1974

CELEBRATING

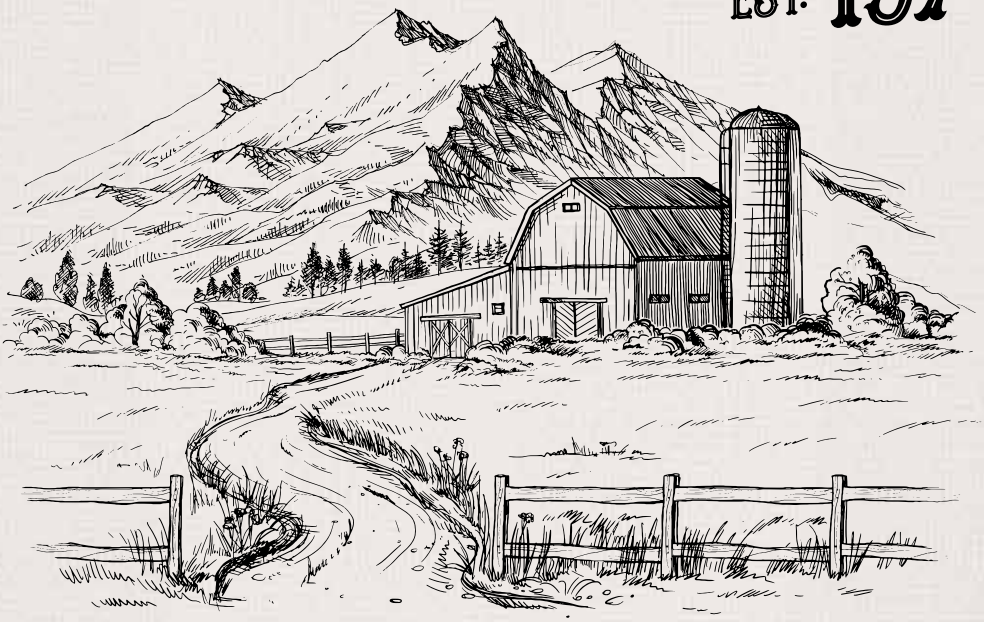
50

YEARS

2024

GREAT BASIN SEED

EST. 1974



YOUR TRUSTED SEED SUPPLIER SINCE 1974

FAMILY OWNED, FAMILY OPERATED

PROUDLY USA MADE

GREAT BASIN SEED®

Monday - Thursday: 8:00 AM - 5:00 PM MST
Friday: 8:00 AM - 12:00 PM MST

@greatbasinseeds @greatbasinseed

This catalog is a complementary publication of Great Basin Seed.
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Ephraim, UT 84627

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MEET THE TEAM

JASON STEVENS: *Owner*
Jason graduated from Utah State University with a BA in 1997. His responsibilities include government sales, corporate sales, production contracts, online ventures, advertising and marketing, and native seed collection efforts. When not at work, he enjoys floating rivers, hiking, rock climbing, camping, hunting, shooting sports, exploring, and world travel. His greatest joys in life are his wife, three children, and two grandchildren. Jason started Great Basin Seed in 2004 as an independent business venture. In 2015, siblings Jason, Eric and Heidi purchased Maple Leaf Seed Company and merged the efforts and resources of both companies.

ERIC "ZEKE" STEVENS: *Owner*
With a background in mechanics and construction, "Zeke" manages day-to-day operations, facilities and production lines, construction and expansion projects, and our fleet. He maintains grower relations and a network of dealers. He manages truckload freight and can be spotted in the combine cutting grain during harvest season. Hobbies include hunting, shed hunting, fishing, shooting and the outdoors. He and his wife Lydia have five daughters and a son who also loves the outdoors. Eric is a dedicated public servant. He has been an active member of the Ephraim Fire Dept. for twenty-five years and the Sanpete County Search and Rescue for fifteen years.

HEIDI STEVENS : *Owner*
As a part owner of Great Basin Seed, Heidi manages our receivables, payables, and other roles including LTL freight, payroll, and office functions. She started her career with Maple Leaf after graduating from Snow College with a degree in business management. Her knowledge and insight is invaluable to the operations of the company. She is a great asset and is such a joy to have in the office! Aside from the time she spends managing the company, Heidi is an avid animal lover and outdoor enthusiast. She spends her extra time loving and caring for her cherished cats, and even makes time to visit Utah's national parks, catch newly released movies, or craft new projects.

LLOYD STEVENS: *Founder*
Lloyd started the Maple Leaf Seed Company in 1974 with a few small bags of seed and a dream. He turned it into a thriving, influential and competitive business. Maple Leaf was highly influential during the CRP days of the early 80's (see page 16). Under the influence of his opportunistic eye, gregarious nature and entrepreneuring spirit Maple Leaf has been a major contributor to agriculture, disturbed land reclamation and fire rehabilitation in the USA for 50 years. He sold Maple Leaf to Jason, Eric and Heidi in 2015 and they combined Great Basin Seed and Maple Leaf. He enjoys partial retirement and still does business with his friends and shares his talents. He is truly one of the godfathers of the native seed industry.

KY BANTA: *Operations, Sales Representative*
Ky oversees daily operations including seed processing, packaging, mixing and personnel. He also serves a growing list of wholesale clients. Ky started as a part-time employee in high school. His 20 years of experience has been a great asset in maintaining a highly functional operation. He loves the outdoors and his hobbies include motorsports and guns.

MARY SIMMONS: *Sales Representative*
Mary is one of our head seed sales representatives. She handles an array of responsibilities including management of online, over-the-phone, and walk-in orders, coordinating LTL and full truckload freight, and handling most of our customer relations. Mary is a wealth of knowledge and has just celebrated her five year anniversary with Great Basin Seed. Aside from her career, Mary continues her involvement in agriculture by managing a small alfalfa operation and running a horse business with her husband. She is also an active student, planning to graduate with a Master's of Business Administration degree from Southern Utah University in the spring of 2024.

DAYSHA MAROZZO: *Sales Representative, Logistics*
Daysha graduated from Weber state in 2022 with a bachelors degree in sales and marketing. She is a part of the sales team along with coordinating logistics for the seed we sell. Her background in architectural drafting has been an asset for some upcoming projects. In her free time she enjoys reading, camping, winter sports and time with friends.

DENVER ROSS: ***Crew Foreman, Seed Cleaning Facility***
Denver manages our "yard" crew to pick, mix, and ship your orders. He runs the machinery and makes it all come together. Great Basin Seed's turnaround time is fast due to his efficiency. Denver is an avid outdoorsman and hunter, who spends most of his free time in the mountains with his wife and baby girl.

BRITTON SMITH: ***Crew Forman***
Britton is foreman of the team that picks and packs web orders, custom seed mixes, and private labeled products. He runs the native seed cleaning line. He is happily married and has six energetic children. He is an entrepreneur and loves family time, reading, working, basketball, mountain biking, snowboarding, watching movies and playing video games with his kids.

PAYTON STEVENS: ***Receptionist, Web Order Fulfillment***
Payton is a receptionist, secretary and part of our order fulfillment team. She started at Great Basin Seed filing paperwork and cleaning the office at the age of twelve. She graduated from Snow College in December 2023 and hopes to learn the family business. She enjoys swing dancing, traveling, spending time at her fiancé's farm and hanging out with her friends and dog.

MEGAN TIMOTHY: ***Web Order Fulfillment***
Megan was born and raised in southern California and moved to Utah in 1995. She enjoys working at Great Basin Seed part time while balancing her time as a mother and wife. Megan is responsible for shipping all of the orders. She is valued as an employee because of her honesty, attention to detail, and ability to listen and help those in need. She loves spending her free time with her family, traveling, camping, riding, hiking and building fun projects.

ALYSSA OLSEN: ***Social Media, Website***
Alyssa was born and raised on a ranch in northern Utah. She married a local farmer/rancher from Ephraim, and has loved raising her own children in agriculture. She enjoys riding horses, painting, working along side her husband, and spending time in the mountains with family and friends.

KAYTLYNN RANSOM: ***Marketing, Website Developer***
Kaytlynn manages the company's websites and digital marketing. She has been a full-time employee since 2017. Our e-commerce site and business websites were designed and developed by her. Kaytlynn works remotely from her home in Salt Lake City, UT. She likes to travel, paint, and spend time in nature. She is a new mom and is loving the mom life.

NOAH STEVENS: ***Marketing, Social Media, YouTube Studio***
Noah works as a full time content creator specializing in graphic design, cinematography, filmmaking and photography. He oversees much of the visual aspects of Great Basin Seed, including advertising and product packaging. He loves western swing dancing, weightlifting, hunting and being outside. He is pursing a Bachelors Degree in Chemistry & AG Science.

SEED INDUSTRY EXPERTS SINCE 1974:
We are one of the oldest and most experienced seed companies in the West. We have over 150 years of combined experience and some of the most knowledgeable plant scientists in the West. Our combined education and experience in site evaluation, species adaptability, site preparation, seeding techniques, site management, and seed technology is unmatched in the industry. We have worked hard to maintain a personal and professional relationship with our customers. We can provide consulting on any project and assist you in planning your complete project, including site evaluation, species selection, site preparation, application rates, post-planting care, and evaluation.

PHILOSOPHY:
Our most important asset is you. Our goal is to help meet your needs. We believe in providing the best customer service and the products you need to finish the job – all at a competitive price. We take our role as earth stewards seriously, and with your aid, God willing, we may improve the land and the lives of our children.

STANDARDS:
Our seed is tested at AOSCA approved seed laboratories and sold with current analysis tags. Tests are conducted in both state and private certified seed labs. See page 8 for more information.

COMPETITIVE PRICING:
We've created great alliances in our 50 years of business. Our buying power, warehouses, and cutting-edge production facilities reduce costs, resulting in competitive pricing. Many first-time customers are surprised by the savings we can offer over our competitors. We welcome the opportunity to bid on your next project.

FAMILY OWNED & OPERATED

MADE IN THE USA

1974 CELEBRATING 50 YEARS 2024

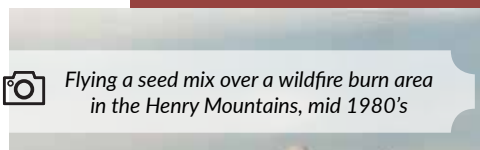
WHO IS GREAT BASIN SEED?

Great Basin Seed has a proud heritage in the Intermountain West seed industry. Our family lineage and business heritage are directly linked to the beginnings of reclamation, revegetation and wildlife habitat improvement. We have been a leader in the seed industry since 1974.

Company founder Lloyd and Paula Stevens in a wildflower seed production field - Central California in 1977

PIONEERS IN THE SEED INDUSTRY

Founder Lloyd Stevens (left) cleaning seed in a homemade blower/aspirator, late 1970's



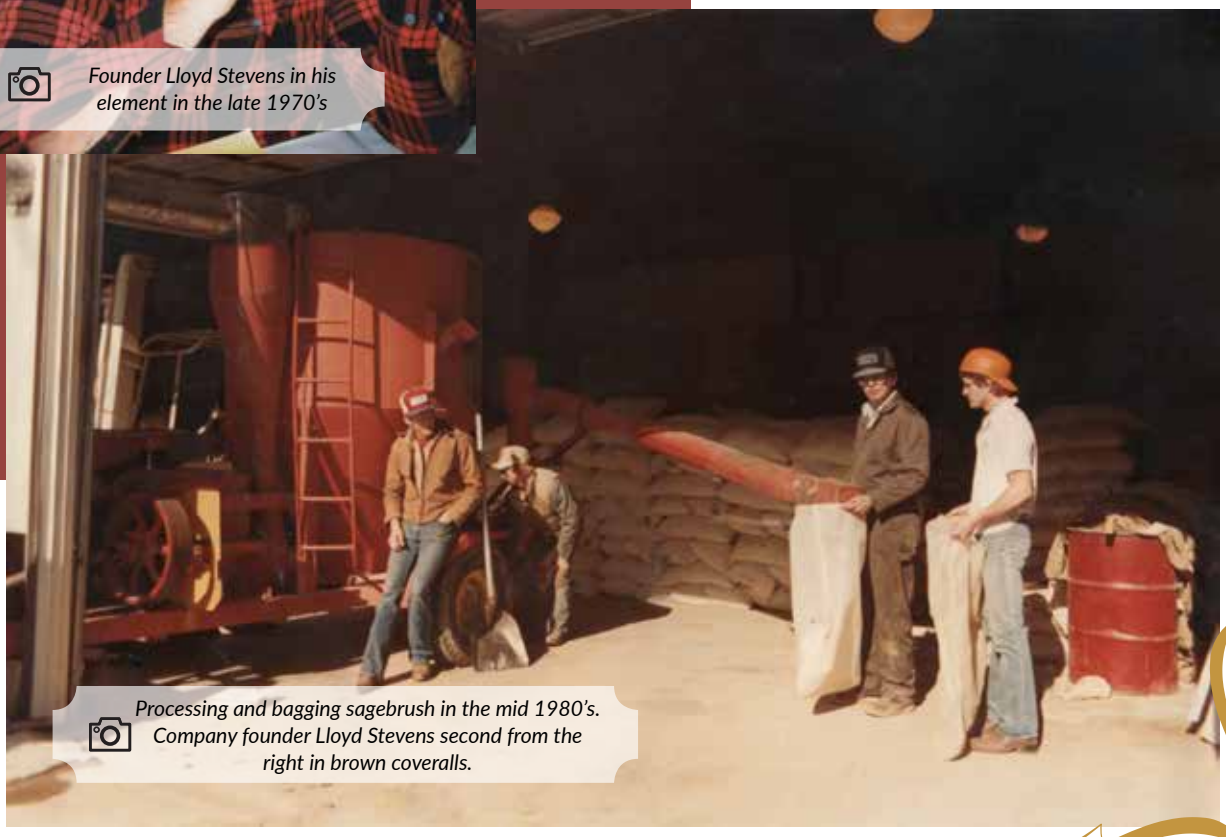
Flying a seed mix over a wildfire burn area in the Henry Mountains, mid 1980's

Founder Lloyd Stevens taking a call, late 1970's

Unloading bulk seed from our bulk truck in the early 1980's

TRUSTED SEED SUPPLIER FOR 50 YEARS!

Founder Lloyd Stevens in his element in the late 1970's



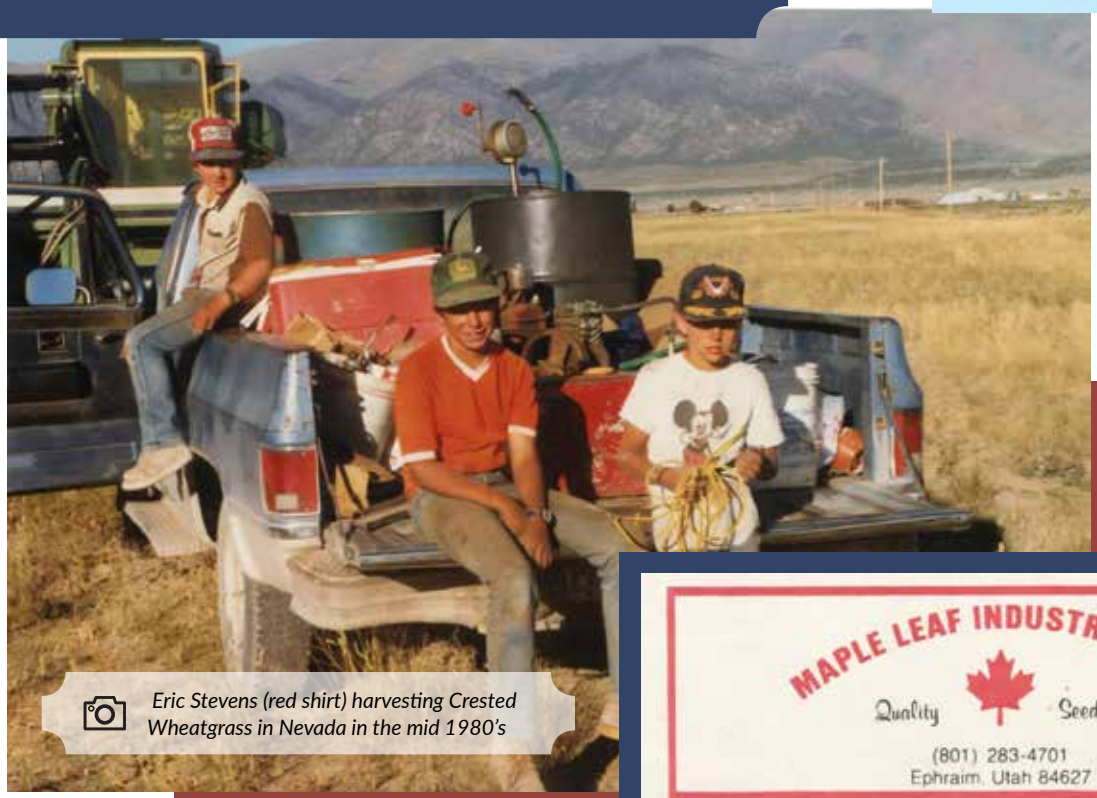
Processing and bagging sagebrush in the mid 1980's. Company founder Lloyd Stevens second from the right in brown coveralls.

1974 CELEBRATING 50 YEARS 2024

The Great Basin is our home. Our ancestors were among the first European settlers to set roots here. The Great Basin is where the majority of our native seeds are grown, harvested and produced. We purvey seed outside the boundaries of the Great Basin, but this is home.

It's the heart of it all, and it's where our name was born.

FOUNDED IN THE HEART OF THE GREAT BASIN



Eric Stevens (red shirt) harvesting Crested Wheatgrass in Nevada in the mid 1980's

Founder Lloyd Stevens started The Maple Leaf Company in 1974. Maple Leaf and Great Basin Seed merged in 2004 and Lloyd has passed the business onto the next generation. Above is a Maple Leaf seed tag from the early 1980's

Harvesting Crested Wheatgrass in Nevada in the mid 1980's

Preparing CRP seed mixes in the early 1980's

FAMILY OWNED * FAMILY OPERATED

SEED CLEANING, QUALITY TESTING, AND LABELING

Our state-of-the-art seed cleaning and conditioning facility utilizes new technology resulting in 7X cleaner results.

Great Basin Seed has been supplying the mining and exploration industries since 1974. We have supplied seed to all sectors of the industry in the lower 48 states, Alaska, and some regions of Canada and Mexico.

We are experts in seed and application solutions for all types of reclamation and disturbed land projects. More than 350 native and introduced species are inventoried by us for reclamation projects across the USA and Canada.

SCAN ME

Reclamation seed mixes are typically recommended by the leasing agency that oversees the property. A bond can occasionally govern or regulate the ingredients. These reclamation mixes are our specialties, and we can provide you with a quote.

GROWERS WANTED!

We welcome the opportunity to talk to prospective growers and encourage you to contact us. We are always looking for growers interested in producing items like:

- **Native and Introduced Grasses**
- **Cool and Warm Season Grasses**
- **Wildflowers and Forbs**
- **Forage Triticale**
- **Forage Oats**
- **Forage Barley**
- **Forage Wheat**
- **Cereal Rye**

Give us a call and we can discuss ways to help one another!

Site adapted seed *is selected because the seed source matches the ecological conditions as your planting site. Some species transfer to different ecotypes better than others. By selecting site adapted seed you increase the chances for seeding success.*

Certified Seed *is guaranteed to be of specific genetic identity and varietal purity, assuring you that the seed came from a registered parent crop. Certified seed is obtained by growing registered seed, registered seed is grown from foundation seed. Both foundation and breeder seed are under the control of the Foundation Seed Program and every step of the production process is monitored and checked by certification agencies.*

Source Identified Seed *is certified as collected from a specific origin of geographical location.*

We strictly comply to state and federal quality and labeling regulations. In addition to legal requirements, we follow self-imposed high quality standards. To maintain high standards, we source our production crops from reputable growers with a proven track record.

We process and condition the native seed we harvest in our own (UCIA) Utah Crop Improvement Association-certified conditioning facility.

By conditioning our own seed and sampling each batch, we ensure that our products are consistent with their claims and labels. It also helps us in determining the optimal seed for your situation.

Every lot of seed we sell is verified for purity, germination (or TZ), crop, weed, inert, and other relevant information by a licensed seed testing laboratory. The results of the tests are attached to each bag or container of seed we sell. We use AOSCA-certified testing facilities to make sure our seed meets high quality standards.

WE SERVE THE FOLLOWING INDUSTRIES:

- Open-pit, strip mine and abandoned mine reclamation
- Exploratory mine and drill hole reclamation
- Gas, oil well and pipeline reclamation/restoration
- Road and highway reclamation
- Wildfire prevention and reclamation
- Habitat restoration and improvement, CRP mixes
- Solar farm reclamation and restoration
- Wind energy farm reclamation and restoration
- Precious metal mining reclamation

Below: *Reclamation seed mix, Zion National Park. Jason Stevens*

Top & Bottom: *Reclamation seed mix, Zion National Park. Jason Stevens*

Middle: *Customer submitted photo, Okanogan Fire, WA*

SALT AND ALKALI SOILS

Saline, sodic and alkali soils present challenges for farmers, ranchers and landowners. While these soil conditions will never be ideal or produce forage and biomass equal to more hospitable soils, there are solutions that will provide some satisfactory results. We offer a variety of seeds adapted to salty/sodic/alkaline conditions.

LINEAR PH SCALE: *THE WAY WE USUALLY SEE IT*

The pH scale below is the one we are accustomed to. It's probably what you read about in your chemistry books and in FFA. It helps to see pH on a scale from acidic (at the top) to basic (at the bottom). The scale is sometimes drawn horizontally. It helps us understand pH by using common household items and everyday things as examples. In terms of soils, we can quickly and roughly identify where our soils fall on the scale. The simplified pH scale isn't perfect and it can be misleading if you don't know how pH is accurately measured and how it affects plant life. Understanding that the pH scale is logarithmic can prevent false confidence and disappointing outcomes.

