Mike: 406-480-4797 Office: 701-844-4797	mbergman@safflowertech.com

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