INTERESTING pH LEVELS:

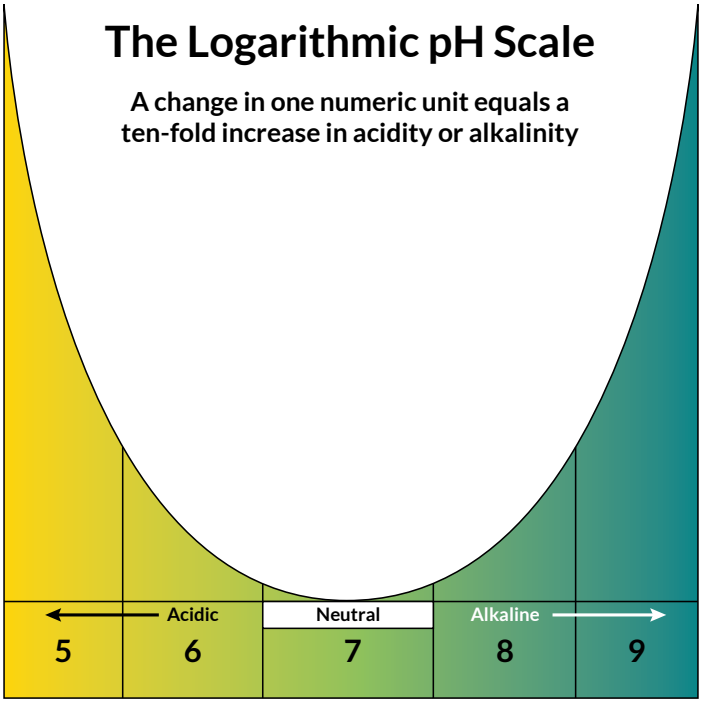
Healthy Stomach: 2.0
Beer and Wine: 4.0
Tomato Juice: 4.0
Black Coffee: 5.0

Urine: 6.0
Healthy Mouth: 6.7
Healthy Blood: 7.4
Great Salt Lake: 10.00

LOGARITHMIC PH SCALE: *THE WAY PH ACTUALLY LOOKS*

The pH scale we normally see is an oversimplified representation of the way pH is accurately measured. pH is logarithmic, meaning a change in one numeric value equals a ten-fold change in acidity or alkalinity. In other words, a soil with an 8 pH is ten times more alkaline that a soil with a 7 pH. This has dramatic implications for plant selection, and demonstrates why a plant that tolerates a 7.2 pH won't even begin to establish in a 7.5 pH.

Note that in our chart we have not extended the logarithm past 5 acidic and 9 alkaline. Very few organics will survive in those conditions. We created this chart so you can visualize the dramatic increase in soil toxicity as pH moves farther from neutral and more effectively select species appropriate for your site.



SALT AND ALKALI SOILS

SOIL TESTS:

We strongly encourage soil samples. They are the first step in choosing species suited to your site. It is recommended to find a lab to analyze the makeup of your soil and provide a chemical and mineral analysis. This analysis will include information critical to the selection of appropriate plant species, soil preparation, condition methods, and chemical recommendations. Once you have the analysis you can select species that will survive within the parameters of your site. As you can see from the logarithmic pH scale on page 10, an analysis report down to a decimal point is crucial.

We recommend contacting Stukenholtz Laboratory for soil results and recommendations. They have great customer service, accurate tests and speedy results. They offer fertilizer recommendations with the analysis. The cost of a soil sample (about $20-$50) can save you hundreds if not thousands of dollars in seed, fertilizer, diesel fuel and development costs. Visit their website for instructions on how to pull and submit a sample. Once you have the results give us a call and we will walk you through the process of choosing seed based on the test results.

Stukenholtz Laboratory
2924 Addison Avenue, E
PO Box 353
Twin Falls, ID 83303-0353
(208) 734-3050
(800) 759-3050

You may already have a lab you like to use. There are many. We recommend Stukenholtz because we have come to know them as a reliable, quick, customer-oriented company with consistent results.

SCAN ME

PLANTS ADAPTED TO SALT AND ALKALI:

Soils heavy in salt and alkali, known as "basic soils," create difficult growing conditions. Basic soil conditions range from mildly alkaline (requiring little more than a variety selected for tolerance) to highly alkaline (nearing the point where very little will survive in the conditions). These difficult soil circumstances are frequently found in valley bottoms, "sump" places, marshy and/or moist edges, and desert valleys and lowlands.

While these conditions are difficult, there are solutions that will return an investment and transform a useless plot into a stand that will produce something of value. Several species are suitable for planting in salt and alkali conditions. The list to the right should get you started in your selecting process.

Top: *"The Pots", Monitor Valley, NV. Jason Stevens*

Bottom: *River bottom pastures, Burns, OR. Jason Stevens*

DRYLAND SPECIES

SPECIES	PH TOLERANCE	MIN PRECIP.
AC Saltlander Green Wheatgrass	*Very High*	12"
Alkali Sacaton	*Very High*	10"
Tall Wheatgrass	*Very High*	8"
Yellow Sweet Clover	*High*	8"
Slender Wheatgrass	*High*	10"
Crested Wheatgrass	*High*	6"
Siberian Wheatgrass	*High*	5"
Russian Wildrye	*High*	7"
Perennial Ryegrass	*Moderate*	12"
Basin Wildrye	*Moderate*	10"
Western Wheatgrass	*Moderate*	7"
Thickspike Wheatgrass	*Moderate*	7"
Blue Grama	*Moderate*	8"
Bluebunch Wheatgrass	*Moderate*	8"
Dahurian Wildrye	*Moderate*	11"
Small Burnet	*Moderate*	11"
Annual Rye Grain	*Moderate*	11"

IRRIGATED SPECIES

SPECIES	PH TOLERANCE	MIN PRECIP.
Fixation Balansa Clover	*High*	16"
Frosty Berseem Clover	*High*	16"
Strawberry Clover	*High*	16"
Prairie Junegrass	*Moderate*	12"
Smooth Bromegrass	*Moderate*	12"
Cicer Milkvetch	*Moderate*	12"
Annual Ryegrass	*Moderate*	12"
Meadow Bromegrass	*Moderate*	14"
Ladino Clover	*Moderate*	16"
Red Clover	*Moderate*	16"
Garrison Creeping Foxtail	*Moderate*	20"

CUSTOM MIXES

Many applications require a custom approach. Since our beginnings in 1974 we have assisted customers in developing seed mixes tailored to their specific needs and conditions.

*Call 435.283.1411 for a **FREE** consultation.*

CUSTOM SEED MIXES (SEE PG. 14)

You may have learned through experience that some species and varieties work better for you than others. Custom mixes of any type, size, and quantity are possible. No job is too big or too small.

CRP CUSTOM SEED MIXES (SEE PG. 15)

Great Basin Seed has been supplying seed for the CRP program to farmers and ranchers since its beginnings. We have sold millions of pounds of seed for the CRP and carry all of the program's recommended species, including pollinators. Once you've enrolled in the program, give us a call to get a price on your seed mixture.

SAGE GROUSE SEED MIXES (SEE PG. 17)

Sage Grouse habitat is threatened all over the Intermountain West. We specialize in habitat improvement seed mixes recommended by the NRCS and Sage Grouse Initiative. We can easily custom blend the recipes you establish with them.

SCAN ME

CUSTOM MIXES

Custom seed mixes are the heart and soul of Great Basin Seed. Because of the nature of our business, we must treat the majority of projects based on specific site conditions and the customer's desired outcomes. Standardized mixes work for a wide variety of situations, but the unique requirements of each customer generally require a custom approach.

Since upgrading our database in 2009, we have mixed an average of 600 custom seed mixes per year. We have worn out dozens of sewing machines, used enough string to go to the moon and back several times, printed truckloads of paper analysis tags, and used freight containers full of seed sacks and totes. Over the years, we have completely worn the mixing blades off two seed mixers. We have done all of this and more in an effort to provide each customer with the perfect custom seed mix for their specific needs.

Above: *One of our custom-built barrel mixers. This model holds 24,000 pounds per batch. Material is completely homogenized in 4 rotations.*

Below: *Custom mountain cabin and flower mix near Moscow, ID. Jason Stevens*

DESIGN YOUR OWN MIX

Designing a seed mix can be a daunting task. The sheer amount of information available makes it hard to navigate and choose correctly. Sometimes you need help from experts with "boots on the ground" experience. We are here to help. Our advise is free - we don't charge a consulting fee.

Use the bullet points on the right to get started. The answers to these questions provide the guidelines to determine which species will flourish and produce the desired results. Once you have answered these basic questions, give us a call and we will help you select the species, determine seeding rates and create a price estimate.

Custom seed mixes are the standard for us! Don't be afraid to call to discuss your requirements or that "difficult location" on your land. We are happy to assist!

Questions to get you started:

- Where is the planting site?
- What is the elevation of your planting site?
- What are average high and low temperatures?
- What is your annual precipitation?
- How and when does the precipitation come?
- Can you flood or sprinkler irrigate?
- What kind of soil do you have: sandy, clay, rocky?
- How would you describe your water drainage?
- Do you have a soil test?
- Do you have a water test?
- What other species are currently on site?
- What are your desired outcomes? Is this seed mix for reclamation, range, forage, pasture, soil stabilization, ground cover, ornamental or beautification?

Below: *Landscape near Fish Lake, UT Jason Stevens*

CONSERVATION RESERVE PROGRAM

The Conservation Reserve Program (CRP) is a land program administered by the Farm Service Agency (FSA). It was signed into law in 1985 by President Ronald Regan and is the largest private land conservation program in the United States. Farmers and ranchers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant seed species that benefit and improve:

- Air and water quality
- Soil health, erosion prevention and stability
- Overall environmental conditions
- Wildlife habitat
- Pollinator and beneficial bugs conditions

In exchange for participation in the program, farmers may receive a variety of benefits including cost-sharing, rent assistance and other incentives.

HOW CAN YOU ENROLL IN THE PROGRAM?

Contracts for land enrolled in CRP are generally 10-15 years in length. To start the enrollment process visit your local FSA/NRCS office (they are frequently the same office) or their website at: *www.fsa.usda.gov/conservation*

HOW CAN GREAT BASIN SEED HELP?

After you have enrolled in the program, the NRCS will recommend a seed mix recipe specific to your site. Once you have their recommendations, give us a call to price your seed mixture.

Great Basin Seed has been participating with farmers and rancher by providing seed for the CRP program from the very beginning. We have sold millions of pounds of CRP seed and carry every species recommended by the program, including pollinators.

Below: *Application of a custom pasture mix near Zion National Park, UT.*

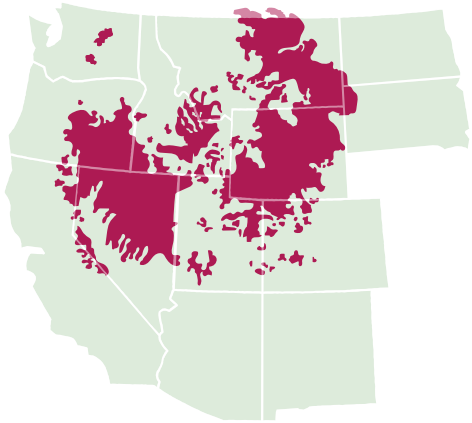
SEED MIXES FOR SAGE GROUSE HABITAT

Sage Grouse *(Centrocercus urophasianus)* live in the sagebrush-steppe of the western United States and southern Canada. They are considered a "permanent resident", meaning they only move short distances and do not migrate. They forage on the ground and eat mainly sagebrush, but also insects and other plants. They nest on the ground under sagebrush or grass patches. The sagebrush-steppe is a critical part of their habitat.

At risk: In the United States the sage grouse is a candidate under the Endangered Species Act. The leading factor in the decline of sage grouse populations is loss of habitat. Contributors to the population decline include: urban expansion, wildfires, invasive weeds and exotic grasses and removal of the sagebrush-steppe.

Sage Grouse Initiative: In 2010 the Natural Resources Conservation Service (NRCS) launched the Sage Grouse Initiative (SGI) in an effort to restore sage grouse habitat and revive the declining population. The effort is largely being carried out on private land. The program relies on voluntary landowner participation and partners who help them enhance and conserve the habitat. Some of the efforts in place to improve sagebrush habitat include:

- Conifer removal
- Conservation easements
- Grazing systems
- Marking fences
- Invasive weed control
- Seeding projects
- Exotic species control



How to participate:

If you own land in the areas indicated you may qualify for participation in the Sage Grouse Initiative. Contact your local NRCS service center or visit their website at:

www.sagegrouseinitiative.com

Current Range

HOW CAN GBS HELP?

The NRCS, cooperating universities, state agencies and CRP partners have established seed recommendations for habitat improvement. A few of the more common species are listed to the right.

We specialize in the seeds recommended by the NRCS and CRP. We can easily custom blend the recipe they recommend. Visit your NRCS/CRP agent to determine which species are approved for your site and meet the project goals. If you are a landowner in the SGI or would like to be, we recommend you visit the SGI website, contact us for help with your seed needs.

Recommended Seed Species for Sage Grouse Habitat:

Shrubs & Sub-Shrubs	Grasses & Grass Likes	Forbs & Legumes
Wyoming Big Sagebrush	Western Wheatgrass	Purple Prairie Clover
Basin Big Sagebrush	Thickspike Wheatgrass	White Prairie Clover
Low Sagebrush	Bluebunch Wheatgrass	Yellow Coneflower
Black Sagebrush	Snake River Wheatgrass	Perennial Gaillardia
Rubber Rabbitbrush	Streambank Wheatgrass	Arrowleaf Balsamroot
Winterfat	Indian Ricegrass	Firecracker Penstemon
Louisiana Sage	Bottlebrush Squirreltail	Rocky Mtn. Penstemon
Fringed Sage	Slender Wheatgrass	Goosberryleaf
Skunkbush Sumac	Sideoats Grama	Globemallow
Snowberry	Green Needlegrass	Scarlet Globemallow
Fourwing Saltbush	Blue Grama	Rocky Mountain Beeplant
Gardners Saltbush	Idaho Fescue	Silky Lupine
Shadscale Saltbush	Galleta Grass	Silvery Lupine
Spiny Hopsage	Basin Wildrye	Sulfur Buckwheat
	Mountain Brome	Utah Sweetvetch
	Prairie Junegrass	Common Sunflower
	Needle and Threadgrass	Blue Flax
	Muttongrass	Yarrow
	Canby Bluegrass	Sainfoin
		Birdsfoot Trefoil


SCAN ME

PASTURE MIXES

Dryland, irrigated and custom pasture mixes for a variety of situations.

We've spent 50 years of formulating, mixing, and distributing quality pasture mixes! We provide premium pasture blends tailored to specific traits and outcomes. We chose varieties that match your needs with competitive pricing.

NEW!

WARM SEASON GRASS MIXES (SEE PG. 25)

We now offer four new warm season grass mixes for a variety of uses. These mixes are each designed for the prairies, plains and hill country of the West, Southwest, and Midwest.

BEST SELLER!

DRYLAND PASTURE MIX (SEE PG. 23)

Dryland pasture mix is our top-selling pasture mix. It is designed for areas with as little as 10" of annual precipitation.

BEST SELLER!

IRRIGATED PASTURE MIX (SEE PG. 22)

Our irrigated pasture mix comes in second in sales to our dryland mix. It is planted from coast-to-coast for a wide range of forage, pasture and hay uses.

HORSE PASTURE MIX (SEE PG. 24)

Our horse pasture mix requires the same amount of water as our irrigated pasture mix and is formulated specifically to the needs of horses. Specific feed requirements can be accomodated - give us a call!

CUSTOM MIXES (SEE PG. 14)

Custom seed mixes are the heart and soul of Great Basin Seed. A ready-made mix may not be the right fit for your soil, water, environment, and desired outcome. We can help you design a mix specific to your needs.

PASTURE MIX FAQ'S

How do I know if my planting site is dryland or irrigated? How do I choose species for my conditions?

We consider any precipitation zone of 12" or less to be a "dryland" zone. "Irrigated" areas have additional irrigation or receive more than 12-16" of annual precipitation. If you want to narrow your search even further you can use the chart to the right or look at the back of this catalog for each species' requirements.

What is the suggested planting rate? How many pounds of pasture seed should I plant per acre?

The answer to this question varies depending on species, annual precipitation, soil conditions and desired outcome. Seed size or number of seeds per pound is a large determining factor. However, pasture and grass mixes are generally *drilled* at 12-16 pounds per acre, and *broadcast* at 18-20 pounds per acre.

How do I prepare my planting site for the best possible outcome?

Weed control and some form of soil disturbance is recommended before planting. Disturbance can be as simple as scratching the surface with a hard-tooth rake on small plots, or running a tooth harrow over a large tract. Deep tilling, plowing, or discing is not always necessary. For additional information on this topic visit our website where you will find blog posts, photos, videos and additional information.

What is the best time of year to plant?

As a general rule, fall plantings (sometimes called *dormant planting*) are the most successful. However, successful plantings can be made any time of year assuming enough moisture is available to nurse the plants through the germination and establishment process. Spring offers good planting conditions assuming soil conditions allow you to work the ground and sow seed. In some areas, planting before summer monsoon season is best.

PASTURE GRASS SELECTOR

Is your planting site DRYLAND or IRRIGATED?

DRYLAND
LESS than 12" annual precipitation and no supplemental irrigation

MIN " PRECIP	SPECIES	PH/SALT TOLERANCE	COST
5	Siberian Wheatgrass	*High*	*$$$*
6	Crested Wheatgrass	*High*	*$$$*
6	Sandberg Bluegrass	*Fair*	*$$$$*
6	Streambank Wheatgrass	*Moderate*	*$$$$*
7	Russian Wildrye	*Very High*	*$$$$*
7	Indian Ricegrass	*Fair*	*$$$*
7	Western Wheatgrass	*High*	*$$$*
7	Thickspike Wheatgrass	*Moderate*	*$$$*
8	Blue Grama	*Moderate*	*$$$$$*
8	Tall Wheatgrass	*Very High*	*$$*
8	Bluebunch Wheatgrass	*Moderate*	*$$$$*
8	Yellow Sweet Clover	*Moderate*	*$*
9	Sheep Fescue	*Fair*	*$$*
9	Sand Dropseed	*Moderate*	*$$$*
10	Sideoats Grama	*Fair*	*$$$$$*
10	Slender Wheatgrass	*Very High*	*$$*
10	Basin Wildrye	*Moderate*	*$$$$*
11	Intermediate Wheatgrass	*Moderate*	*$$*
11	Pubescent Wheatgrass	*Moderate*	*$$*
11	Dahurian Wildrye	*Moderate*	*$$*
11	Smooth Bromegrass**	*Moderate*	*$$*
11	Small Burnet	*Moderate*	*$$*
11	Annual Rye Grain	*Moderate*	*$*
11	Ranger Alfalfa	*Fair*	*$$*
11	Ladak Alfalfa	*Fair*	*$$*
11	AC Saltlander	*Very High*	*$$$$*
11	Paiute Orchardgrass	*Fair*	*$$*

IRRIGATED
MORE than 12" annual precipitation and/or supplemental irrigation

MIN " PRECIP	SPECIES	PH/SALT TOLERANCE	COST
12	Arizona Fescue	*Fair*	*$$$$*
12	Idaho Fescue	*Low*	*$$$$*
12	Prairie Junegrass	*Moderate*	*$$$$$*
12	Smooth Bromegrass**	*Moderate*	*$$*
12	Hard Fescue	*Fair*	*$$*
12	Cicer Milkvetch	*Moderate*	*$$$$*
12	Annual Ryegrass	*Moderate*	*$*
12	Perennial Ryegrass**	*Fair*	*$*
12	Small Burnet	*Moderate*	*$$*
12	Sainfoin	*Fair*	*$$*
14	Meadow Bromegrass	*Moderate*	*$$*
14	Orchardgrass**	*Fair*	*$$*
16	Fixation Balansa Clover	*High*	*$*
16	Frosty Berseem Clover	*High*	*$*
16	Strawberry Clover	*High*	*$$$*
16	Ladino Clover	*Moderate*	*$*
16	Red Clover	*Moderate*	*$*
16	Reed Canarygrass	*Fair*	*$$$*
16	Tall Fescue	*High*	*$*
16	Alfalfa**	*Variable*	*$$*
16	Timothy	*Fair*	*$*
18	Alsike Clover	*Fair*	*$$*
18	White Dutch Clover	*Fair*	*$$*
18	Kentucky Bluegrass	*Fair*	*$*
20	Garrison Meadow Foxtail	*Moderate*	*$$$*

*** Multiple varieties available for a wide range of soil types, climates and desired outcomes.*

IRRIGATED PASTURE MIX:

For zones with more than 16 inches annual precipitation or supplemental irrigation

- Mid-Maturing Forage Orchardgrass
- Late-Maturing Forage Orchardgrass
- Tall Fescue, Forage Type
- Forage Type Perennial Ryegrass
- Meadow Bromegrass

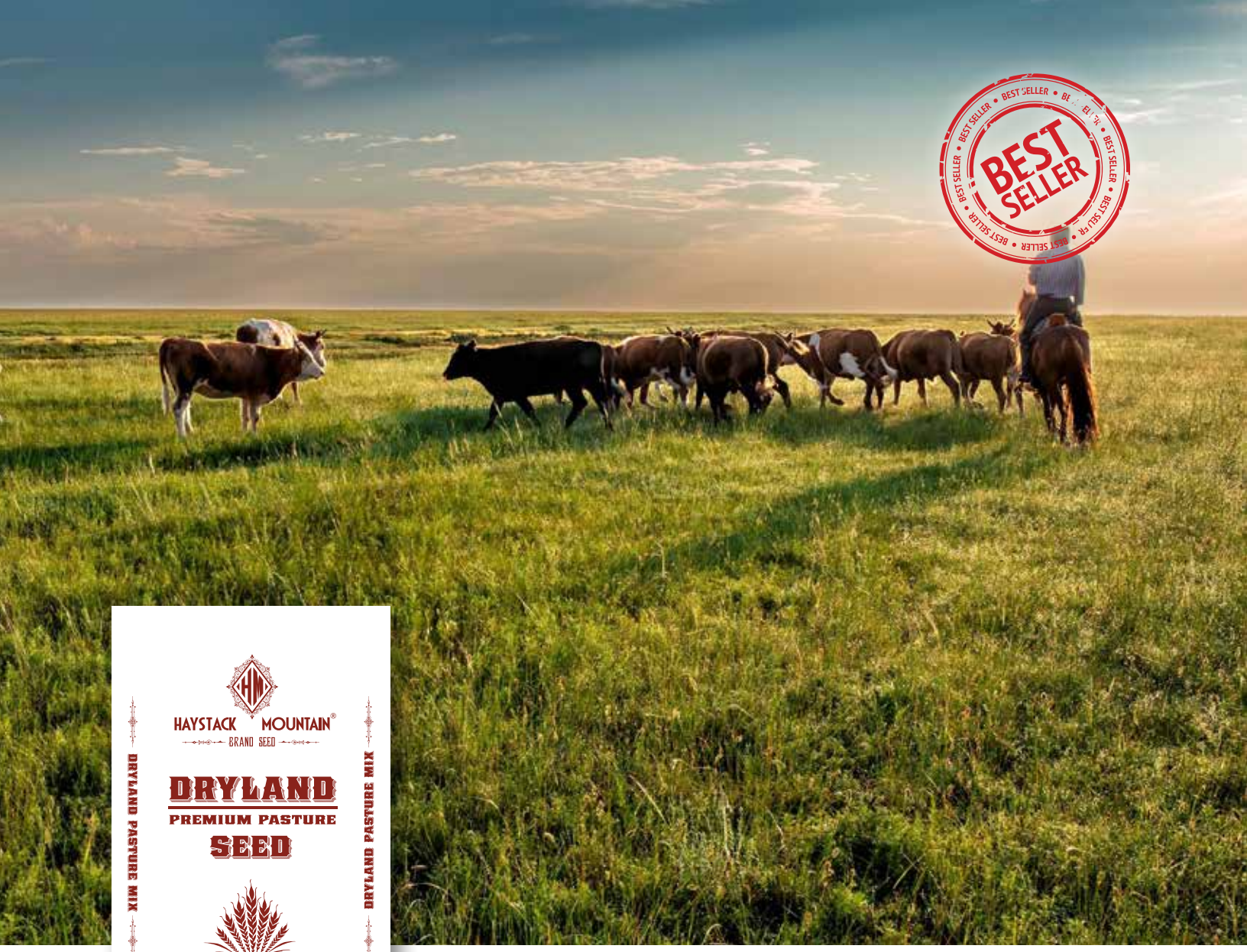
Common additional mix-ins include alfalfa and sainfoin. If rapid grazing results are desired consider adding annual ryegrass or Bandito II Intermediate Ryegrass.

Farmers and ranchers from all walks of life use our irrigated pasture mix. It is a best selling item at Great Basin Seed. Plant as a stand-alone crop for pasture and/or hay, or in pivot corners and isolated parts that require coverage and forage yield. It is very effective at driving out weeds.

Planting Rate:
16 lbs. per acre drilled
(drill no deeper than 1/4")
20 lbs. per acre broadcast

Refer to the analysis tag on the bag for actual mix ratios and percentages. Mix varieties are subject to change based on annual crop production and availability.

SCAN ME



DRYLAND PASTURE MIX:

For zones with less than 12 inches annual precipitation

- Intermediate Wheatgrass
- Dryland Orchardgrass
- Slender Wheatgrass
- Crested Wheatgrass
- Smooth Bromegrass
- Dahurian Wildrye
- Dryland Alfalfa

For improved winter range and higher protein consider adding Immigrant Forage Kochia

Dryland pasture mix is designed for farm, ranch and range where no irrigation is present. It grows well on the annual precipitation available in most areas of the United States excluding areas with very arid climates like the Sonoran and Mojave desert. We have selected dryland pasture mix species that persist and perform well in droughts and provide good forage.

Planting Rate:
16 lbs. per acre drilled
(drill no deeper than 1/4")
20 lbs. per acre broadcast

Refer to the analysis tag on the bag for actual mix ratios and percentages. Mix varieties are subject to change based on annual crop production and availability.

SCAN ME

PASTURE MIXES

MIX NAME	MIX COMPONENTS	FEATURES	MIN. PRECIP.	SEEDING DEPTH/RATE PER ACRE
All Purpose Pasture Mix	*Tall Fescue* *Orchardgrass* *Forage Kentucky Bluegrass* *Climax Timothy* *White Clover* *Perennial Ryegrass*	A cost-effective pasture mixture for all livestock and applications. Will preform well as a cut-and-bale crop, or for grazing and pasture.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Alpaca and Llama Pasture Mix	*Orchardgras* *Meadow Brome* *Kentucky Bluegrass* *Timothy*	Species selected for Alpacas & Llamas. Well suited to grazing. Dense, soft leaves. Adapted to a broad geographic range.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Chicken Pasture Mix	*Hairy Vetch* *White Dutch Clover* *Strawberry Clover* *Alfalfa* *Field Pea* *Crimson Clover* *Common Flax*	Produces excellent chicken forage that is naturally low-growing and nutrient-dense. Contains species that are a source of omega-3 fatty acids. Ideal for large acreages or small backyard plots and can also be used as a cover crop.	16”	1/4” MAX** 1 lb per 1000 sqft 16 lbs drilled 20 lbs broadcast
Dryland Pasture Mix	*Intermediate Wheatgrass* *Dryland Orchardgrass* *Slender Wheatgrass* *Hycrest Crested Wheatgrass* *Smooth Bromegrass* *Ladak Alfalfa* *Dahurian Wildrye*	For zones with 9-12” annual precipitation. Designed for farm, ranch and range where no irrigation is present. A best seller for 45 years!	9”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Great Plains Pasture Mix	*Intermediate Wheatgrass* *Cache Meadow Brome* *Rustler Tall Fescue* *Pubescent Wheatgrass* *Tetraploid Perennial Ryegrass* *Intermediate Ryegrass*	Highly palatable. Top of the line forage grasses. Excellent for cattle. Produces high yields with limited moisture. Tolerant of heavy snow, cold winters and hot summers. Very hardy.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Homesteader’s Choice Warm Season Grass Mix	*Smooth Bromegrass* *Crested Wheatgrass* *Slender Wheatgrass* *Intermediate Wheatgrass* *Russian Wildrye*	Native grass mix suited to prairie lands of the USA from 3-6,000′ in elevation. These native grass seeds were the Homesteader’s Choice when it came to range species.	16”	1/4” MAX** 30-40 lbs broadcast
Honey Bee Pasture Mix	*Crimson Clover (annual)* *White Dutch Clover (perennial)* *Yellow Sweet Clover (perennial)* *Alsike Clover (perennial)* *Sainfoin (perennial)* *Phacelia (annual)* *Blue Flax (perennial)* *& others!*	A blend of clovers, legumes and flowers Inexpensive, rapid establishment. Can be grazed by livestock or used as green manure. 1 pound covers 2,500 square feet	18”	1/4” MAX** 4-8 lbs broadcast
Horse Pasture Mix	*Timothy* *Oro Verde Tetraploid Perennial Rye* *Albion Tetraploid Perennial Rye* *Quickdraw Orchardgrass* *Kentucky Bluegrass (forage type)*	Drought tolerant. Blended specifically for horse pasture and hay. Good for cattle. Performs best under sprinkler irrigation.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Irrigated Pasture Mix	*Mid-Maturing Forage Orchardgrass* *Late-Maturing Forage Orchardgrass* *Tall Fescue–Forage Type* *Perennial Ryegrass* *Meadow Bromegrass*	A time-tested and proven recipe. Best seller to customers in the Northern hemisphere. Early, mid, and late maturing varieties are added to this mix, making it suitable for cutting AND grazing depending upon your needs.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast

PASTURE MIXES

MIX NAME	MIX COMPONENTS	FEATURES	MIN. PRECIP.	SEEDING DEPTH/RATE PER ACRE
Mountain & Cabin Mix	*Winter Rye Grain* *Perennial Ryegrass* *Smooth Brome* *Orchardgrass* *Kentucky Bluegrass (forage type)* *Timothy* *Red Clover*	A blend of mountain grasses and wildflowers adapted to 4,000 to 8,000 feet in elevation. Very effective at erosion control, ground cover, and showy displays of red clover. Wildflower can be added to this mix.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Mountain Pass Grass Mix	*Smooth Bromegrass* *Crested Wheatgrass* *Slender Wheatgrass* *Intermediate Wheatgrass* *Russian Wildrye*	Ideally suited to high elevation sites of the West above 8,000′. Provides deep green grasses suited to the mountain meadows, passes and valleys. Adapted to the Southwest and Midwest prairies, from Canda to the Mexico border states.	16”	1/4” MAX** 20 lbs drilled 30-40 lbs broadcast
Pig and Hog Pasture Mix	*Orchardgrass* *Kentucky Bluegrass* *Powell Alfalfa* *Triticale* *White Clover* *Red Clover* *Birdsfoot Trefoil*	A mix of clovers, alfalfa and grasses. Designed for the foraging characteristics of pigs. Great for full-season forging.	16”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Pioneer Pride Warm Season Grass Mix	*Little Bluestem* *Galleta* *Sideoats Grama* *Sand Dropseed* *Indian Ricegrass* *Alkali Sacaton*	Our low elevation prairie mix. Intended for sites between 4,000 and 5’000′ elevation. Mixture of native grasses. Adapted to the prairies of America Southwest and Midwest prairies, from Canda to the Mexico border states.	12”	1/4” MAX** 12 lbs
Rapid Establishment Irrigated Pasture Mix	*Cache Meadow Bromegrass* *Albion Perennial Ryegrass* *Elena Forage* *Tall Fescue* *Extend Orchardgrass* *Bonus Festulolium* *Annual Ryegrass* *Italian Ryegrass* *Teff Grass*	Fast establishing grasses for immediate results. Can be cut and/or grazed. Excellent forage production and quality. Perfect for early summer or fall planting.	14”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Salt & Alkali Soils Pasture Mix	*Tall Wheatgrass* *Hercules Tall Wheatgrass* *AC Saltlander Green Wheatgrass* *Garrison Creeping Foxtail* *Intermediate Wheatgrass* *FSG423ST Salt Tolerant Alfalfa* *Strawberry Clover*	Can be customized based on soil tests (see page 17). Does well in valley bottoms, sump area, and other challenging soil conditions. Turn a useless plot into a stand that will produce something of value!	12”	1/4” MAX** 16 lbs drilled 20 lbs broadcast
Santa Fe Trail Warm Season Grass Mix	*Blue Grama* *Indian Ricegrass* *Western Wheatgrass* *Sideoats Grama* *Galleta* *Buffalograss* *Alkali Sacaton* *Little Bluestem*	Native warm season grasses from the prairies. Excellent for forage and feed. Suited to Southwest and Midwest prairies, from Canda to the Mexico border states. Up to 8,000’ in elevation.	12”	1/4” MAX** 16 lbs drilled 20-30 lbs broadcast

***Drill seeding pasture mixes can produce the very best establishment results IF seeds are sown **no deeper than 1/4”**. Establishment will likely fail if seeds are buried or planted deeper than 1/4”. Broadcast methods work well, especially if the site is harrowed or disturbed and some form of compaction is used after sowing.*

NEW! SOIL BUILDER COVER CROP MIX

Our Soil Builder Cover Crop mix improves soil! It's a low-cost, eco-friendly approach to rapidly increase soil nutrients and break up compaction. Beneficial soil "bugs" flourish in the combination, promoting healthy soil biomes. The roots retain water and break up soil compaction. It quickly establishes and prepares for permanent crops.

Mix Contents:
Eco-Till Radish
Common Vetch
Flax
Crimson Clover
Oats
Sunn Hemp
Forage Peas

COVER CROPS

Soil health can be improved by planting and rotating with cover crops. Planting cover crops is also economical. The following principles, when combined with cover crop use, can dramatically improve soil health:

- Minimize soil disturbance.
- Maximize plant biodiversity with rotation & cover crop mixes.
- Keep living roots alive as much as possible. Practice no-till drilling.
- Keep the soil covered. Use cover crops in shoulder seasons.
- Incorporate livestock grazing practices.

PURPLE TOP TURNIP (SEE PG. 29)

Does well in colder climates, excellent fodder and feeding value. Excellent for breaking soil compaction.

DAIKON RADISH (SEE PG. 29)

Leafy cover crop, high forage value and superb at breaking soil compaction.

FIXATION BALANSA CLOVER (SEE PG. 29)

Fixation Balansa Clover is a nitrogen fixing beast! Produces incredible biomass and tolerates compacted, poor soils.

SCAN ME

BENEFITS OF COVER CROPS

Planting "green manures" or cover crops is one of the simplest and most cost-effective ways to improve your soil. Most soils can be kept productive by employing sound soil management practices such as minimum soil tillage, crop rotation, and the addition of organic matter.

Nutrient Cycling. Cover crops add valuable nutrients to the soil, such as nitrogen. For plants to grow, they need food, air, and organic matter in the soil. Fungi and bacteria in the soil work to break down organic matter. When microorganisms eat organic matter, nutrients are released back into the soil in a form that plants can use. This process is called "nutrient cycling." Nutrient cycling changes both the physical and chemical properties of the soil. When used as part of a long-term rotation plan, cover crops promote beneficial organic matter, insects and microorganisms for a stable habitat in your garden.

Organic Matter. Microorganisms that consume organic matter release nutrients into the soil. Organic matter improves soil structure, which increases water absorption and nutrient retention, buffers soil pH, and improves aeration. Cover crops add organic matter. The decaying process results in natural mulch or compost.

Improve Soil Structure. The roots of the cover crop will also help to improve the soil structure. Root passages and pore spaces aerate the soil and increase moisture percolation. The passages are also used by insects and other microorganisms.

Weed Suppression. Cover crops compete with weeds for space, water, nutrients, and sunlight. Weeds are deprived of nutrients by the roots, the leaves shade out weeds, and crop mulch covers weed seeds.

Above: *Owner Eric "Zeke" Stevens in a field of cover crops, South Dakota. Jason Stevens*

Moisture. Cover crops both conserve and increase soil moisture. The soil is sheltered from evaporation caused by the sun and wind, and deep roots draw moisture from the soil profile.

Prevent Erosion. Cover crops help avoid bare ground, especially during the shoulder seasons and winter. When soil is exposed it is more likely to be worn away by wind and water. Cover crops help stabilize the soil and minimize runoff by holding the soil together and strengthening its structure.

Reduced work load. Cover crops save time and energy. The nutrients they provide reduces the need for composting or mulching, making cover crops a good option when looking to improve the soil quality of a large area.

Biodiversity. Cover crops increase biodiversity. Every plant has its own distinct characteristics, including how it interacts with other plants and organisms. Cover crops can attract beneficial bugs and pollinators that add something special to the habitat.

Insects. Cover crops play a major role in attracting beneficial bugs and insects. Attracting insects increases the quantity of pollinators on your site, which aids in plant propagation. Increased organic matter and nutrients in the soil also nourish beneficial microbes that can keep fungal and bacterial infections at bay. Insects can reduce the amount of nematodes and microscopic organisms that feed on plant roots and stems and can carry viruses that they transmit to the plants.

COVER CROPS

	SCIENTIFIC NAME	COMMON NAME	LIFESPAN	RECOMMENDED USES	SOW	SOW SEASON	NITROGEN FIXATION
Broadleaf	*Brassica campestris*	Purple Top Turnips	A	Break soil compaction, enhance forage, fix nitrogen.	.50”	Summer or Fall	Yes
	Brassica napus	Rapeseed	A	Enhance forage. Drought tolerant, heat tolerant.	.25-75”	Spring or Fall	No
	Brassica oleracea var. sabellica	Forage Kale	B/A	Enhanced forage. Useful for water management. Drought tolerant. Very winter hardy.	.25-.50”	Summer or Fall	No
	Crotalaria juncea	Sunn Hemp	A	Nitrogen fixing, weed suppression, heat tolerant.	.25-75”	Summer	Yes
	Many Varieties	Forage Cabbage	A	Forage enhancement, weed suppression.	.50”	Spring or Fall	No
	Many Varieties	Forage Collard	A	Break soil compaction, enhance forage, suppress weeds, drought tolerant.	.25-.50”	Spring or Fall	No
	Phacelia tanacetifolia	Phacelia	A	Beneficial insectary, weed suppression, low fertility soil.	.25”	Fall	Yes
	Raphanus sativus	Nematode Radish	A	Break soil compaction, nematode control, weed suppression.	.50”	Spring or Fall	No
	Raphanus sativus var. niger	Daikon Radish	A	Break soil compaction, manage water, suppress weeds, low fertility soil.	.50”	Summer or Fall	No
	Sinapis alba	White Mustard	A	Nematode control, suppress weeds, manage water, drought tolerant.	.25-75”	Summer or Fall	No
	Brassica juncea Sinapis Alba	Mighty Mustard Mix	A	Nematode control, suppress weeds, large biomass. 40% White Gold Mustard, 40% Kodiak Oriental Mustard, 20% Pacific Gold Oriental Mustard	.25-75”	Summer or Fall	No
	Helianthus annuus	Peredovic Sunflower	A	Commonly used for doves and as a cover crop. Widely adapted, establishes well.	1-1.5”	Spring or Summer	No
Grain/Legume	*Fagopyrum esculentum*	Buckwheat	A	Beneficial insectary, suppress weeds, drought tolerant, low fertility.	.50- 1”	Summer	No
	Pennisetum glaucum	Pearl Millet	A	Water management, weed suppression, drought tolerant, heat tolerant.	.25-75”	Spring or Summer	No
	Setaria italica	German Millet	A	Drought tolerant, rapid growth during summer months. Fast maturing single cut millet.	.25-75”	Summer	No
	Echinochloa esculenta	Japanese Millet	A	Tolerates flooding and wet soils. Higher level of salt tolerance. Good for multi-cut scenarios.	.25-75”	Summer	No
	Secale cereale	Cereal Rye	A	Weed suppression, drought tolerant, low fertility.	1-1.5”	Spring or Fall	No
	Sorghum × drummondii	Sorghum Sudangrass	A	Break soil compaction, enhance forage, heat tolerant, low fertility.	1”	Summer	No
Grass	*Eragrostis Tef*	Teff Grass	A	Enhance forage, drought and heat tolerant.	.12-.50”	Summer	No
	Lolium perenne multiflorum	Annual Ryegrass	A	Easily to established, vigorous cool season grass cover crops, hay, pasture, erosion control.	.75- 1”	Spring or Fall	No
Legume	*Trifolium alexandrinum*	Berseem Clover	A	Beneficial insectary, enhance forage, low fertility soil, heat tolerant.	.25-75”	Spring or Fall	Yes
	Trifolium incarnatum	Crimson Clover	A	Break soil compaction, enhance forage, fix nitrogen, low fertility.	.50”	Spring or Fall	Yes
	Trifolium michelianum	Balansa Clover	A	Enhance low fertility soil, break soil compaction.	.25-75”	Spring or Fall	Yes
	Pisum sativum arvense	Winter Peas	A	Beneficial insectary, forage, fix nitrogen.	.50- 1”	Fall	Yes
	Vigna unguiculata	Cow Peas	A	Soil building, break compaction. Drought tolerant.	.25-1”	Spring or Fall	Yes
	Vicia villosa	Hairy Vetch	A	Beneficial insectary, nitrogen fixing.	.25-1”	Summer or Fall	Yes
	Vicia sativa	Common Vetch	A	Green chop, green manure, fodder.	.25-1”	Summer or Fall	Yes

*Lifespan Key: P = Perennial A = Annual B= Bi Annual

ALFALFA SELECTOR

Is your planting site DRYLAND or IRRIGATED?

DRYLAND

While these alfalfas are drought tolerant, they can be used in irrigated settings

MIN. PRECIP.	SPECIES	PH/SALT TOLERANCE	COST
9”	Falcata Alfalfa	*High*	*$$$$$*
10”	Ladak II Alfalfa	*Fair*	*$$$*
12”	Ranger II Alfalfa	*Fair*	*$$$*
12”	Ranger	*Fair*	*$$*
13”	Vernal	*Fair*	*$$*

IRRIGATED

MORE than 12” annual precipitation and supplemental irrigation

MIN. PRECIP.	SPECIES	PH/SALT TOLERANCE	COST
15”	Lahontan Alfalfa	*Moderate*	*$$*
15”	Rancher Special	*Fair*	*$$*
15”	Lander Alfalfa	*Moderate*	*$$$*
15”	Powell Alfalfa	*Fair*	*$$*
15”	FSG 408DP Alfalfa	*Fair*	*$$$*
15”	438RR Roundup Ready Alfalfa	*Fair*	*$$$$$*
15”	Salt Tolerant Alfalfa FSG 423ST	*Moderate*	*$$$*

ALFALFA

We offer alfalfas for every climate zone, soil type and end use.

LANDER ALFALFA (SEE PG. 33)

- Our best-selling, flagship alfalfa
- Semi-dryland or irrigated
- First U.S. variety with resistance to brown root rot
- Resistant to broad temperature fluctuations and high winds

POWELL ALFALFA (SEE PG. 33)

- Our workhorse alfalfa
- Perfect 30/30 Wisconsin DR Index
- High forage yield potential
- Persistent

RANGER II ALFALFA (SEE PG. 32)

- The “old standby” improved
- Winter hardy
- Drought tolerant and persistent
- Superior forage yields
- Wide range of soil adaptations

LADAK II ALFALFA (SEE PG. 32)

- Venerable dryland alfalfa
- Bred from the original Ladak
- Improved drought tolerance
- Improved disease and nematode resistance
- More persistent

ALFALFA

NAME	FALL DORMANCY	WINTER SURVIVAL	COATED	INOCULATED	FEATURES
Falcata Alfalfa	4.0	Excellent	Yes	No	- Superior drought resistance over other alfalfa - Tolerates pH up to 8.5 - Nitrogen fixing - Persistent in harsh, competitive grazing applications - Should not be grazed until the second year
FSG 408DP Alfalfa	4.0	Superior 1.9	Yes	Yes	- Deep set crowns insulate against sever winter weather and foot traffic - Excellent for intensive livestock grazing - True “dual-purpose” alfalfa that can be intensively cut and grazed - Superior recovery after cutting
Ladak II Alfalfa	2.0	Superior 2.0	Yes	Yes	- Excellent drought tolerance - Adapted to variable soil conditions - Superior forage yield when compared to Ladak - Certified seed
Lahontan Alfalfa	4.0	Very Good	No	No	- Recovers quickly after cutting - Generally produces lower yields than other varieties - Yields are roughly equal to the Ranger
Lander Alfalfa	3.5	Excellent	Yes	Yes	- Resists brown root rot - Stem nematodes and verticillium wilt - Excels in dryland or irrigated - Persists in challenging soil conditions - Certified, coated, treated and inoculated
Powell Alfalfa	3.0	Very Good 2.0	Yes	Yes	- Excellent forage yield potential and quality - High resistance to stem nematode - High resistance to northern root knot nematode - Perfect 30/30 Wisconsin DRI rating - Widely adapted, tried, trusted - Certified, coated, treated and inoculated
Rancher Special Alfalfa	4.0	Very Good	Yes	No	- An economic alternative to high-end alfalfas - Same quality, coating and treatment standards - Suited to a variety of situations
Ranger II Alfalfa	3.0	Very Good 2.0	Yes	Yes	- Developed directly from Ranger - Excellent drought tolerance - Excellent winter hardiness and persistence - Superior forage yield when compared to Ranger - Certified seed production
438RR Roundup Ready Alfalfa	4.0	Excellent 1.0	Yes	Yes	- Unsurpassed weed control - Great forage yield potential, superior forage quality - Germination salt tolerance - Perfect 30/30 Wisconsin DRI rating
Salt Tolerant Alfalfa FSG 423ST	4.0	Excellent 2.0	Yes	Yes	- Higher forage production under saline soil conditions - High resistance to stem nematode - High resistance to northern root knot nematode - Fine stemmed with superior forage quality
Vernal Alfalfa	2.0	Very Good	No	No	- Deep rooted and drought tolerant - Adapts to well drained, deep soils - pH range of 5.5-6.5 - One of the older alfalfa varieties available
FSG 229CR Alfalfa	2.0	Very Good 2.0	Yes	Yes	- Rhizomatous alfalfa - Specialized for use in dryland pastures - Highly persistent, tough alfalfa - Also tolerates wet soils - Can be used for hay or pasture

LANDER ALFALFA

- Excellent choice for the Intermountain West
- Excels in semi-dryland or irrigated
- Persists in challenging soil conditions
- Well adapted to harsh weather
- Excellent winter survival
- Resistant to stem nematodes and verticillium wilt

FALL DORMANCY: 3.0
WINTER SURVIVAL: EXCELLENT

CERTIFIED, COATED, TREATED AND INOCULATED

POWELL ALFALFA

- High multi-foliate leaf expression
- Excellent forage yield potential and quality
- High resistance to stem and northern root knot nematodes
- Persistent
- Widely adapted, tried, trusted

PERFECT 30/30 WISCONSIN DRI RATING
FALL DORMANCY: 3.0
WINTER SURVIVAL: 2.0 (VERY GOOD)
ROOT TYPE: TAP
RECOVERY AFTER CUTTING: FAST

CERTIFIED, COATED, TREATED AND INOCULATED


SCAN ME

CLOVERS & LEGUMES

Clovers and legumes for a wide range of applications. Use as a stand alone item or in a mix.

BEST SELLER!

SAINFOIN (SEE PG. 36)

- Drought tolerant, winter hardy
- Relished by wildlife, deer, and elk
- Can be cut for hay, exceeds alfalfa yields on first cutting
- Non-bloating
- Very palatable for livestock

FIXATION BALANSA CLOVER (SEE PG. 36)

- Cool-season annual legume
- High forage performance over an extremely wide range of soils
- Often used as a cover crop for nitrogen production and weed control

FROSTY BERSEEM CLOVER (SEE PG. 36)

- Good salt tolerance
- High nitrogen fixation
- Synergistic relationship to alfalfa
- Bred for later maturity, cold tolerance, productivity, and nutritional value
- Capable of delivering multiple harvests in a single season

RED CLOVER (SEE PG. 36)

- Short-lived introduced perennial
- Good shade tolerance
- Primarily used for hay, silage, and soil improvement
- Quick growing crop, easily established, and produces high quality forage

CLOVERS & LEGUMES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN*	USES	MIN. PRECIP.	SOW	SOWING SEASON
Astragalus cicer	Cicer Milkvetch	P	Spreading legume with strong alkali tolerance. Very palatable forage producer, good for reclamation.	10”	1/4- 3/4”	Spring or Fall
Coronilla varia	Crownvetch	P	Winter hardy forage producer, excellent for watershed stabilization and erosion control.	20”	1/4”	Fall
Dalea purpureum purpurea	Purple Prairie Clover	P	A low water nitrogen fixing legume. Commonly used for wildflower mixes and habitat improvement.	12”	1/4”	Spring or Fall
Fagopyrum esculentum	Buckwheat	A	Grain forage crop, bee pasture, and soil improving cover crop.	15”	1/2- 1”	Summer
Lotus corniculatus	Birdsfoot Trefoil	P	Spreading legume with fair acid and salt tolerance. Performs well on wet and poorly drained sites.	20”	1/4- 1/2”	Spring
Medicago sativa	Alfalfa	P	Widely adapted heavy forage and hay producer. Also useful in range and pasture mixes.	9”	1/4- 3/4”	Spring or Fall
Medicago sativa falcata	Yellow Alfalfa	P	Long lived nitrogen fixing forage legume, yellow flowers. More persistent and drought tolerant than alfalfa.	10”	1/4- 3/4”	Spring or Fall
Melilotus albus	White Sweet Clover	B	One of the most widely distributed legumes in the world. Highly palatable, nutritious forage for all classes of livestock.	18”	1/4-1/2”	Spring
Melilotus officinalis	Yellow Sweetclover	B	Widely used, beneficial clover for reclamation and disturbed sites, but low in forage value.	8”	1/2- 3/4”	Spring
Onobrychis viciifolia	Sainfoin	P	Easily established winter hardy nitrogen fixing legume. Short lived. Used for dryland, pasture and hay.	8”	1/4- 3/4”	Spring or Fall
Trifolium alexandrinum	Frosty Berseem Clover	A	Good salt tolerance. High nitrogen fixation. Synergistic relationship to alfalfa. Bred for later maturity, cold tolerance, productivity, and nutritional value.	12”	1/4”	Spring or Fall
Trifolium fragiferum	Strawberry Clover	P	Nitrogen fixing legume tolerant of salt and alkali. Useful in poor soils and for erosion control.	15”	1/4- 1/2”	Spring or Fall
Trifolium hybridum	Alsike Clover	P/B	Acid, alkali and salt tolerant. Short lived. Excellent forage producer used in pasture and range mixes.	18”	1/4- 1/2”	Fall
Trifolium incarnatum	Crimson Clover	A	Top choice for short-rotation, weed suppressing green manure. Used for roadside vegetation, pastures, and erosion control sites.	32”	1/4”	Spring, Summer or Fall
Trifolium michelianum	Fixation Balansa Clover	A	Often used as a cover crop for nitrogen production and weed control. Cool-season annual legume.	17”	1/8- 1/4”	Spring or Fall
Trifolium pratense	Red Clover	P/B	Cold hardy and easy to establish. Useful for bees, hay, pasture mixes and reclamation with sufficient water.	25”	1/4- 1/2”	Spring or Fall
Trifolium repens	White Dutch Clover	P	Long lived, very important legume, frequently planted with pasture grasses. Handles heavy grazing. Commonly used in lawns.	18”	1/4- 1/2”	Fall
Trifolium repens latum	Ladino Clover	P	A taller version of White Dutch Clover with less grazing tolerance.	18”	1/4- 1/2”	Fall
Vicia americana	American Vetch	P	Widely occurring legume. Drought tolerant. Useful for livestock, wildlife and range improvement.	18”	1/2”	Spring or Fall
Vicia sativa	Common Vetch	A	Adapts to full or partial sun. Common winter fodder for cattle. Cover crop. Weedy.	25	1/4 - 1”	Spring or Fall

***Lifespan Key: P = Perennial A = Annual B= Bi Annual**


SCAN ME

ITEM NAME	FEATURES	SEEDING DEPTH/RATE PER ACRE
Premium Lawn & Turf Mix	Well suited for yards and landscapes. Our #1 selling turf mix for 30 years. 70% Kentucky Bluegrass, 30% Perennial Ryegrass	5 lbs. per 1,000 sq. ft. or 250 pounds per acre
Turf Type Tall Fescue Blend	Cool season grass. Three variety blend. Good for high traffic areas. Water efficient. Fast growing and drought tolerant.	5-9 pounds per 1,000 sq. ft.
Turf Type Perennial Ryegrass Blend	Our turf type 3-way Perennial Ryegrass Blend is adapted to most zones in the USA. Great for use in home lawns, parks, reclamation areas, golf courses, sport fields, stadiums and more!	4-5 pounds per 1,000 sq .ft.
Sundancer Buffalograss	Turf-type buffalograss. Very drought tolerant. Premium turf for dry southern states. Not tolerant of competition or traffic.	3 pounds per 1,000 sq. ft.

HOW OFTEN SHOULD I WATER NEW GRASS?

The simplest explanation is to simply keep the seed damp. Soil surfaces that are allowed to dry out, even if wet below, can crack and break the tender roots of new grass.

During establishment, your watering cycle should follow a low duration-high frequency pattern. As your grass establishes, slowly change to a high duration-low frequency schedule. Adapt as local conditions require.

LAWN & TURF

Premium blends and turf-type species for yards, landscaping, sports complexes and erosion control.

BEST SELLER!

PREMIUM LAWN AND TURF BLEND

Our premium Lawn and Turf Blend is blended for a broad range of climates throughout the United States. It is a top choice of local landscape architects and hydroseeders.

- #1 selling turf mix for over 30 years
- 70% Kentucky Bluegrass (3 varieties)
- 30% Perennial Ryegrass (2 varieties)
- Sold in 5, 10, and 25 lb. bags

NEW!

XERISCAPE GRASS MIX

Alternative lawn and ground cover for the Western USA. Conserves water and replaces lawns with drought tolerant native grasses.

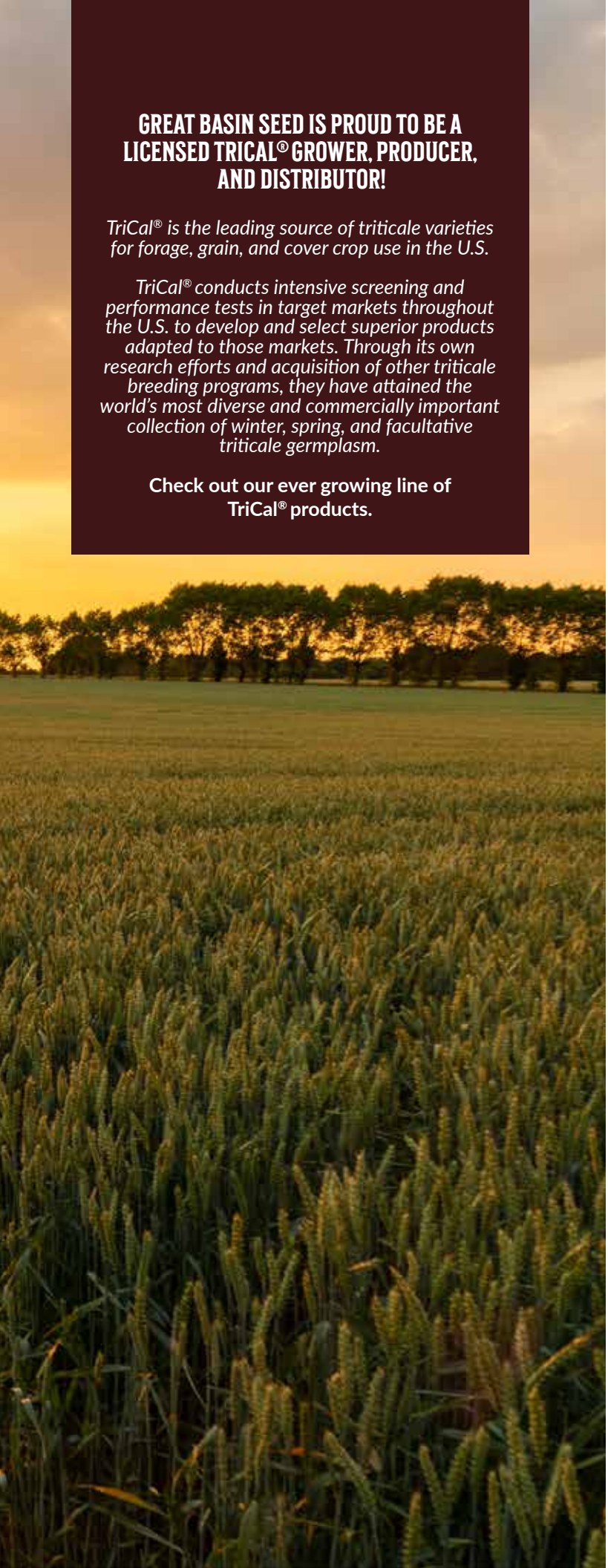
TALL FESCUE TURF BLEND

- Three varieties of turf tall fescue
- Highly water efficient
- Preferred in high traffic areas
- Dense, green, fast growing

TURF TYPE PERENNIAL RYEGRASS BLEND

- Good cold tolerance
- More drought tolerant than Kentucky Bluegrass
- Widely adapted to most zones in US
- Great for use in home lawns, parks, reclamation areas, golf courses, sport fields, stadiums and more


SCAN ME



GREAT BASIN SEED IS PROUD TO BE A LICENSED TRICAL® GROWER, PRODUCER, AND DISTRIBUTOR!

TriCal® is the leading source of triticale varieties for forage, grain, and cover crop use in the U.S.

TriCal® conducts intensive screening and performance tests in target markets throughout the U.S. to develop and select superior products adapted to those markets. Through its own research efforts and acquisition of other triticale breeding programs, they have attained the world's most diverse and commercially important collection of winter, spring, and facultative triticale germplasm.

Check out our ever growing line of TriCal® products.

SMALL GRAINS

Fast growing small grains for every need, a variety of options for every season and purpose.

NEW!

TRICAL® MOTLEY TRITICALE (SEE PG. 43)

A beardless triticale that can be sown in spring or fall. Stands approximatley six inches shorter than other comparable varieties, which reduces the risk of lodging. Motley has one or two more leaves per stem resulting in high tonnage and quality forage.

BEST SELLER!

PROSPER™ 3-GRAIN FORAGE MIX (SEE PG. 42)

The perennial favorite. Our premium "3-way" forage mixture for hay or silage with a blend of beardless wheat, beardless barley and oats.

FALL FORAGE BLEND (SEE PG. 45)

Our fall forage blend is made up of "fall" or "winter" varieties that can be planted late summer or fall. The mix usually includes fall wheat, triticale and barley.

TRICAL® GUNNER TRITICALE (SEE PG. 43)

Gunner is a promising facultative variety that can be planted spring or fall. It is completely beardless/awnless.

TRICAL® VALOR BARLEY (SEE PG. 44)

Valor barley is a beardless winter barley bred for forage. It is winter hardy enough to survive south of NE/IA and southern Idaho and does very well in the Intermountain West. Valor is a component of our fall forage mixtures.

SORGHUM SUDANGRASS (SEE PG. 44)

Our Honeysuckle Sorghum Sudangrass line features standard, BMR, delayed maturity and grain sorghums. Sorghum Sudangrasses have gained popularity, especially in areas where water is short and corn cannot be grown.

GRAIN MIXES

PROSPER 3 GRAIN AND PROSPER PLUS FORAGE MIXTURES

Prosper and Prosper Plus are premium forage mixtures for hay or silage. They are a blend of spring beardless wheat, beardless barley, and oats. Beardless varieties mean no eye and respiratory problems in livestock. It also means you don't have to thrash before feeding, resulting in less work and lower costs. Prosper Plus is our Prosper 3 Grain Forage Mixture with the addition of forage peas.

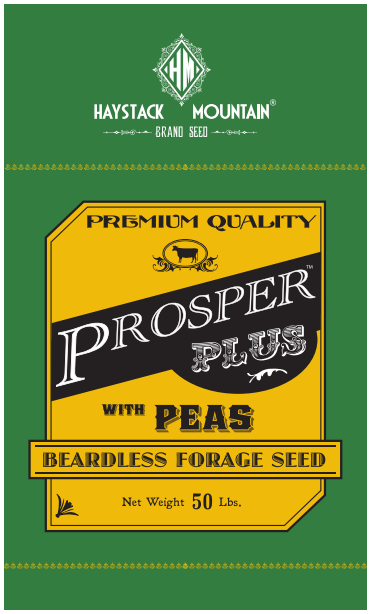
With Prosper or Prosper Plus you can expect above average yields and heavy cuttings over single grains. The varieties stand straight and tall, resist lodging and produce heavy grain. Your cattle should show a strong feeding preference for Prosper over single-grain hay. You should see noticeable weight gain.

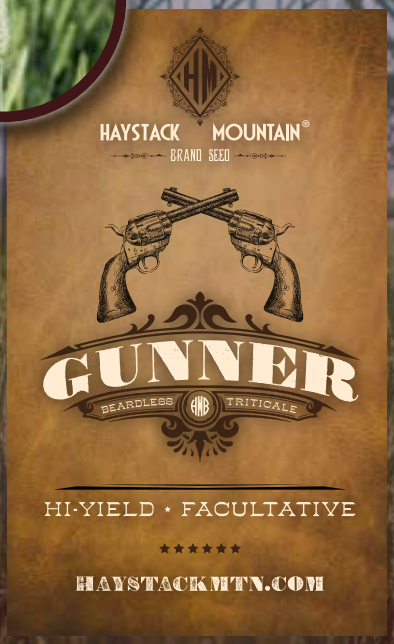
A mixture of grains also means you need not concern yourself with nitrate poisoning, a worrisome problem with single-grain planting like straight oats or straight triticale. The broad spectrum nutrition balance and variety have made this product a household name in the Intermountain West.

PREMIUM GRAIN SEED

We offer grains for spring, fall, and winter applications. Try one of our grain mixes with tried and true varieties and over 50 years of development. We even offer custom mixes specific to your needs and goals.

Above: *Our cleaning facility during construction of tanks 11 & 12, Nov 2020.*





Gunner brand triticale is a facultative variety that can be planted spring or fall in most northern climates. It is completely beardless.

- Dual planting window
- Completely awnless (beardless)
- High leaf to stem ratio
- Later maturing
- Excellent straw strength
- Tolerant of rust
- Very good fall seedling vigor
- Good winter hardiness
- Excellent for grazing
- Adapted to a large area

Motley brand triticale is a new forage triticale that is beardless, facultative and high in yield potential. It's shorter stems resists lodging and have large, deep green leaves.

- Dual planting window
- Completely awnless (beardless)
- High leaf to stem ratio
- Shorter, stronger stems
- Reduced risk of lodging
- Adapted to a large area
- Excellent for grazing
- Abundant leaves
- More tillers than other varieties

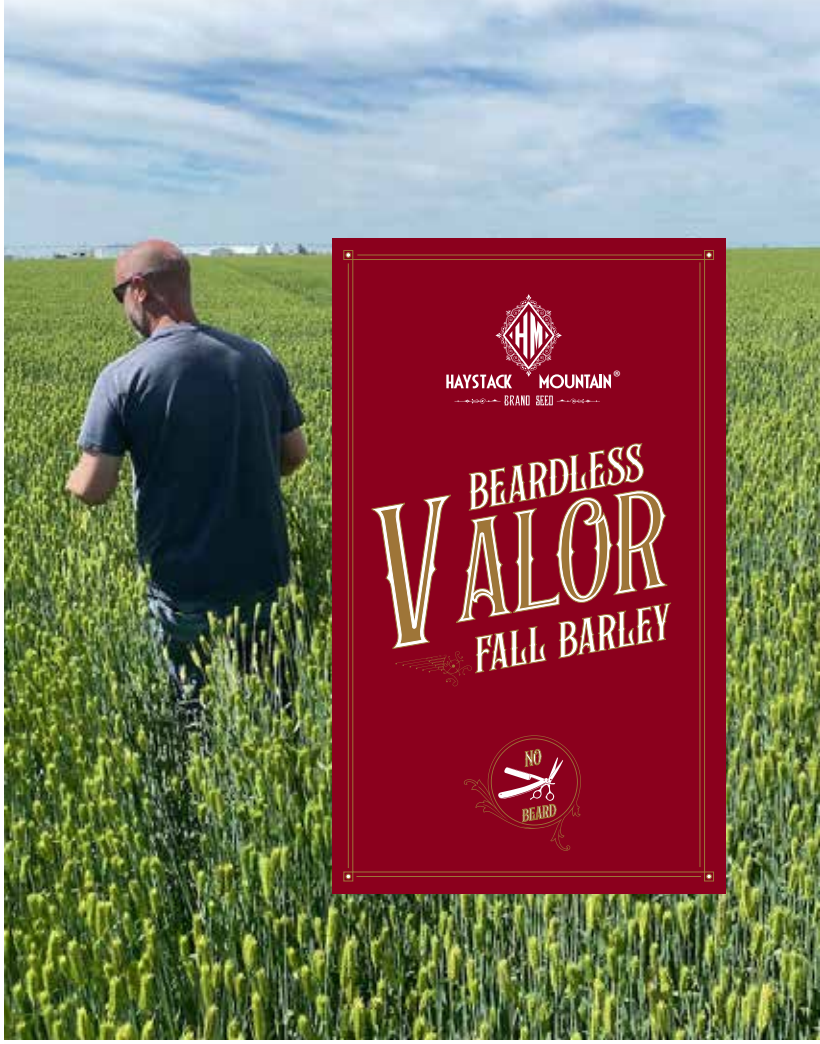
Gunner & Motley are PVP protected varieties.
Unauthorized propogation is prohibited.

TRICAL® VALOR FALL BARLEY

Valor barley is a beardless winter barley bred for forage. It is winter hardy enough to survive south of Nebraska/Iowa and southern Idaho and does very well in the Intermountain West. Valor is a component of our fall forage mixtures.

Our forage and seed production fields have been outstanding performers with forage heights over 4ft tall and seed yields in excess of 150 BU per acre. It can be planted as a stand alone item or used in a forage mixture with other fall forage crops like wheat, triticale, peas or winter rye. Valor Barley is a foundational component of our fall forage mixtures.

- Fall sowing
- Winter forage barley
- Beardless
- Winter hardy in the Intermountain West
- Component of our fall forage mixtures.



Above: *Valor fall barley field near Burly, ID. Jason Stevens*
Below: *Honeysuckle test plots, TX. Jason Stevens*

HONEYSUCKLE SORGHUM SUDANGRASS

Honeysuckle:
Our standard high-production sorghum sudangrass excels in a wide variety of soils, climates and situations.

Honeysuckle DM:
Honeysuckle with delayed maturity trail, resulting in 25-30 more growing days. Heads out late, resulting in higher yield, higher protein and less lignin.

Honeysuckle BMR:
Honeysuckle with the BMR (brown mid-rib) trait. 30-35% less lignin.

Honeysuckle Silage:
Bred specifically for silage.

SMALL GRAINS

	NAME	DESCRIPTION	ADDITIONAL INFO	SOW
Spring Small Grains	Merlin Max Triticale	*Superior forage and yield. Beardless.*	PVP Variety	100-140 lbs acre
	TriCal® 141 Triticale	*Awnletted, high production spring triticale.*	PVP Variety	100-140 lbs acre
	Tyndall Triticale	*Awnletted spring triticale.*	Awnletted	100-140 lbs acre
	Goldeneye Barley	*6-row grain barley. High test weight, minimal lodging.*	PVP Variety	100 lbs acre
	Lavina Beardless Barley	*Critical grain species in the world food market. Many adaptations and applications.*	Widely used in forage mixes	100 lbs acre
	Stockford Barley	*Excellent beardless forage barley.*	PVP Variety	100 lbs acre
	Oats	*Common small grain species used as a stand alone item or in forage mixes.*	Derby, Monaco, Monida, Morgan, Otana, Mustang	100 lbs acre
	Giant Forage Oats	*Tall, high production oats frequently reaching 5-6 feet tall.*	Everleaf, Magnum, Walken	100 lbs acre
	Annual Rye Grain	*Early maturing, drought tolerant spring small grain. Fair forage value.*	Rymin	100 lbs acre
	Sorghum Sudangrass	*First cutting 50-55 days, second cutting 25-30 days.*	Honeysuckle	40-50 lbs acre
	Sorghum Sudangrass	*First cutting 60-75 days, second cutting 35-40 days.*	Honeysuckle DM	50-65 lbs acre
	Sorghum Sudangrass	*First cutting 60-75 days, second cutting 30-35 days.*	Honeysuckle Silage	40-50 lbs acre
	Jefferson Wheat	*Excellent grain wheat. Popular for fodder.*	Bearded Hard Red	100 lbs acre
	Twin Wheat	*Beardless soft white spring wheat.*	Component of our forage mixes	100 lbs acre
Facultative Grains	TriCal® Gunner	*A completely beardless winter variety. Can be planted spring or fall. A highly anticipated variety.*	PVP Variety	100-140 lbs acre
	TriCal® Motley	*A completely beardless shorter stemed variety. On average higher tillers and a reduced risk of lodging.*	PVP Variety	100-140 lbs acre
	TriCal® Surge	*A flexible variety, high yield. Popular for dairy.*	Beardless	100-140 lbs acre
	TriCal® Flex 719	*Can be planted spring or fall, does not require vernalization. Excellent winter hardiness.*	Awnletted	100-140 lbs acre
	Forerunner Triticale	*Awnletted variety popular in forage mixes.*	Awnletted	100-140 lbs acre
Fall or "Winter" Small Grains	TriCal® Valor Barley	*Beardless fall barley well suited to forage mixes.*	PVP Variety	100 lbs acre
	Brundage Wheat	*Beardless fall wheat. High yield, widely used.*	Component of our forage mix	100 lbs acre
	Utah 100 Wheat	*Excellent grain wheat for milling.*	Bearded	100 lbs acre
	FX 1001 Triticale	*Nearly beardless winter variety. High forage production.*	PVP Variety	100-140 lbs acre
	TriCal® Gainer 154	*An early maturing winter variety. Very popular for silage.*	PVP Variety	100-140 lbs acre
	TriCal® 131	*Beardless winter variety for southern climates.*	PVP Variety	100-140 lbs acre
	TriCal® 813	*Popular variety in southern and central plains. Excellent for grazing and silage. Vigorous, top-shelf triticale.*	PVP Variety	100-140 lbs acre
	Ray Wheat	*A new high production beardless forage wheat. Excellent for grain production.*	PVP Variety	100-140 lbs acre
	Willow Creek Wheat	*Popular, tall fall beardless wheat. High forge production.*	Component of our forage mixes	100-140 lbs acre
Grain Mixes	Prosper™ 3 Grain Forage Mix	*#1 selling grain product. Ideal for hay or silage. Beardless barley, beardless wheat, oats.*		100-140 lbs acre
	Prosper™ Plus with Peas	*Prosper 3-Grain Forage Mixture with the addition of forage peas.*		100-140 lbs acre
	Prosper™ with Giant Oats	*Prosper 3-Grain Forage Mixture with the addition of giant forage oats.*		100-140 lbs acre
	Fall Forage Blend	*Top seller. High production, quality feed. Beardless barley, beardless wheat , triticale.*		100-140 lbs acre

The terms awnlette, dwarf beard or spikelet are interchangeable and generally mean a beard shorter than a conventional beard.


SCAN ME

GRASSES

We offer over 150 different grasses and grass varieties that span every state and climate zone in the contiguous USA. Use this section in conjuntion with our website to help you select species adapted to your site and needs.

NEW!

WARM SEASON GRASS MIXES (SEE PG. 25)

We now offer four new warm season grass mixes for a variety of uses. These mixes are each designed for the prairies, plains and hill country of the West, Southwest, and Midwest states.

NEW!

XERISCAPE GRASS MIX

Alternative lawn and ground cover for the Western USA. Conserves water and replaces lawns with drought tolerant native grasses.

BEST SELLER!

CRESTED WHEATGRASS (SEE PG. 49)

Crested wheatgrass is one of the most frequently used, widely adapted dryland range grasses available. Several varieties are available, each adapted to specific climates and outcomes.

BEST SELLER!

ORCHARDGRASS (SEE PG. 49)

Orchardgrass is a well known and widely used pasture grass. It can be cut for hay or grazed. Many options are available, including early, mid or late maturing varieties. This will allow you to tailor your pasture to your cutting and grazing schedule.

TEFF GRASS (SEE PG. 48)

If you need a fast establishing, high production annual then this is the grass for you. It is not tolerant of cold. Plant after frost season then watch it grow!

WARM SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Andropogon gerardi	Big Bluestem	P	Dominant grass species of Midwestern tall grass prairie. Used for erosion control and reclamation. High quality forage for all livestock.	14”	1/4- 1/2”	Spring or Summer
Bouteloua Curtipendula	Sideoats Grama	P	Largest and most coarse grama grass. Superb dryland grass. Produces more forage than blue grama. Common component of range lands.	15”	1/4”	Spring or Summer
Bouteloua gracilis	Blue Grama	P	Long lived and drought tolerant. Important forage species, the most wide-spread and prolific of the gramas.	8”	1/4- 1/2”	Spring or Summer
Buchloe dactyloides	Buffalograss	P	Short sod forming grass, very important species on the Midwest prairies. Excellent forage grass.	12”	1/2- 3/4”	Spring
Eragrostis Tef	Teff Grass	A	High yielding annual forage grass. Excellent palatability and forage quality. Ideal for horses and livestock. Excellent rotational crop.	18”	1/8- 1/2”	Summer
Distichlis spicata	Inland Saltgrass	P	Very useful in high alkali, high salt soils. Strong sod forming species. Warm season, drought tolerant grass.	8”	1/4- 1/2”	Spring or Summer
Pleuraphis jamesii	Galleta Grass	P	Very drought tolerant warm season, bunch/sod former. Commonly used for dryland improvement.	5”	1/2- 3/4”	Spring or Summer
Psathyrostachys juncea	Russian Wildrye	P	Very important range and pasture species. Greens early and remains palatable late. Drought tolerant.	7”	1/2- 3/4”	Spring or Summer
Schizachyrium scoparium	Little Bluestem	P	Warm season bunchgrass, widely distributed. Drought tolerant, useful for wildlife - especially birds.	12”	1/2”	Spring or Early Summer
Schoenoplectus mantimus	Alkali Bulrush	P	Wetland species, forms dense stands. Strong tolerance for salt and alkali. Generally requires standing water.	30”	1/2”	Spring or Early Summer
Sporabolus airoides	Alkali Sacaton	P	Used for erosion control, range and habitat improvement. Tolerates occasional flooding. Salt and alkali tolerant.	7”	1/4”	Summer
Sporobolus cryptandrus	Sand Dropseed	P	Used for soil stabilization and wildlife habitat improvement. Drought tolerant warm season grass.	8”	1/4”	Late Summer

COOL SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Achnatherum hymenoides	Indian Ricegrass	P	Important range species for arid climates and well drained soils. Excellent food source for birds.	6“	1 - 3“	Spring or Fall
Achnatherum lettermanii	Letterman Needlegrass	P	High elevation needlegrass in the Intermountain West. Grows in mountain meadows and on slopes.	14”	1/4- 1/2“	Spring or Fall
A. cristatum x desertorum	Hycrest Crested Wheatgrass	P	Hybrid released for its vigor, cold and drought tolerance. Adapted from 2,500 to 9,000 feet.	7”	1/4- 1/2”	Spring or Fall
Agropyron cristatum	Crested Wheatgrass	P	Very important range grass for reclamation and pasture. Establishes well, long lived, aggressive.	9”	1/4- 1/2”	Spring or Fall
Agropyron desertorum	Standard Crested Wheatgrass	P	Drought tolerant, larger and more robust than Agropyron cristatum.	7”	1/4- 1/2”	Spring or Fall
Agropyron fragile sibiricum	Siberian Wheatgrass	P	Very drought tolerant bunchgrass. Similar to Agropyron desertorum. Late maturing and good palatability.	5”	1/4- 1/2”	Spring or Fall
Alopecurus arundinaceus	Creeping Foxtail	P	Sod forming cool season grass, adapted to waterways and inundation. Also drought tolerant.	20”	1/4- 1/2”	Spring or Fall
Bromus biebersteinii	Meadow Brome	P	Excellent pasture grass, recovers quickly. Suitable for pasture or hay. Good for erosion control.	14”	1/4- 1/2”	Spring or Fall
Bromus inermis	Smooth Brome	P	Strong and aggressive rhizomatous grass. Abundant forage producer, used in pastures. Can be invasive.	11”	1/4-1/2”	Spring or Fall
Bromus marginatus	Mountain Brome	P	Short lived bunchgrass. A good choice for high elevation pasture, soil stabilization and reclamation.	16”	1/4-1/2”	Fall
Dactylis glomerata	Orchardgrass	P	Frequently used and abundant forage/pasture grass. Many varieties adapted to many purposes, climates and water needs.	10-16”	1/4- 1/2”	Spring or Fall
Elymus dahuricus	Dahurian Wildrye	P	Fast establishing native cool season bunchgrass. Is not long lived. Recovers quickly after grazing and cutting.	12”	1/2- 3/4”	Spring or Fall
Elymus elymoides	Bottlebrush Squirreltail	P	Widely distributed throughout the West from low foothills to sub-alpine. Very drought tolerant. Bunchgrass.	5”	1/4- 1/2”	Spring or Fall
Elymus lanceolatus	Thickspike Wheatgrass	P	Widely distributed, very drought tolerant cool season sod former. Excellent species for reclamation.	5”	1/4- 1/2”	Spring or Fall
Elymus lanceolatus psammophilus	Streambank Wheatgrass	P	Excellent for erosion control, reclamation, habitat restoration. Moderate pH tolerance.	7”	1/4- 1/2”	Spring or Fall
Elymus trachycaulus trachycaulus	Slender Wheatgrass	P	Widely adapted cool season bunchgrass, performs at high elevation. Useful for disturbed area improvement.	10”	1/2- 3/4”	Spring or Fall
Elymus wawawaiensis	Snake River Wheatgrass	P	Long lived cool season bunchgrass. Cold, drought and fire tolerant. Highly valued for reclamation, improvement.	8”	1/4- 1/2”	Spring or Fall
Festuca arundinacea	Tall Fescue	P	High value pasture and forage cool season bunchgrass. Moderate alkali and salt tolerance. Soil stabilization.	16”	1/4- 1/2”	Spring or Fall
Festuca idahoensis	Idaho Fescue	P	Cool season densely tufted bunchgrass. Excellent for disturbed areas and erosion control. Deep root system.	12”	1/4- 1/2”	Spring or Fall

LIFESPAN KEY: P = PERENNIAL A = ANNUAL B= BI ANNUAL

COOL SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Festuca ovina	Sheep Fescue	P	Densely tufted, drought tolerant, cool season bunchgrass. Good forage, valued for mining & disturbed areas.	8”	1/4- 1/2”	Spring or Fall
Festuca rubra	Creeping Red Fescue	P	Sod forming bunchgrass. Shade and acid tolerant. Used for turf, soil stabilization, steep slopes.	15”	1/4- 1/2”	Spring or Fall
Festuca trachyphylla	Hard Fescue	P	Turf and revegetation species. Similar to Festuca ovina but taller, less drought tolerant and more aggressive.	14”	1/4- 1/2”	Spring or Fall
Hesperostipa comata comata	Needle & Thread Grass	P	Important species after fire or disturbance. Needles with long awns. Valuable native grass, widely distributed.	8”	1/2”	Fall
Juncus balticus	Baltic Rush	P	Grass-like with rhizomatous rootstock. Common and widely occurring. Good for wetland restoration.	7”	1/8- 1/4”	Spring or Fall
Koeleria macrantha	Prairie Junegrass	P	Widely distributed cool season bunchgrass. 4,000 - 12,000 feet elevation. Used for reclamation, site improvement.	12”	1/4- 1/2”	Spring or Fall
Leymus cinereus	Basin Wildrye	P	Long lived, tall, sturdy bunchgrass. Important range, wildlife and reclamation species. Abundant and hardy.	10”	1/2- 3/4”	Spring or Fall
Lolium perenne multiflorum	Annual Ryegrass	A	An easily established, vigorous cool season grass used for cover crops, hay, pasture, erosion control.	11”	3/4- 1”	Spring or Fall
Lolium perenne multiflorum	Italian Ryegrass	B or A	Widely adaptable. May become weedy or invasive. Used for quick cover in erosion control plantings or for forage.	N/A	N/A	Spring or Fall
Lolium perenne perenne	Perennial Ryegrass	P	A widely used pasture, hay and range grass. Tetraploid varieties are best for pasture, diploid for turf.	12”	1/2- 3/4”	Spring or Fall
Nassella viridula	Green Needlegrass	P	Well adapted to clay soils. Fair alkali and salt tolerance. Winter hardy. Valuable for disturbed site reclamation.	12”	1/4- 1/2”	Fall
Pascopyrum smithii	Western Wheatgrass	P	Strong rhizomes, sod forming. Long lived, cool season, drought tolerant variety. Late maturing and palatable.	8”	1/4- 1/2”	Spring or Fall
Phalaris arundinacea	Reed Canarygrass	P	Thrives in wetlands and poor drained soils. Fair a salt tolerance. Can be aggressive.	16”	1/4- 1/2”	Spring or Fall
Phleum pratense	Timothy	P	Sought after for hay, pasture and stabilization. Establishes well, not drought tolerant. Fair salt tolerance.	16”	1/4- 1/2”	Spring or Fall
Poa fendleriana	Muttongrass	P	Drought tolerant, cool season grass. Very useful for wildlife and livestock. Valuable restoration species.	10”	1/4”	Spring or Fall
Poa pratensis	Kentucky Bluegrass	P	Widely distributed and adapted. Grows from sea level to alpine zones. Most frequently used as a lawn variety.	18”	1/4- 1/2”	Spring or Fall
Poa secunda ampla	Big Bluegrass	P	A tough & robust drought tolerant, cool season grass. Widely used for pasture, range, habitat improvement.	9”	1/4- 1/2”	Spring or Fall
Poa secunda sandbergii	Sandberg Bluegrass	P	Excellent harsh-site species for reclamation, erosion control, habitat improvement. Commonly occurring.	7”	1/4”	Spring or Fall
Pseudorogneria spicata x Elytriga repens	Hybrid Wheatgrass	P	Hybrid of Bluebunch Wheatgrass and Quack-Grass. Cool season, rhizomatous. High salt tolerance.	10”	1/4- 1/2”	Spring or Fall

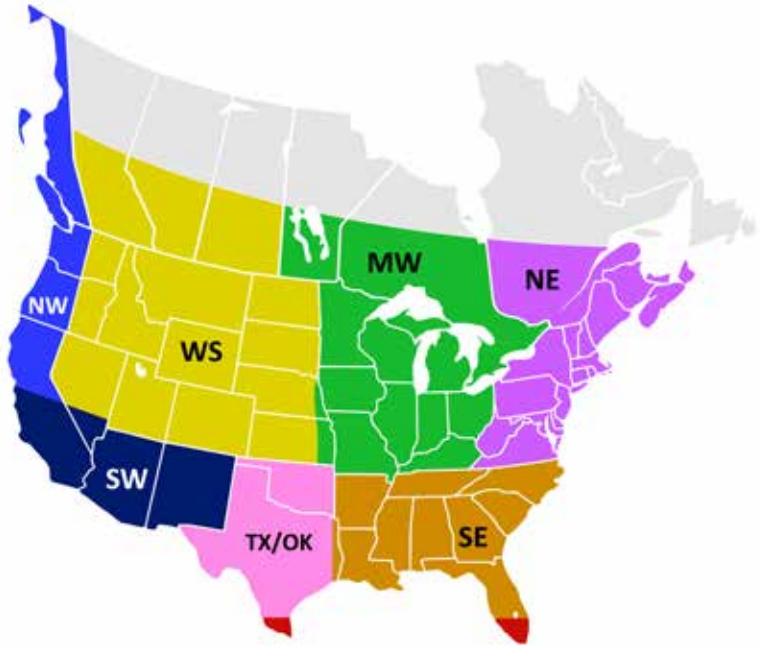
COOL SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Pseudoroegneria spicata spicata	Bluebunch Wheatgrass	P	Widely adapted, long lived, drought tolerant bunchgrass. Valuable for watershed, range, and disturbed sites.	7”	1/4- 1/2”	Spring or Fall
Thinopyrum intermedium intermedia	Intermediate Wheatgrass	P	Long lived cool season sod former. Cold, drought and fire tolerant. Excellent forage producer.	11”	1/4- 1/2”	Spring or Fall
Thinopyrum intermedium trichophorum	Pubescent Wheatgrass	P	Widely distributed, drought tolerant, cool season sod forming variety. Excellent species for reclamation.	11”	1/4- 1/2”	Spring or Fall
Thinopyrum ponticum	Tall Wheatgrass	P	Long lived cool season bunchgrass. Very adaptable to saline and alkaline soils.	8”	1/4-1/2”	Spring or Fall

LIFESPAN KEY: P = PERENNIAL A = ANNUAL B= BI ANNUAL

SCAN ME

REGIONAL WILDFLOWER MIXES



MOST LOCATIONS:
Beneficial Bug Wildflower Seed Mix
Butterfly Wildflower Seed Mix
Honey Bee Wildflower Seed Mix
Red, White & Blue Wildflower Seed Mix
Xeriscape Wildflower Seed Mix
All-Native Western Wildflower Seed Mix

HIGHER ELEVATION LOCATIONS:
Mountain Wildflower Seed Mix
Great Basin Wildflower Seed Mix

NW: Northwest Wildflower Seed Mix
WS: Western Wildflower Seed Mix
MW: Midwest Wildflower Seed Mix
NE: Northeast Wildflower Seed Mix
SE: Southeast Wildflower Seed Mix
TX/OK: TX/OK Wildflower Seed Mix
SW: Southwest Wildflower Seed Mix

WILDFLOWERS & FORBS

Flowers from desert lowlands to alpine highlands, and regional wildflower mixes specific to your needs.

NEW!

ALL NATIVE WESTERN WILDFLOWER MIX (SEE PG. 56)

A mix of all native, mostly perennial varieties for states west of the Mississippi River between 4,000 - 9,000 ft in elevation. Perennial wildflowers will grow back from the root-clump each year.

NEW!

XERISCAPE WILDFLOWER MIX (SEE PG. 57)

A mix of proven annuals and perennials. Perfect for Xeriscape beds and ground cover. This mix provides beautiful native and non-native wildflowers year-after-year. Adapted to most area of the Intermountain West.

BEST SELLER!

HONEY BEE WILDFLOWER MIX (SEE PG. 55)

Honey Bee Flower Mix is a blend of 50% annual and 50% perennial flowers that provide nectar and pollen to honey bees.

GREAT BASIN WILDFLOWER MIX (SEE PG. 56)

Combination of annual and perennial wild-flowers formulated for the Great Basin and Intermountain West.

MOUNTAIN WILDFLOWER MIX (SEE PG. 55)

An annual and perennial mix for ornamental landscaping in the mountainous regions of the western USA above 7,000 feet in elevation.

WESTERN WILDFLOWER MIX (SEE PG. 57)

An annual and perennial mix widely adapted for ornamental landscaping in the western U.S. and Canada. For elevations below 7,000 feet.

ALL NEW!

COATED WILDFLOWER MIXES!

WATCH OUR VIDEO

Our wildflower seed mixes are coated with Pinnacle seed coating from Summit Seed Coating. Pinnacle is a highly respected product in the seed industry. It is proven to increase germination and establishment rates up to 50%. In our trial plots, coated seed outperformed raw seed by a landslide, resulting in faster establishment, higher plant density and healthier plants. Because germination rates are increased, you can plant fewer pounds of seed per square foot. All of this adds up to you saving money!

Pinnacle seed coating is applied in an assortment of colors, so don't be surprised if your seed arrives pink, green, or yellow! Each regional mix has a different color coating. It is natural for a small amount of the seed coating to "sluff off" during transport, so you may discover some at the bottom of the container. The coating is not harmful.

BENEFITS OF COATED WILDFLOWER SEEDS

Seeds Won't Blow Away
Many wildflower seeds are designed by nature to be carried by the wind. Coated seed stays put.

Deters Birds and Rodents
Seed coating makes seed unrecognizable to rodents and birds, deterring them from eating it.

You Can See Where You've Sown
Wildflower seeds are earth-toned and difficult to see. Brightly colored seed coating helps you see where seed is sown.

Germination & Establishment
During germination, coating retains water and shields vulnerable seedlings, promoting stand density and establishment.

Improved Seed Distribution
Brightly colored coated seeds aid in seed distribution and allows you to sow heavier in certain areas and lighter in others.

Reduced Seeding Rate = Larger Savings!
With higher germination rates, less seed can be sown. Coated seed results in greater plant density.

ELEVATIONS ABOVE 7,000ft

MOUNTAIN WILDFLOWER MIX

Mountain Wildflower Mix is an annual and perennial mix for ornamental landscaping in the mountainous regions of the western U.S. Use it for elevations above 7,000 feet. Flowers will provide color throughout the growing season.

We using clay coating rather than fillers and carriers. This means our wildflower mixes are of tremendous value when compared to flower mixes from other vendors!

- Annual Baby's Breath
- Black-Eyed Susan
- Blanketflower
- Blue Columbine
- Blue Flax
- California Poppy
- Catchfly
- Cornflower
- Dwarf Godetia
- Fleabane Daisy
- Palmer Penstemon
- Rocket Larkspur
- Rocky Mountain Penstemon
- Shasta Daisy
- Showy Goldeneye
- Siberian Wallflower
- Tussock Bellflower

WIDELY ADAPTED TO ALL USA ZONES

HONEY BEE WILDFLOWER MIX

Honey Bee Flower Mix is a mixture of annual and perennial flowers that provide nectar and pollen to honey bees. These flowers are proven favorites of honey bees in our gardens and will provide bee forage all season long. It is ideal for honey beekeepers and others interested in honey bee health.

This mix can be used in garden beds, borders, and other maintained areas. It is widely adapted to all areas of the United State and southern Canada.

- Siberian Wallflower
- California Poppy
- Calendula
- Lance-Leaved Coreopsis
- Sulphur Cosmos Mix
- Blanketflower
- Blue Flax
- Sweet Alyssum
- Corn Poppy
- Rocky Mountain Beeplant
- Purple Prairie Clover
- Cosmos
- Rocky Mountain Penstemon
- Lacy Phacelia
- Prairie Coneflower
- Scarlet Cinquefoil

WILDFLOWER MIXES (ALL MIXES ARE PINNACLE-COATED FOR IMPROVED GERMINATION)

NAME	MIX COMPONENTS			ZONES	FEATURES
All-Native Western Wildflower Mix	*Arrowleaf Balsamroot* *Aspen Fleabane* *Blue Flax* *California Poppy* *Firecracker Penstemon* *Mules Ear* *Munros Globemallow*	*Palmers Penstemon* *Perennial Gaillardia* *Rocky Mountain Beeplant* *Rocky Mountain Penstemon* *Scarlet Globemallow*	*Showy Goldeneye* *Silky Lupine* *Silvery Lupine* *Sulphur Flower Buckwheat* *Western Sweetroot* *Yellow Beeplant*	Suitable for states west of Mississippi River at 4,000 - 9,000 ft. elevation	Comprised of mostly perennials and all native species. No introduced species in this mix. Natives take longer to establish, but pay of in longevity year-after-year once established.
Beneficial Bug Flower	*Baby Blue Eyes* *Bergamot* *Bishop's Flower* *Black-Eyed Susan* *California Poppy*	*Candytuft* *Cilantro* *Dill* *Dwarf Cosmos* *Fennel* *Gayfeather*	*Globe Gilia* *Indian Blanket* *Lance-Leaved Coreopsis* *Purple Prairie Clover* *Rockcress* *Shasta Daisy*	Suitable for all US zones except Florida	Attracts beneficial insects to your yard and garden. These beneficial insects help to destroy harmful garden pests such as aphids, thrips and mites.
Great Basin Wildflower Mix	*Annual Candytuft* *Arrowleaf Balsamroot* *Blanketflower* *Blue Flax* *California Poppy* *Dwarf Blue Coneflower* *Dwarf Evening Primrose* *Deerhorn Clarkia* *Globe Gilia*	*Greenthread* *Godetia* *Indian Blanket* *Munros Globemallow* *Palmers Penstemon* *Plains Coreopsis* *Perennial Lupine* *Prairie Aster*	*Red Corn Poppy* *Rocky Mountain Beeplant* *Rocky Mountain Penstemon* *Silvery Lupine* *Showy Goldeneye*	Used for beautification of valleys and foothills in the Intermountain West and Great Basin.	Contains many of the same species found in our Western Wildflower mix with a high percentage of flowers native to the Great Basin Province. It is made up of proven annuals and perennials.
Honey Bee Flower Mix	*Blanketflower* *Blue Flax* *California Poppy* *Calendula* *Corn Poppy* *Lacy Phacelia*	*Lance-Leaved Coreopsis* *Prairie Coneflower* *Purple Prairie Clover* *Rock Mountain Beeplant* *Rock Mountain Penstemon*	*Scarlet Cinqefoil* *Siberian Wildflower* *Sulphur Cosmos Mix* *Sweet Alyssum*	Widely adapted to all areas of the United State and southern Canada.	A blend of 50% annual and 50% perennial flowers that provide nectar and pollen to honey bees. 365,000 seeds per pound! No fillers or inert matter. Best deal on the internet.
Midwest Wildflower Mix	*Black-Eyed Susan* *Cornflower* *Corn Poppy* *Dwarf Evening Primrose* *Grey-Headed Coneflower* *Indian Blanket*	*Lance-Leaved Coreopsis* *Lavender Hyssop* *Mexican Hat* *New England Aster* *Ox-Eye Sunflower* *Plains Coreopsis* *Prairie Aster*	*Prairie Coneflower* *Purple Coneflower* *Purple Prairie Clover* *Scarlet Flax* *Shasta Daisy* *Thickspike Gayfeather*	Midwestern U.S. and south central Canada.	Annual and perennial mix. Designed for ornamental landscaping in: Illinois, Indiana, Iowa, eastern Kansas, Kentucky, Missouri, Minnesota, Michigan, eastern Nebraska, Ohio and Wisconsin, southern half of Manitoba and Ontario.
Monarch Butterfly Flower Mix	*Annual Candytuft* *Butterfly Milkweed* *Cosmos* *Gayfeather* *Indian Blanket*	*Mexican Sunflower* *Purple Coneflower* *Rocket Larkspur* *Smooth Aster* *Siberian Wallflower*	*Single Marigold* *Sulphur Cosmos* *Sweet Alyssum* *Zinnia*	Suitable for all US zones except Florida.	Composed of nectar producing native wildflowers, garden flowers and milkweeds. For home gardeners, commercial landscaping, and golf courses across the US. Contains milkweed provides egg laying sites and food for monarch caterpillars.
Mountain Wildflower Mix	*Annual Baby's Breath* *Black-Eyed Susan* *Blanketflower* *Blue Columbine* *Blue Flax*	*California Poppy* *Catchfly* *Cornflower* *Dwarf Godetia* *Fleabane Daisy* *Palmer Penstemon* *Rocket Larkspur*	*Rocky Mountain Penstemon* *Shasta Daisy* *Showy Goldeneye* *Siberian Wallflower* *Tussock Bellflower*	Adapted to mountain regions of the western US. Use for elevations above 7,000 feet.	Annual and perennial mix. Use in ornamental landscaping. Use in: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. Suitable for all elevations in southern Alaska.
Northeast Wildflower Mix	*Annual Baby's Breath* *Black-Eyed Susan* *Catchfly* *Corn Poppy* *Cornflower* *Evening Primrose*	*Gayfeather* *Hairy Beardtongue* *Indian Blanket* *Lance-Leaved Coreopsis* *New England Aster* *Perennial Lupine*	*Purple Coneflower* *Scarlet Flax* *Shasta Daisy* *Siberian Wallflower* *Smooth Penstemon* *Spurred Snapdragon* *Sweet William Pinks*	Adapted to New England and the Northeastern states of the US.	Annual and perennial mix of native and non-native species. Adapted to hot humid summers and very cold winters of the Northeast. Annuals in the mix will re-seed themselves each year, and perennials bloom all summer long and return every year.

**Mix recipes may vary slightly depending upon crop & availability*

(ALL MIXES ARE PINNACLE-COATED FOR IMPROVED GERMINATION)

WILDFLOWER MIXES

NAME	MIX COMPONENTS			ZONES	FEATURES
Northwest Wildflower Mix	*Baby Blue-Eyes* *Bird's Eyes* *Black-Eyed Susan* *Blue Flax* *California Poppy* *Chinese Houses* *Clarkia*	*Dwarf Godetia* *Corn Poppy* *Five-Spot* *Globe Gilia* *Lance-Leaved Coreopsis* *Mountain Phlox*	*Russell Lupine* *Scarlet Flax* *Shasta Daisy* *Siberian Wallflower* *Sweet Alyssum* *Tidy Tips* *Yellow Lupine*	For elevations below 7,000 feet.	Annual and perennial mix. 100% seed! Use for ornamental landscaping in the northwestern U.S. and extreme western Canada. Use for elevations below 7,000 feet in: northern California, western Oregon, western Washington, and coastal British Columbia. Pinnacle-coated for improved germination.
Red, White and Blue Wildflower Mix	*Annual Baby's Breath* *Baby Blue Eyes* *Bishop's Flower* *Blue Cornflower* *Blue Flax* *Blue Sage*	*Carmine Baby's Breath* *Chinese Forget-Me-Not* *Dwarf Red Coneflower* *Gaura* *Maltese Cross* *Perennial Lupine*	*Red Corn Poppy* *Rockcress* *Scarlet Flax* *Scarlet Sage* *Shasta Daisy* *Sweet Alyssum*	Widely adapted to all areas of the United States.	Show your patriotism with our special mix of red, white and blue annual and perennial wildflowers. Suitable for most zones. Pinnacle-coated for improved germination.
Southeast Wildflower Mix	*Annual Baby's Breath* *Black-Eyed Susan* *Clasping Coneflower* *Corn Poppy* *Gaura* *Gayfeather* *Gilia*	*Golden Wave Tickseed* *Indian Blanket* *Lance-Leaved Coreopsis* *Leavenworth's Tickseed* *Lemon Mint* *Moss Verbena* *New England Aster*	*Plains Coreopsis* *Purple Coneflower* *Red Phlox* *Scarlet Flax* *Scarlet Sage* *Sulphur Cosmos* *Tree Mallow*	Adapted to the Southeast U.S. Adapted to hot, humid climates. Not adapted to the tropical climate of south Florida.	Combination of annuals and perennials that grow back year-over-year. Formulated for: Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennesee, and parts of eastern Texas. Pinnacle-coated for improved germination.
Southwest Wildflower Mix	*African Daisy* *Arroyo Lupine* *Bird's Eyes* *Blazing Star* *Blue Flax* *California Bluebell* *Clarkia* *Corn Poppy*	*Desert Marigold* *Five-Spot* *Indian Blanket* *Mountain Phlox* *Pale Evening Primrose* *Palmers Penstemon* *Prairie Coneflower* *Showy Penstemon*	*Showy Penstemon* *Sweet Alyssum* *Tidy Tips* *Small Leaf Globemallow* *Rocky Mountain Penstemon* *Firecracker Penstemon*	Adapted to areas below 7,000ft. in the Midwest U.S.	A combination of annuals and perennials that keep on giving. Formulated for these areas: Arizona, New Mexico & west Texas, southern California, southern Nevada & low elevation Great Basin Province, southern Utah & low elevation Great Basin Province. Pinnacle-coated for improved germination.
Texas/ Oklahoma Wildflower Mix	*Annual Baby's Breath* *Annual Candytuft* *Black-Eyed Susan* *Clasping Coneflower* *Corn Poppy* *Cornflower* *Crown Tickseed*	*Dwarf Evening Primrose* *Dwarf Helenium* *Golden Wave Tickseed* *Greenthread* *Indian Blanket* *Lance-Leaved Coreopsis* *Lemon Mint* *Prairie Coneflower*	*Purple Coneflower* *Purple Prairie Clover* *Red Phlox* *Scarlet Sage* *Showy Evening Primrose* *Sulphur Cosmos* *Texas Bluebonnet*	Adapted to Texas, Oklahoma and the southern plains.	A blend of annuals and perennials adapted to Oklahoma, Texas. Pinnacle-coated for improved germination.
Western Wildflower Mix	*Annual Candytuft* *Blanketflower* *Blue Flax* *California Poppy* *Clarkia, Cornflower* *Corn Poppy* *Deerhorn Clarkia*	*Dwarf Evening Primrose* *Globe Gilia* *Greenthread* *Indian Blanket* *Pale Evening Primrose* *Palmer Penstemon* *Perennial Lupine*	*Plains Coreopsis* *Prairie Aster* *Prairie Coneflower* *Rocky Mountain Penstemon* *Showy Goldeneye*	Formulated for elevations below 7,000ft elevation in the Midwest and western U.S.	Combination of annuals and perennials that keep on giving. Mixture is for ornamental landscaping. Contains native and non-native species. Pinnacle-coated for improved germination.
Xeriscape Wildflower Mix	*Annual Candytuft* *Arrowleaf Balsamroot* *Blanketflower* *Blue Flax* *California Poppy* *Deerhorn Clarkia* *Dwarf Blue Coneflower* *Dwarf Evening Primrose*	*Globe Gilia* *Greenthread* *Godetia* *Indian Blanket* *Munros Globemallow* *Palmers Penstemon* *Perennial Lupine* *Prairie Aster*	*Prairie Coneflower* *Plains Coreopsis* *Red Corn Poppy* *Rocky Mountain Beeplant* *Rocky Mountain Penstemon* *Silvery Lupine* *Showy Goldeneye*	Formulated for the Great Basin & Intermountain West regions.	Mixture for xeriscape landscaping and ground cover. Conserves water. Combination of annuals and perennials that grow back year-over-year. Formulated for the Great Basin & Intermountain West regions. Pinnacle-coated for improved germination.

WILDFLOWERS & FORBS

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	BLOOM PERIOD
Achillea millefolium	White Yarrow	P	Valuable reclamation and wildlife habitat restoration forb. Rhizomatous.	Dry	○	12-36”	Full Sun	MAY-JUL
Achillea millefolium occidentalis	Western Yarrow	P	Short lived, drought tolerant. Reclamation and wildlife habitat restoration forb. Rhizomatous.	Dry	○	6-24”	Full Sun	MAY-OCT
Aquilegia coerulea	Colorado Blue Columbine	P	High elevation, ornamental native variety. Colorado state flower.	Dry, Moderate	● ○	24-36”	Shade	JUN-AUG
Balsamorhiza sagittata	Arrowleaf Balsamroot	P	Widely distributed native forb. Reclamation and wildlife habitat species. Drought tolerant.	Dry, Moderate	●	16-36”	Full Sun	MAY-JUL
Cleome lutea	Yellow Beeplant	A	Excellent disturbed site species, roadsides and valley bottoms. Very drought tolerant.	Dry	●	12-36”	Full Sun	MAY-AUG
Cleome serrulata	Rocky Mountain Beeplant	A	Valuable reclamation and wildlife habitat restoration forb. Very drought tolerant. Widely adapted.	Dry	●	24-36”	Full Sun	JUL-SEP
Dracopis amplexicaulis	Clasping Coneflower	A	Widely distributed in west and midwest. Drough tolerant.	Moderate	●	12-36”	Full Sun	MAY-AUG
Echinacea purpurea	Purple Prairie Coneflower	P	Widely adapted throughout the US. Plant in full sun. Moderate drought tolerance.	Dry	● ○	24-48”	Full/ Partial	APR-SEP
Erigeron speciosus	Aspen Daisy	P	Mid to sub-alpine flower, adapted to intermountain and northwest regions.	Moderate	● ●	12-24”	Full/ Partial	JUN-SEP
Eriogonum umbellatum	Sulfur Buckwheat	P	Widely distributed, drought tolerant forb. Excellent for wildlife habitat and insect populations.	Dry	● ○	6-18”	Full/ Partial	JUN-SEP
Eschscholzia californica	California Poppy	P	Easy to establish, spreading forb. Drought tolerant, prolific seed producer. Widely adapted to Western US.	Dry	● ○	12-36”	Full Sun	FEB-OCT
Gaillardia aristata	Blanketflower	P	Adapted to most of US states, widely used in disturbed site mixes. Establishes well, persistent.	Dry	● ●	12-48”	Full Sun	JUL-SEP
Gaillardia pulchella	Firewheel or Indian Blanket	A	Easily established, grows in most soils and ecotypes. Commonly used for wildflower mixes, reclamation.	Dry	● ●	12-36”	Full/ Partial	MAY-AUG
Geranium viscosissimum	Sticky Purple Geranium	P	Predominantly found at sub-alpine elevations. Blooms late summer, leaves and stems produce sticky resin.	Moist	● ●	12-36”	Any	MAY-AUG
Hedysarum boreale utahensis	Utah Sweetvetch	P	Very valuable nitrogen fixing forb for habitat improvement, disturbed sites and reclamation.	Dry, Moderate	● ●	12-24”	Full/ Partial	APR-AUG

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	BLOOM PERIOD
Helianthus annuus	Annual Sunflower	A	Excellent pollinator. Valuable for wildlife habitat, especially birds. Widely adapted, establishes well.	Dry		36-84”	Full Sun	JUL-OCT
Heliomeris multiflora	Showy Goldeneye	P	Mid to high elevation forb, will grow in dense stands. Establishes well, very showy. Good for reclamation.	Dry, Moderate		12-48”	Full Sun, Partial	JUL-OCT
Ipomopsis aggregata	Scarlet Gilia	P	Common in the high plateau areas of the Intermountain West. Very showy trumpet-like flowers.	Dry		12-36”	Full Sun, Partial	AUG-OCT
Liatris pycnostachya	Prairie Blazing Star	P	Native to the tallgrass prairies of the central United States	Moderate, Moist		3’ - 5’	Full Sun	JUL-AUG
Ligusticum porteri	Licorice Root	P	Common to the mountains of the West. Likes loamy, moist areas.	Moist		24-60”	Full Sun, Shade	JUL-SEPT
Linum grandiflorum rubrum	Scarlet Flax	A	Drought tolerant, showy forb adapted throughout US. Not as commonly used as Lewis Blue Flax.	Dry, Moderate		12-36”	Full Sun, Partial	MAY-AUG
Linum lewisii	Lewis Blue Flax	P	Drought tolerant showy forb adapted throughout US. Very palatable, valuable for reclamation and wildlife.	Dry		12-20”	Full Sun, Partial	MAR-SEP
Linum perenne	Perennial Blue Flax	P	Drought tolerant but short lived. Used in beautification, reclamation and wildlife habitat mixes.	Dry		18-30”	Full Sun	MAR-SEP
Lupinus alpestris	Mountain Lupine	P	Occurs in most sub-alpine mountainous regions of the West. Poisonous to livestock if eaten exclusively.	Dry, Moderate		18-24”	Any	JUN-SEP
Lupinus argenteus	Silvery Lupine	P	Occurs at lower elevations than Lupinus alpestris. Important in reclamation and wildflower mixes.	Dry, Moderate		36-60”	Full Sun, Partial	MAY-OCT
Lupinus arizonicus	Arizona Lupine	P	Small purple/pink flowers. Adapted to the desert Southwest.	Dry		12-24”	Full Sun, Partial	APR-MAY
Lupinus caudatus	Tailcup Lupine	P	Yellow to blue flowers. Adapted to mountain and foothills of the West.	Dry, Moderate		36-60”	Full Sun	JUL-OCT
Penstemon cyananthus	Wasatch Penstemon	P	Deep purple flower, grows from foothills to sub-alpine. Used in wildflower and reclamation mixes.	Dry		18-30”	Full Sun, Partial	APR-MAY
Penstemon eatonii	Firecracker Penstemon	P	Occurs in sandy/poor soils in most western states. Short lived, prolific seed producer.	Dry		24-36”	Full Sun, Partial	MAY-AUG

WILDFLOWERS & FORBS

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	BLOOM PERIOD
Penstemon palmeri	Palmers Penstemon	P	Common in the Intermountain and Southwest. Low to mid elevations. Does well on disturbed and fire sites.	Dry		36-60”	Full Sun	MAY-JUN
Penstemon rydbergii	Rydbergs Penstemon	P	High elevation penstemon occurring in meadows and open slopes. Ornamental.	Dry		12-24”	Full Sun	JUN-JUL
Penstemon strictus	Rocky Mountain Penstemon	P	Thrives in foothills and mid elevation mountains. Ornamental, widely used in wildlife and reclamation mixes.	Dry		12-36”	Full/Partial	MAY-JUN
Ratibida columnifera	Prairie Coneflower, Mexican Hat	P	Common in the Intermountain and Southwest. Low to mid elevations, does well on disturbed and fire sites.	Dry, Moist		12-36”	Full Sun	MAY-SEP
Rudbeckia occidentalis	Western Coneflower	P	Good for stabilization and wildflower mixes. No petals.	Dry		24-48”	Full Sun	JUN-NOV
Rudbeckia hirta	Black Eyed Susan	P	Prolific seed producer adapted to most of the US. Blooms all summer. Common in wildflower mixes.	Dry, Moist		12-36”	Full Sun	JUN-OCT
Sanguisorba minor	Small Burnet	P	Good forage producer, establishes easy. Used in pasture and reclamation mixes. Good pollinator.	Dry		6-24”	Full Sun	JUN-AUG
Sphaeralcea ambigua	Desert Globemallow	P	Blooms spring and occurs predominantly in the desert Southwest. Drought tolerant.	Dry		24-60”	Full Sun	FEB-NOV
Sphaeralcea coccinea	Scarlet Globemallow	P	Common in poor soils of the Intermountain West. Very short, rhizomatous. Valuable for reclamation.	Dry		6-12”	Full Sun	APR-SEP
Sphaeralcea grossularifolia	Gooseberryleaf Globemallow	P	Deeply lobed leaves. Drought tolerant and cold-hardy. Common in the low elevation, arid deserts.	Dry		18-40”	Full Sun	MAY-JUL
Sphaeralcea munroana	Munro’s Globemallow	P	Widely distributed in the arid, poor soils of the desert Intermountain and Southwest. Similar to small-leaf.	Dry		12-36”	Full Sun, Partial	MAY-JUL
Sphaeralcea parvifolia	Small-leaf Globemallow	P	Widely distributed in the arid, poor soils of the desert Intermountain and Southwest. Similar to Munro’s.	Dry		24-36”	Full Sun	MAY-JUL
Wyethia mollis	Mules Ear	P	Occurs in mid to sub-alpine elevations. Useful for cover and stabilization but low in palatability.	Dry, Moderate		18-42”	Full Sun	MAY-JUL

LIFESPAN KEY: P = PERENNIAL A = ANNUAL B= BI ANNUAL

SHRUBS & SUB-SHRUBS

Shrub seeds hand-collected in the wide open spaces of the American West. We are one of the largest purveyors of native shrub seeds in the USA.

Our shrub seed expertise is one of the specialties that set us apart. Our knowledge of ecotypes, subspecies, collection sites, harvest methods and processing are specialized. We drive tens of thousands of miles annually to locate suitable collection sites. The vast majority of our shrub seeds are still collected by hand.

Our work in shrubs began in the early 1970's when the study of seed species for range improvement was in its infancy. We have grown steadily and expanded our capabilities to meet the rising demand for native shrub seed. We designed and fabricated much of our own collection and cleaning machinery as we learned the nuances specific to each species. As the decades and demands evolved a specialized industry materialized. We are proud to be a pioneering company in this important industry.

We offer source identified and source origin shrub seeds from most Western states in the Intermountain West. Give us a call if you require seed for specific locations or require a custom collection effort.

SCAN ME

SHRUBS & SUB-SHRUBS

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Amelanchier alnifolia	Saskatoon Serviceberry	P	Valuable shrub for wildlife habitat and disturbed site restoration. Fruits used by birds and mammals.	12”	1/4-1/2”	Fall
Amelanchier utahensis	Utah Serviceberry	P	Similar to Saskatoon, provides excellent cover and food for wildlife and birds.	10”	1/4-1/2”	Fall
Artemisia arbuscula	Low Sagebrush	P	Excels in poor soils and unproductive sites from 2,000-10,000 ft. Valued for wildlife habitat & disturbed sites.	6”	1/8”	Fall
Artemisia cana	Silver Sagebrush	P	Frequently occurs in meadows, near streams and moist soil at high elevations. Important for sage grouse.	9”	1/8”	Fall
Artemisia filifolia	Sand Sagebrush	P	Occurs in the desert Southwest in sand soils, dunes, and well drained soil from 2,000-7,000 feet.	7”	1/8”	Fall
Artemisia frigida	Fringed Sagebrush	P	Widely distributed in the West. Mat-forming, cold-tolerant sub-shrub. Tolerant of poor soils.	7”	1/16”	Spring or Fall
Artemisia ludoviciana	Prairie Sage (Louisiana Sage)	P	Widely distributed in the Western US, mostly in alpine meadows. Rhizomatous, herbaceous sub-shrub.	10”	1/16”	Spring or Fall
Artemisia nova	Black Sagebrush	P	Evergreen shrub that occurs in rocky soils on exposed ridges and slopes. Good for deer, antelope, and sage grouse.	6”	1/4”	Spring or Fall
Artemisia tridentata tridentata	Basin Big Sagebrush	P	Critical and widely distributed N. American shrub. Occurs mainly in drainage bottoms, low foothills and more fertile sites. Tallest A. tridentata species. Highly valued for restoration and habitat improvement.	9”	1/8”	Fall or Winter
Artemisia tridentata vaseyana	Mountain Big Sagebrush	P	Occurs on Western US mountain slopes, high benches and parks from 3,000-9,500 ft. Valuable shrub for habitat improvement, disturbed area restoration, and sage grouse. Tolerates poor soils.	12”	1/4”	Fall or Winter
Artemisia tridentata wyomingensis	Wyoming Big Sagebush	P	Widely distributed in Western US, critical to many forms of wildlife. Most drought tolerant A. tridentata. Extremely important wildlife species, especially sage grouse. Very valuable for reclamation of disturbed sites.	7”	1/4”	Fall or Winter
Atriplex canescens	Fourwing Saltbush	P	Thrives in washes, foothills, dunes and mesas. Excellent alkali and salt tolerance. Abundant forage, key species for habitat improvement. Used for mine and disturbed site reclamation.	6”	1/4-1/2”	Fall
Atriplex confertifolia	Shadscale Saltbush	P	Excellent alkali and salt tolerance. Thrives on well drained dry slopes, lowlands and ridges. Abundant, palatable forage for wildlife and livestock. Excellent winter feed. Important reclamation species.	5”	1/2”	Fall
Atriplex corrugata	Mat Saltbush	P	Short alkali and salt tolerant sub-shrub. Common to the Colorado Plateau and northeastern Utah where it is used for mine reclamation. Naturally occurs in badlands, clay and poor soils.	5”	1/4”	Fall
Atriplex gardneri	Gardners Saltbush	P	Found in abundance on WY clay badlands. Very salt and alkali tolerant. Important for mine reclamation.	6”	1/2”	Fall
Bassia prostrata	Forage Kochia	P	Recommended as a component in seed mixes for saline badlands or challenging soil conditions.	6”	≤1/16”	Fall
Cercocarpus ledifolius	Curl-leaf Mountain Mahogany	P	Evergreen shrub, grows tree-like, and often in stands/forests. Nutritious browse. Valuable for reclamation.	12”	1/4-1/2”	Fall

LIFESPAN KEY: P = PERENNIAL A = ANNUAL B= BI ANNUAL

SHRUBS & SUB-SHRUBS

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
Cercocarpus montanus var. glaber	Birchleaf Mahogany	P	More shrub-like, shorter and drought tolerant than C. ledifolius. Palatable for wildlife and valuable for reclamation.	9”	1/4-1/2”	Fall
Chrysothamnus viscidiflorus	Yellow or Douglas Rabbitbrush	P	Valuable for reclamation and habitat improvement. Deciduous and winter hardy.	6”	1/8”	Fall
Ericameria nauseosa	Rubber Rabbitbrush	P	Widely distributed in Western US. Establishes well and spreads aggressively. Excellent for soil stabilization.	9”	1/2”	Fall
Ephedra nevadensis	Nevada Ephedra	P	Evergreen shrub, good alkali and salt tolerance. Good for winter browse and wildlife habitat improvement.	5”	1/2”	Fall
Ephedra viridis	Green Ephedra	P	Evergreen shrub. Good for winter cover/browse, wildlife habitat improvement, and reclamation.	7”	1/2”	Fall
Kraschen-innikovia lanata	Winterfat	P	Highly nutritious for livestock and wildlife. Sub-shrub moderately tolerant of salt and alkali.	5”	1/16-1/4”	Fall
Larrea tridentata	Creosote Bush	P	A dominant evergreen species in the Mojave and Sonora ecosystems. Very heat and drought tolerant, very long lived (up to 1500 years). Good cover for wildlife. Occurs in alluvial fans, plains and badlands.	4”	1/4”	Spring or Fall
Prunus virginiana	Chokecherry	P	Large shrub/tree (thicket forming) common from 1,000-9,000’. Grows in most soils and on northern slopes.	12”	1/2-1”	Spring or Fall
Purshia glandulosa	Desert Bitterbrush	P	Found in the desert intersection of UT, NV, CA, AZ. Establishes and persists in harsh sites. Excellent food and cover for wildlife. Used for disturbed areas, reclamation and habitat improvement.	6”	1/2-1”	Fall
Purshia mexicana stansburiana	Cliffrose	P	Long lived shrub/tree found on harsh Intermountain sites and rocky shallow soils. Very good wildlife cover.	7”	1/4-1/2”	Fall
Purshia tridentata	Antelope Bitterbrush	P	Valuable shrub in mountain West, occurs from sea level to 10,000’. Excellent winter feed for livestock and wildlife. Important for range and habitat improvement.	8”	1/2-1”	Fall
Rhus glabra	Smooth Sumac	P	Used for revegetation and landscaping. Forms thickets and spreads via aggressive roots. Widely distributed.	10”	1/4-1/2”	Fall
Rhus trilobata	Skunkbrush Sumac	P	Drought tolerant but commonly found along gullies and seasonal stream beds. Used for restoration.	10”	1/4-1/2”	Fall
Rosa woodsii	Woods Rose	P	Aggressive, early establishing in stream bottoms, ditch banks, fence lines. Valuable for birds.	12”	1/2-3/4”	Fall
Sambucus nigra cerulea	Blue Elderberry	P	Found from sea level to 9,000’. Grows along streams, roadsides, moist areas. Berries valuable for wildlife.	12”	1/4”	Fall
Sambucus racemosa	Red Elderberry	P	Similar to Sambacus nigara but occurs at high elevation mountainous terrain. Used for revegetation.	18”	1/4”	Fall
Symphoricarpos oreophilus	Mountain Snowberry	P	Very similar to S. albus. Root spreading with moderate salt and alkali tolerance. Persists on harsh sites. Good cover.	12”	1/4-1/2”	Fall

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Facing page: *Rubber Rabbitbrush at the foot of Window Blind Butte, San Rafael Swell, UT. Jason Stevens*

COVER CROPS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	PLANT TYPE	USES	LIFESPAN	PLANTING TIME	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	NITROGEN FIXING?	ADAPTATION, SOIL TEXTURE
Brassica campestris Purple Top Turnips	Broadleaf	Breaks soil compaction, nitrogen scavenger, forage, grazing	A	Fall or Summer	12-24"	2-8 lbs.	YES	Grows best in pH 5.5-6.8
Brassica napus Rapeseed	Broadleaf	Breaks soil compaction, disease and pest control, biomass, grazing	A	Spring, Summer, or Fall	12-18"	4-8 lbs.	NO	Prefers soils with a pH 5.8-8.0 and moderate soil textures
Brassica oleracea var. sabellica Forage Kale	Broadleaf	Forage, biomass, pest control, grazing, nitrogen scavenger	B/A	Summer or Fall	12-36"	8-15 lbs.	NO	Prefers moist warm soil and fine to medium soil textures
Crotalaria juncea Sunn Hemp	Broadleaf	Forage, cover crop, green manure, wildlife	A	Summer	36-108"	30-60 lbs.	YES	Adapted to a wide range of soils, and is well suited for sandy soils
Forage Cabbage	Broadleaf	Nitrogen scavenger, forage, breaks soils compaction, nutrient recycling	A	Spring or Fall	24-40"	2-4 lbs.	NO	Widely adapted
Forage Collard	Broadleaf	Winter grazing, forage, breaks soils compaction, nutrient recycling	A	Spring, Summer or Fall	12-30"	5-12 lbs.	NO	Widely adapted
Phacelia tanacetifolia Phacelia	Broadleaf	Nitrogen scavenger, grazing, hay, breaks soils compaction, pollinator	A	Fall	24-48"	5-8 lbs.	YES	Grows in soils with pH 4.5 - 9.0
Raphanus sativus Nematode Radish	Broadleaf	Soil compaction breaking, nitrogen fixing, forage, pest and weed management	A	Spring or Fall	24-36"	6-10 lbs.	NO	Cool, moist seed beds with higher nitrogen content
Raphanus sativus var. niger Daikon Radish	Broadleaf	Breaks soil compaction, weed suppression, nitrogen fixation	A	Summer or Fall	12-48"	3-8 lbs,	NO	Widely adapted, moist soils
Sinapis alba White Mustard	Broadleaf	Green manure, grazing	A	Summer or Fall	36-60"	6-10 lbs.	NO	Sandy loamy soils
Brassica juncea (AKA: Sinapis Alba) Mighty Mustard Mix	Broadleaf	Biomass, suppresses disease and pests, erosion control	A	Summer or Fall	36-72"	6-15 lbs.	NO	Widely adapted
Fagopyrum esculentum Buckwheat	Grain	Quick soil cover, weed suppressor, nectar for pollinators and beneficial insects, topsoil loosener, rejuvenator for low-fertility soils	A	Summer	12-24"	50-100 lbs.	NO	Low-fertility, well drained, light to medium soils
Pennisetum glaucum Pearl Millet	Grain	Disease resistance, weed suppression, biomass production	A	Spring or Summer	12-24"	20-30 lbs.	NO	Medium to coarse marginal soil types
Secale cereale Cereal Rye	Grain	Grain crop, milled for flour, cover crop, green manure system	A	Spring or Fall	36-72"	50-200 lbs.	NO	Light loams or sandy soils, can do well in clay soils
Sorghum × drummondii Sorghum Sudangrass	Grain	Rotational crop, cover crop, soil builder, weed and nematode suppressor, sub-soil loosener	A	Summer	60-144"	35-50 lbs.	NO	Warm and moist fertile soils, will tolerate moderate acidity and high alkalinity
Eragrostis Tef Teff Grass	Grass	Erosion control, nitrogen scavenger, weed suppression, green chop	A	Summer	24-48"	8-12 lbs.	NO	Warm, firm seedbed, widely adapted
Lolium perenne multiflorum Annual Ryegrass	Grass	Prevent erosion, improve soil structure and drainage, add organic matter, suppress weeds, scavenge nutrients	A	Spring or Fall	12-48"	15-20 lbs.	NO	Well-drained loam or sandy loam soils
Trifolium alexandrinum Frosty Berseem Clover	Legume	Weed suppression, winter cover, forage, nitrogen fixation, multiple harvest	A	Spring or Fall	12-36"	8-16 lbs.	YES	Salt tolerance,
Trifolium incarnatum Crimson Clover	Legume	Green manure, forage, silage, hay, livestock and wildlife, erosion control, nitrogen fixation	A	Spring or Fall	12-36"	15-30 lbs.	YES	Fertile, loamy soils, adapted to sandy & clayey soils of moderate acidity
Trifolium michelianum Fixation Balansa Clover	Legume	Nitrogen fixation, pastures, green manure	A	Spring or Fall	36-84"	5-8 lbs.	YES	Cool, moist sandy soils, tolerates poorly drained soils with moderate salinity
Pisum sativum subsp. arvense Winter Peas	Legume	Green manures, nitrogen fixation, forage	A	Fall	24-48"	44-130 lbs.	YES	Cool, moist sandy soils
Vicia villosa Hairy Vetch	Legume	Nitrogen fixation, vegetation, green manures	A	Summer or Fall	12-24"	30-80 lbs.	YES	Winter hardy, sandy soils

LEGUMES AND CLOVERS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	SEASON (WARM OR COOL)	BLOAT OR NON-BLOAT	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE
Astragalus cicer Cicer Milkvetch	*(Lutana, Oxley II, Monarch)*	C	NB	I	P	10"	12-36"	20-25 lbs.	145,000	S/F	Full Sun, Partial	Strong alkali tolerance, widely adapted
Coronilla varia Crownvetch	Purple Crownvetch, Coronilla Crown Vetch *(Chemung, Emerald)*	C	B	I	P	20"	24-48"	15-20 lbs.	110,000	F	Full Sun, Partial	Winter hardy, watershed stabilization, tolerates acidic soils

LEGUMES AND CLOVERS - SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	SEASON (WARM OR COOL)	BLOAT OR NON-BLOAT	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE
Dalea purpureum purpurea Purple Prairie Clover	Thimbleweed	W	B	N	P	12”	12-36”	4-8 lbs.	210,000	S/F	Full Sun, Partial	Nitrogen fixing, widely adapted to a range of soil
Lotus corniculatus Birdsfoot Trefoil	*Viking, Empire*	W	NB	I	P	20”	24-36”	4-6 lbs.	418,000	S	Full Sun, Shade	Can be grown on low pH 5.5 soils with low fertility
Medicago sativa Alfalfa	Over 30 varieties available	C	B	I	P	9”-18”	24-36”	8-15 lbs.	210,000	S/F	Full Sun, Partial	Widely adapted
Medicago sativa falcata Yellow Alfalfa	Sickle Medick, Falcata	C	B	I	P	10”	24-36”	6-8 lbs.	215,000	S/F	Full Sun	Nitrogen fixing, drought tolerant, widely adapted
Melilotus officinalis Yellow Sweetclover	*Madrid*	C	B	I	B	8”	24-36”	10-15 lbs.	190,000	S	Full Sun	Widely used, all soil textures
Onobrychis viciifolia Sainfoin	*Eski, Melrose, Remont, Shoshone*	C	NB	I	P	8”	24-36”	35-45 lbs.	260,000	S/F	Full Sun	Winter hardy, nitrogen fixing, dryland legume, moderately fine to moderately coarse soil
Trifolium alexandrinum Frosty Berseem Clover		C	NB	I	A	12”	24-36”	25-30 lbs.	275,000	S/F	Full Sun	Prefers slightly alkaline loam and silty soils with a pH of 6+
Trifolium fragiferum Strawberry Clover	*O'Conners, Palenstine*	C	B	I	P	15”	6-12”	5-15 lbs.	300,000	S/F	Full Sun, Partial	Tolerant of salt and alkali soils, nitrogen fixing, adapted to poor soils
Trifolium hybridum Alsike Clover		C	B	N	B/P	18”	24-48”	6-8 lbs.	680,000	F	Full Sun	Acid, alkali and salt tolerant, short lived
Trifolium incarnatum Crimson Clover		C	B	I	A	25”	18-30”	8-10 lbs.	275,000	S/F	Full Sun	Cold hardy, widely adapted
Trifolium michelianum Fixation Balansa Clover		C	B	I	A	25”	24-48”			S/F	Full Sun	Nitrogen fixing, tolerant of waterlogged soils
Trifolium pratense Red Clover		C	B	I	B/P	25”	18-30”	8-10 lbs.	275,000	S/F	Full Sun, Shade	Cold hardy, moderately fine to moderately coarse soils
Trifolium repens White Dutch Clover		C	B	I	P	18”	24-36”	2 lbs.	850,000	F	Full Sun, Partial	Long lived, widely adapted
Trifolium repens latum Ladino Clover		C	B	I	P	18”	24-48”	2-6 lbs.	850,000	F	Full Sun, Shade	Widely adapted
Vicia americana American Vetch		C	NB	N	P	12”	12-24”	25-35 lbs.	33,000	S/F	Full Sun, Partial	Widely adapted, drought tolerant
Vicia sativ Common Vetch		C	NB	I	A	12”	12-40”	25-35 lbs.	39,600	S/F	Full Sun	Moist to dry mesic conditions, in loam and clay-loam soils
Vicia villosa Hairy Vetch	Winter Vetch, Fodder Vetch	C	NB	I	P	18”	24-60”	25-35 lbs.	20,000	S/F	Full Sun	Nitrogen fixing, widely adapted to many soils

SMALL GRAINS - SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	GRAIN	HAY	GRAZING	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE
Avena sativa Oats	*Derby, Monaco, Monida, Otana*	X	X	X		100 lbs.	16,200	S	Full Sun	Cool, moist soils
Avena sativa Giant Oats	Tree Oats *Intimidator, Walken, Magnum*	X	X	X		100 lbs.	16,000	S	Full Sun	Cool, moist soils
Fagopyrum esculentum Buckwheat		X		X	12-36”	100 lbs.	16,000	Sum	Full Sun, Partial	Fair acid and salt tolerance, wet poorly drained soils
Hordeum vulgare Spring Barley	*Lavina Beardless, Goldeneye, Claymore, Haymaker, Sunstar Double*	X	X		48-60”	100 lbs.	18,000	S	Full Sun	Adapted to high altitudes with cold & short growing seasons
Hordeum vulgare Fall Barley	*Valor, Sunstar Pride*	X	X		48-60”	100 lbs.	18,000	F	Full Sun	Adapted to high altitudes with cold & short growing seasons
Annual Rye Grain	*Rymin*	X			60-72”	100 lbs.	18,200	S	Full Sun	Widely adapted, nitrogen fixing, cold hardy
Sorghum bicolor x Sorghum sudanese Sorghum Sudangrass	*Honeysuckle, Honeysuckle DM*		X	X	<12ft	40-65 lbs.	22,000	S/ Sum	Full Sun	Warm, well drained moderately fine to moderately coarse soils
Triticum aestivum Spring Wheat	*Twin, Jefferson*	X			36-48”	100 lbs.	18,500	S	Full Sun	Warm, well drained moderately fine to moderately coarse soils

SMALL GRAINS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	GRAIN	HAY	GRAZING	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE
Triticum aestivum Fall Wheat	*Brundage, Willow Creek, Ray*	X			36-48"	100 lbs.	18,500	F	Full Sun	Moderately fine to moderately coarse soils
Triticum aestivum x Secale cereale Spring Triticale	*Tyndall, Forerunner, 131, TriCal Surge, Merlin Max™, TriCal 141*		X	X	50-60"	100 lbs.	18,000	S	Full Sun	Short term, moist soils
Triticum aestivum x Secale cereale, X tritosecale Fall Triticale	*Forerunner, FX 1001, Luoma, TriCal Motley, TriCal Gunner, TriCal Flex 719™, TriCal 141*		X	X	48-60"	100 lbs.	18,000	F	Full Sun	Short term, moist soils

GRASSES AND GRASSLIKE SPECIES – CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	CULTIVARS/VARIETIES	SEASON (WARM OR COOL)	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Achnatherum hymenoides (AKA: Oryzopsis hymenoides) Indian Ricegrass	Nezpar, Paloma, Rimrock, Star Lake, White River	C	N	P	6"	8-30"	6-12 lbs.	162,000	S/F	Full Sun	Medium to coarse soils	3 - 9
Achnatherum lettermanii (AKA: Stipa lettermanii) Letterman Needlegrass		C	N	P	14"	6-18"	8-12 lbs.	175,000	S/F	Full Sun, Shade	Moderately fine to moderately coarse	3 - 9
A. cristatum x desertorum Hycrest Crested Wheatgrass		C	I	P	7"	18-36"	5-10 lbs.	194,000	S/F	Full Sun, Partial	Medium to coarse soils	3 - 9
Andropogon gerardii Big Bluestem	Bison, Champ, Pawnee, Roundtree	W	N	P	14"	25- 48"	6-11 lbs.	130,000	Sum	Full Sun, Partial	Fertile, well drained prairie soils. fine to medium soil textures	3 - 8
Agropyron cristatum Crested Wheatgrass	Fairway, Douglas, Ephraim, Roadcrest, Kirk, Ruff	C	I	P	9"	24-48"	3-7 lbs.	250,000	S/F	Full Sun, Shade	Deep, well drained loamy soils	2 - 8
Agropyron desertorum Standard Crested Wheatgrass	Nordan, CD-II	C	I	P	7"	18-36"	5-10 lbs.	194,000	S/F	Full Sun, Partial	Medium to coarse soils	3 - 9
Agropyron fragile sibiricum (AKA: Agropyron sibiricum) Siberian Wheatgrass	P-27, Vavilov, Vavilov II	C	I	P	5"	12-24"	6-11 lbs.	206,000	S/F	Full Sun, Partial	Well drained, loamy soils, moderately fine to coarse.	3 - 9
Alopecurus arundinaceus Creeping Foxtail	Garrison	C	I	P	20"	36-48"	1-3 lbs.	900,000	S/F	Full Sun, Partial	Wetlands, wide range of soils	3 - 10
Bouteloua curtipendula Sideoats Grama	Butte, El Reno, Pierre	W	N	P	15"	12-24"	5-9 lbs.	191,000	Sum	Full Sun, Partial	Shallow well drained rocky sites	5 - 9
Bouteloua gracilis Blue Grama	Lovington, Hachita, Bad River, Alma	W	N	P	8"	6-18"	2-3 lbs.	724,000	Sum	Full Sun	Loams and sandy loams. Fine to coarse soils.	5 - 9
Bromus biebersteinii (AKA: Bromopsis biebersteinii) Meadow Brome	Cache, Paddock, Regar, Fleet	C	I	P	14"	24-72"	11-17 lbs.	40,000	S/F	Full Sun, Partial	Moderately deep, well drained soils. Moderately coarse to fine.	3 - 7
Bromus inermis Smooth Brome	Lincoln, Manchar, Carlton	C	I	P	11"	24-48"	6-8 lbs.	145,000	S/F	Full Sun, Partial	Fine to moderately coarse well drained soils.	3 - 7
Bromus marginatus Mountain Brome	Bromar, Garnet	C	N	P	16"	18-36"	12-19 lbs.	90,000	F/ late S	Full Sun, Shade	Deep, well drained, fertile soils. Moderately fine to medium.	4 - 7
Buchloe dactyloides Buffalograss	Texoka, Comanche, Sharps Improved	W	N	P	12"	4-10"	4-8 lbs.	56,000	Late S	Full Sun	Medium to clayey textured soils	5 - 10
Dactylis glomerata Orchardgrass	Latar, Paiute, Potomac, Quickdraw, Crown Royal, Extend, Hallmark, Blizzard, Haymaster	C	N	P	10-16"	24-48"	2-4 lbs.	540,000	S/F	Full Sun, Shade	Well drained, medium textured, fertile soils	2 - 9
Distichlis spicata (AKA: Distichlis stricta) Inland Saltgrass	Alkali Saltgrass	W	N	P	8"	6-12"	4-10 lbs.	518,000	S/ Sum	Full Sun, Partial	Highly saline/alkaline soils with poor drainage or high water table	7 - 10
Elymus dahuricus Dahurian Wildrye	Arthur	C	N	P	12"	36-72"	10-15 lbs.	80,000	S/F	Full Sun, Partial	Widely adapted	3 - 9

SCIENTIFIC NAME COMMON NAME	CULTIVARS/VARIETIES	SEASON (WARM OR COOL)	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Elymus elymoides *(AKA: Sitanion hystrix)* Bottlebrush Squirreltail	Fish Creek, Toe Jam Creek, Tulsa, Pueblo, Sand Hallow	C	N	P	5”	6-24”	7-12 lbs.	192,000	S/F	Full Sun	Widely adapted, well drained soils	3 - 7
Elymus lanceolatus lanceolatus *(AKA: Agropyron dasystachyum)* Thickspike Wheatgrass	Bannock, Critana, Schwendimar	C	N	P	5”	24-48”	6-11 lbs.	156,000	S/F	Full Sun, Partial	Moderate shallow to deep, moderately coarse to fine	4 - 7
Elymus lanceolatus psammophilus *(AKA: Agropyron riparium)* Streambank Wheatgrass	Sodar	C	N	P	7”	18-36”	6-11 lbs.	170,000	S/F	Full Sun, Partial	Moderately coarse to fine, shallow to deep soils	4 - 7
Elymus trachycaulus trachycaulus *(AKA: Agropyron trachycaulum)* Slender Wheatgrass	Pryor, Revenue, San Luis, First Strike, Highlander	C	N	P	10”	24-36”	6-10 lbs.	159,000	S/F	Full Sun, Partial	Best on medium to clayey soils	3 - 7
Elymus wawawaiensis Snake River Wheatgrass	Secar, Discovery	C	N	P	8”	18-48”	12-15 lbs.	120,000	S/F	Full Sun, Partial	Moderately fine to coarse soils	5 - 7
Eragrostis Tef Teff Grass	Dessie	W	I	A	30”	24-36”	8-10 lbs.	1,300,000	Sum	Full Sun	Well drained soils with balanced fertility	6 - 10
Festuca arundinacea *(AKA: Schedonorus Phoneix)* Tall Fescue	Alta, Fawn	C	N	P	16”	12-48”	15 lbs.	500,000	S/F	Full Sun, Partial	Sub-humid climates, poorly drained soils	3 - 6
Festuca idahoensis Idaho Fescue	Joseph, Nezpurs, Winchester	C	N	P	16”	12-36”	3-6 lbs.	450,000	S/F	Full Sun, Partial	Well drained soils to 12,000 ft. Moderately fine to moderately course soils.	4 -8
Festuca ovina Sheep Fescue	Covar, Bighorn, Elk Brand, Azay	C	N	P	8”	6-12”	2-4 lbs.	600,000	S/F	Full Sun, Partial	Well drained, medium textured soils, drought tolerant	4 - 8
Festuca rubra Creeping Red Fescue	Many varieties	C	I	P	15”	6-12”	2-4 lbs.	590,000	S/F	Partial, Shade	Used in turf blends, shade and acid tolerance	2 - 7
Festuca trachyphylla *(AKA: Festuca duriuscula)* Hard Fescue	Durar, Serra, Slalom	C	N	P	14”	12-14”	3-6 lbs.	600,000	S/F	Full Sun, Partial	Well adapted, acid tolerance.	4 - 9
Hesperostipa comata comata *(AKA: Stipa comata)* Needle & Thread Grass		C	N	P	8”	24-48”	10-14 lbs.	115,000	F	Full Sun	Moderately fine to course well drained soils	4 - 8
Juncus balticus Baltic Rush		C	N	P	7”	12-36”	1-2 lbs.	6,000,000	S/F	Full Sun, Shade	Wetland plant, likes fine to medium textures	3 - 7
Koeleria macrantha Prairie Junegrass		C	N	P	12”	6-24”	1-2 lbs.	2,300,000	S/F	Full Sun	Medium textured soils, fairly drought tolerant	3 - 8
Leymus cinereus *(AKA: Elymus cinereus)* Basin Wildrye	Magnar, Trailhead, Continental	C	N	P	10”	36-108”	6-11 lbs.	130,000	S/F	Full Sun, Partial	Well adapted to wide range of soils	4 - 8
Lolium perenne multiflorum *(AKA: Lolium multiflorum)* Annual Ryegrass		C	I	A	11”	24-36”	8-16 lbs.	200,000	S/F	Full Sun, Shade	Acidic soils, medium textures	4 - 7
Lolium perenne multiflorum Italian Ryegrass		C	I	A	11”	24-36”	8-16 lbs.	200,000	S/F	Full Sun, Shade	Acidic soils, medium textures	6 - 10
Lolium perenne perenne Perennial Ryegrass	Oro Verde, Albion, Elena, and many others	C	I	P	12”	24-36”	4-8 lbs.	227,000	S/F	Full Sun	Medium to clayey soils in cool, moist regions	5 - 7
Nassella viridula *(AKA: Stipa viridula)* Green Needlegrass	Lodorm, Cucharas	C	N	P	12”	18-36”	5-10 lbs.	180,000	F	Full Sun, Partial	Fine to medium, clayey soils, salt tolerance	5 - 9
Pascopyrum smithii *(AKA: Agropyron smithii)* Western Wheatgrass	Rosana, Arriba, Barton, Recover, Rodan	C	N	P	8”	12-36”	8-16 lbs.	114,000	S/F	Full Sun, Partial	Fine to medium soil textures, drought tolerant	2 - 6
Phalaris arundinacea Reed Canarygrass	Palaton, Rise, Rival, Vantage	C	N	P	16”	60-84”	2-4 lbs.	538,000	S/F	Full Sun	Wetlands, tolerates alkali and salt	4 - 9
Phleum pratense Timothy	Clair, Climax, Mohawk	C	N	P	16”	18-36”	1-2 lbs.	1,300,000	S/F	Full Sun, Shade	Cool moist climates, all soils	5 - 9
Pleuraphis jamesii Galleta Grass	Viva	W	N	P	5”	6-12”	6-12 lbs.	160,000	S/ Sum	Full Sun	Dryland, fine to moderately coarse textures	4 - 7
Poa fendleriana Muttongrass		C	N	P	10”	6-24”	2-3 lbs.	890,000	S/F	Full Sun, Partial	Fine to moderately coarse soils, drought tolerant	4 - 8
Poa pratensis Kentucky Bluegrass	Many varieties	C	N/I	P	18”	12-24”	2-3 lbs.	2,175,000	S/F	Full Sun, Partial	Well drained, neutral soils, even fertility	3 - 7

GRASSES AND GRASSLIKES – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	CULTIVARS/VARIETIES	SEASON (WARM OR COOL)	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Poa secunda ampla *(AKA: Poa ampla)* Big Bluegrass	Sherman	C	N	P	9"	24-48"	2-4 lbs.	880,000	S/F	Full Sun, Partial	Moderately fine to moderately coarse soils	3 - 8
Poa secunda sandbergii Sandberg Bluegrass	High Plains, Mt. Home, Hanford, Reliable	C	N	P	7"	8-14"	2-4 lbs.	925,000	S/F	Full Sun, Partial	Wide range; drought, saline and alkaline tolerant	4 - 7
Psathyrostachys juncea *(AKA: Elymus junceus)* Russian Wildrye	Bozoisky, Bozoisky II, Bozoisky Select, Swift, Vinall	W	I	P	7"	30- 40"	5-10 lbs.	162,000	S/ Sum	Full Sun	Drought tolerant, medium soil textures	2 - 5
Pseudorogneria spicata x Elytriga repens Hybrid Wheatgrass	AC Saltlander, Newhy, RS-H	C	I	P	10"	24-36'	4-8 lbs.	120,000	S/F	Full Sun	High salt tolerance	3 - 7
Pseudoroegneria spicata spicata *(AKA: Agropyron spicatum)* Bluebunch Wheatgrass	Goldar, P-7, Anatone	C	N	P	7"	18-48"	10-14 lbs.	139,000	S/F	Full Sun, Partial	Drought tolerant; moderately fine to moderately coarse	3 - 7
Schizachyrium scoparium Little Bluestem	Aldous, Badlands, Cimarron, Pastura, Blaze, Camper, Itsaca	W	N	P	12"	18-36"	4-7 lbs.	260,000	S/ Sum	Full Sun, Partial	Medium textured soils of foothills and Great Plains	3 - 9
Schoenoplectus mantimus *(AKA: Bolboschoenus martimus)* Alkali Bulrush		W	N	P	30"	24-48"	8 lbs.	170,000	S/ Sum	Full Sun, Shade	Wetlands, tolerant of salt and alkali soils	5 - 9
Sporabolus airoides Alkali Sacaton	Salado, Vegas, Saltalk	W	N	P	7"	18-36"	2-3 lbs.	1,750,000	Sum	Full Sun, Partial	Salty, clayey, bottom land sites	4 - 9
Sporobolus cryptandrus Sand Dropseed		W	N	P	8"	24-36"	1-2 lbs.	5,300,000	Sum	Full Sun, Partial	Shallow, calcareous and sandy sites, drought tolerant	5 - 9
Thinopyrum intermedium intermedia *(AKA: Agropyron intermedium)* Intermediate Wheatgrass	Chief, Greenar, Oahe, Reliant, Rush, Tegmar, Amur	C	I	P	11"	36-48"	10-15 lbs.	85,000	S/F	Full Sun, Partial	Fire, cold, drought tolerant; fine to medium soils	3 - 7
Thinopyrum intermedium trichophorum Pubescent Wheatgrass	Luna, Mandan, Manska, Greenleaf, Topar	C	I	P	11"	36-48"	9-14 lbs.	85,000	S/F	Full Sun, Partial	Drought tolerant, widely adapted	2 - 7
Thinopyrum ponticum Tall Wheatgrass	Alkar, Jose, Orbit, Largo	C	I	P	8"	36-108"	11-17 lbs.	120,000	S/F	Full Sun	Fine to moderately coarse, saline and alkaline soils	3 - 9

WILDFLOWERS AND FORBS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/ VARIETIES)	BLOOM COLOR	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	BLOOMING SEASON	SUN & SHADE TOLERANCE	SEEDS PER LB.	SEEDING RATE: PLS POUNDS PER ACRE	PLANTING TIME	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Achillea millefolium White Yarrow		White	N	P	8"	12-36"	MAY-JUL	Full Sun	2,800,000	1 lb	S/F	Medium to coarse soil textures	3 - 9
Achillea millefolium occidentalis Western Yarrow	*(Yakima, Eagle, Great Northern)*	White	N	P	8"	6-24"	MAY-OCT	Full Sun	2,800,000	1 lb	S/F	Medium to coarse soil textures	4 - 9
Aquilegia coerulea Colorado Blue Columbine	Rocky Mountain Columbine	Blue and White	N	P	12"	24-36"	JUN-AUG	Partial	365,000	3-6 lbs.	F	Moderately fine to moderately coarse	3 - 10
Balsamorhiza sagittata Arrowleaf Balsamroot		Yellow	N	P	10"	18-30"	MAY-JUL	Full Sun	55,000	7-15 lbs.	F	Great Basin, Rocky Mtns, foothills to aspen zones	4 - 7
Castilleja applegatei Wavyleaf Indian Paintbrush	Pine Indian Paintbrush	Red	N	P	12"	12-24"	MAY-JUL	Full Sun	4,500,000	1 lb	F	High elevations	4 - 8
Cleome lutea Yellow Beeplant	Yellow Spiderflower	Yellow	N	A	10"	12-36"	MAY-AUG	Full Sun	75,000	8-15 lbs.	S/F	Drought tolerant, valley bottoms, roadsides	4 - 8
Cleome serrulata Rocky Mountain Beeplant	Bee Spiderflower	Pink and White	N	A	6"	12-48"	JUL-SEP	Full Sun	65,000	10-16 lbs.	S/F	Drought tolerant, fine to medium soils	3 - 8
Echinacea purpurea Purple Prairie Coneflower		Purple-Pink	N	P	10"	24-48"	APR-SEP	Full Sun, Partial	117,000	7-12 lbs.	S/F	Medium textured soils, dry soil moisture	4-9
Erigeron speciosus Aspen Daisy	Fleabane	Lavender/ White	N	P	14"	12-24"	JUN-SEP	Full Sun, Partial	1,600,000	1 lb	S/F	Moderate soil moisture, medium textured soil	2 - 8

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/ VARIETIES)	BLOOM COLOR	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	BLOOMING SEASON	SUN & SHADE TOLERANCE	SEEDS PER LB.	SEEDING RATE: PLS POUNDS PER ACRE	PLANTING TIME	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Eriogonum umbellatum Sulfur Buckwheat	Sulfur Flower	Yellow and White	N	P	8”	6-18”	JUN-SEP	Full Sun, Partial	210,000	4-7 lbs.	F	Drought tolerant, dry soil moisture, medium to coarse	4 - 8
Eschscholzia californica California Poppy		Yellow-Orange	N	A	10”	6-18”	FEB-OCT	Full Sun	293,000	5-10 lbs.	S/F	Widely adapted	3 - 9
Gaillardia aristata Blanketflower		Yellow and Red	N	P	10”	12-24”	JUL-SEP	Full Sun	132,000	7-10 lbs.	S	Widely adapted	3 - 8
Gaillardia pulchella Firewheel	Indian Blanket	Yellow and Red	N	A	10”	12-36”	MAY-AUG	Full Sun, Partial	238,000	6-10 lbs.	S/F	Widely adapted, medium to coarse soil textures	2 - 11
Geranium viscosissimum Sticky Purple Geranium	Wild Sticky Geranium	Pink-Purple	N	P	18”	12-36”	MAY-AUG	Any	50,000	6-12 lbs.	S/F	Sub-alpine elevations, medium soil textures	2 - 9
Hedysarum boreale utahensis Utah Sweetvetch	Northern Sweetvetch, (*Timp*)	Pink-Purple	N	P	14”	12-24”	APR-AUG	Full Sun, Partial	33,500	15-25 lbs.	F	Moderately fine to coarse soils	2 - 9
Helianthus annuus Annual Sunflower	Common Sunflower	Yellow	N	A	10”	36-84”	JUL-OCT	Full Sun	58,000	10-20 lbs.	S/F	Widely adapted	4 - 9
Heliomeris multiflora *(AKA: Viguiera multiflora)* Showy Goldeneye		Yellow	N	P	12”	12-48”	JUL-OCT	Full Sun, Partial	1,050,000	1-2 lbs.	S/F	Mid to high elevations, medium soil textures	4 - 10
Ipomopsis aggregata *(AKA: Gilia aggregata)* Scarlet Gilia	Scarlet Trumpetflower, Skyrocket	Red	N	P	12”	12-36”	AUG-OCT	Full Sun, Partial	200,000	6-8 lbs.	F	High plateaus of Intermountain West, widely adapted to many soil types	6 - 9
Liatris pycnostachya Prairie Blazing Star		Purple	N	P		12-36”	AUG-OCT	Full Sun	120,000	3-6 lbs.	S/F	Clay, loom, sand, can tolerate a wide range of soil pH	3 -9
Ligusticum porteri Porter Ligusticum	Licorice Root, Osha	Green, White, Pink	N	P	16”	24-60”	JUL-SEP	Full Sun, Shade	70,000	10-15 lbs.	F	Loamy moist soils	4 - 9
Linum grandiflorum rubrum Scarlet Flax	Red Flax	Red	I	P	12”	12-36”	MAY-AUG	Full Sun, Partial	122,000	7-14 lbs.	S	Drought tolerant, widely adapted	2 - 10
Linum lewisii Lewis Blue Flax	*(Maple Grove)*	Blue-Purple	N	P	9”	12-20”	MAR-SEP	Full Sun, Partial	250,000	3-6 lbs.	S	Widely adapted	3 - 9
Linum perenne Perennial Blue Flax	*(Appar)*	Blue-Purple	I	P	9”	18-30”	MAR-SEP	Full Sun	285,000	3-6 lbs.	S	Drought tolerant, short lived, widely adapted	5 - 9
Lupinus alpestris *(AKA: Lupinus argenteus rubricaulis)* Mountain Lupine	Alpine Lupine, Great Basin Lupine	Blue-Purple	N	P	16”	12-24”	MAR-JUN	Full Sun, Shade, Partial	12,000	20-30 lbs.	F	Lupines are poisonous to livestock, sub-alpine mountainous regions	4 - 9
Lupinus argenteus Silvery Lupine		Blue-Purple	N	P	10”	12-38”	JUN-JUL	Full Sun, Shade, Partial	15,000	20-30 lbs.	F	Lower elevations than Mountain Lupine, widely adapted	4 - 10
Lupinus arizonicus Arizona Lupine		Pink-Purple	N	A	10”	12-36”	MAR-MAY	Full Sun	135,000	6-12 lbs.	F	Adapted to Southwest desert, medium to coarse soil types, drought tolerant	6 - 10
Lupinus caudatus Tailcup Lupine		Blue-Purple	N	P	12”	12-24”	MAY-SEP	Full Sun	18,000	20-30 lbs.	F	Mountains and foothills, medium to coarse well drained soil types	3 - 7
Lupinus sericeus Silky Lupine		Blue-Purple	N	P	10”	18-36”	MAY-AUG	Full Sun, Partial	25,000	20-30 lbs.	F	Mountains, foothills, moderately coarse soils	4 - 8
Osmorhiza occidentalis Sweet Anise	Western Sweetroot	Yellow and Purple	N	P	12”	24-48”	MAR-SEP	Full Sun	30,000	20-30 lbs.	F	Mountain regions of western US	3 - 9
Penstemon cyananthus Wasatch Penstemon		Blue-Purple	N	P	12”	18-30”	APR-MAY	Full Sun, Partial	290,000	2-4 lbs.	F	Well drained, sandy loams, foothills to sub-alpine	3 - 8
Penstemon eatonii Firecracker Penstemon	Scarlet Penstemon, Eatons Penstemon,	Red	N	P	8”	24-36”	MAY-AUG	Full Sun, Partial	325,000	1-3 lbs.	F	Great Basin, Rocky Mtns., Southwest deserts; medium to coarse soils	4 - 8

WILDFLOWERS AND FORBS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/ VARIETIES)	BLOOM COLOR	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	BLOOMING SEASON	SUN & SHADE TOLERANCE	SEEDS PER LB.	SEEDING RATE: PLS POUNDS PER ACRE	PLANTING TIME	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Penstemon palmeri Palmers Penstemon	*Scented Penstemon*	Pink-White	N	P	9"	36-60"	MAY-JUN	Full Sun	600,000	2-3 lbs.	F	Low to mid elevations, well adapted	4 - 9
Penstemon rydbergii Rydbergs Penstemon	Blue Mountain Penstemon	Blue-Purple	N	P	12"	12-24"	JUN-JUL	Full Sun	600,000	1-2 lbs.	S/F	High elevations, meadows and open slopes, well drained	4 - 9
Penstemon strictus Rocky Mountain Penstemon	*(Bandera)*	Blue-Purple	N	P	11"	12-36"	MAY-JUN	Full Sun, Partial	285,000	1-3 lbs.	F	Foothills and mid-elevation mountains	3 - 8
Ratibida columnifera (AKA: Ratibia columnaris) Prairie Coneflower	Mexican Hat	Yellow-Orange	N	P	10"	12-36"	MAY-SEP	Full Sun	1,230,000	1 lb	S/F	Intermountain and Southwest, widely adapted to soils	4 - 9
Rudbeckia occidentalis Western Coneflower	Green Wizard	Yellow-Green	N	P	12"	24-48"	JUN-NOV	Full Sun	350,000	4-5 lbs.	S/F	Fine to medium soils, well drained	3 - 9
Rudbeckia hirta Black Eyed Susan		Yellow	N	P	12"	12-36"	JUN-OCT	Full Sun	1,700,000	1 lb	S/F	Widely adapted, established easily	3 - 9
Sanguisorba minor Small Burnet	Little Burnet, Salad Burnet	Pink	I	P	12"	6-24"	JUN-AUG	Full Sun	55,000	15-20 lbs	S/F	Moderately fine to moderately coarse soil textures	4 - 8
Sphaeralcea ambigua Desert Globemallow		Orange	N	P	6"	24-60"	FEB-NOV	Full Sun	500,000	2-4 lbs.	F	Desert Southwest, medium to coarse soil textures	6 - 9
Sphaeralcea coccinea Scarlet Globemallow		Red-Orange	N	P	6"	6-12"	APR-SEP	Full Sun	400,000	2-4 lbs.	F	Poor soils, western plains and Southwest US	6 - 8
Sphaeralcea grossulariifolia Gooseberry Globemallow		Red-Orange	N	P	6"	18-40"	MAY-JUL	Full Sun	500,000	2-4 lbs.	F	Drought tolerant, deserts and low elevations	4 - 10
Sphaeralcea munroana Munro's Globemallow		Red-Orange	N	P	6"	12-36"	MAY-JUL	Full Sun, Partial	500,000	2-4 lbs.	F	Arid, poor soils in desert Intermountain and Southwest US	4 - 9
Sphaeralcea parvifolia Small-leaf Globemallow	Nelson Globemallow	Red-Orange	N	P	6"	24-36"	MAY-JUL	Full Sun	500,000	2-4 lbs.	F	Arid, poor soils in desert Intermountain and Southwest US	6 - 8
Wyethia mollis Mules Ear		Yellow	N	P	12"	18-42"	MAY-JUL	Full Sun	28,000	20-25 lbs.	S/F	Mid to sub-alpine elevations, widely adapted	3 - 8

SHRUBS AND SUB-SHRUBS – SPECIES CHARACTERISTICS AND ADAPTATION CHARTS

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	SOIL PH	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Amelanchier alnifolia Saskatoon Serviceberry		N	P	12"	36"	1 lb.	61,000	F	Full Sun, Partial	4.8-8.4	North central region and Rocky Mtn, widely adapted	2 - 7
Amelanchier utahensis Utah Serviceberry		N	P	10"	3-15 ft	4-5 lbs.	65,000	F	Full Sun, Partial	5.6-8.4	Intermountain West, all soil textures, cold hardy	5 - 8
Artemisia arbuscula Low Sagebrush		N	P	6"	6-12"	1 lb.	1,000,000	F	Full Sun	5.5-8.6	Excels in poor soils, 2,000-10,000 ft in elevation	3 - 8
Artemisia cana Silver Sagebrush		N	P	9"	24-48"	1-3 lbs.	850,000	F	Full Sun	5.2-9.0	Fine to coarse soils, moist alkaline soils at high elevations	3 - 7
Artemisia filifolia Sand Sagebrush		N	P	7"	36-60"	1-3 lbs.	1,750,000	F	Full Sun, Partial	7.0-9.0	Sandy well drained desert soils	4 - 9
Artemisia frigida Fringed Sagebrush	Prairie Sagewort	N	P	7"	6-18"	1-3 lbs.	4,500,000	S/F	Full Sun, Partial	6.0-9.0	Sandy or loamy soils, well-drained, adapted to poor soils	3 - 10
Artemisia ludoviciana Prairie Sage	Louisiana Sage, Wormwood, Cudweed Sageware	N	P	10"	12-24"	1-3 lbs.	4,000,000	S/F	Full Sun	6.0-9.0	Medium to coarse soil textures, cold desert area up to alpine zones	4 - 9

SCIENTIFIC NAME COMMON NAME	OTHER KNOWN NAMES (CULTIVARS/VARIETIES)	NATIVE OR INTRODUCED	LIFESPAN	MIN. PRECIP.	HEIGHT (IN.)	SEEDING RATE: PLS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	SOIL PH	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
Artemisia nova Black Sagebrush		N	P	6”	6-24”	1-3 lbs.	900,000	S/F	Full Sun	7.0-8.5	Foothills, cold desert areas, shallow soils	3 - 8
Artemisia tridentata Basin Big Sagebrush		N	P	9”	3-12 ft.	1-3 lbs.	900,000	S/F	Full Sun	6.5-8.5	Western areas, river bottoms, deep soils	4 - 9
Artemisia tridentata vaseyana Mountain Big Sagebrush		N	P	12”	30-60”	1-3 lbs.	1,750,000	F	Full Sun	6.0-8.5	Upper foothills, aspen zones	3 - 8
Artemisia tridentata wyomingensis Wyoming Big Sagebrush		N	P	7”	12-48”	1-3 lbs.	1,750,000	F	Full Sun	6.0-8.5	Western areas, cold hardy	3 - 10
Atriplex canescens Fourwing Saltbush		N	P	6”	24-72”	1-3 lbs.	55,000	F	Full Sun	6.5-9.5	Southwest, most soils	5 - 9
Atriplex confertifolia Shadscale Saltbush		N	P	5”	12-30”	5-7 lbs.	65,000	F	Full Sun	7.5-9.0	Intermountain West, well drained slopes, lowlands and ridges, alkali and salt tolerance	6 - 9
Atriplex corrugata Mat Saltbush		N	P	5”	24-60”	3-4 lbs.	65,000	F	Full Sun	7.0-9.5	Alkali and salt tolerance, badlands, clay and poor soils	5 - 9
Atriplex gardneri Gardners Saltbush		N	P	6”	6-12”	7 lbs.	110,000	F	Full Sun	7.0-10.0	Very salt and alkali tolerant, Intermountain West	5 - 9
Bassia prostrata Forage Kochia	*(Immigrant, Snowstorm)*	N	P	6”	12 - 15”	0.25 - 4 lbs.	400,000	W	Full Sun	6 .0 - 9.0	Well adapted to US rangelands. Salt and alkali tolerant.	3 - 9
Cercocarpus ledifolius Curl-leaf Mountain Mahogany	Tree Mahogany	N	P	12”	8-25 ft.	10 lbs.	52,000	F	Full Sun	5.5-8.7	Tree like, medium to coarse soils textures	4 - 9
Cercocarpus montanus Birchleaf Mahogany	True Mountain Mahogany, Bush Mahogany	N	P	9”	36-120”	10 lbs.	59,000	F	Full Sun	5.5-8.5	Drought tolerant, dry coarse soil textures	5 - 10
Chrysothamnus viscidiflorus Yellow or Douglas Rabbitbrush		N	P	6”	12-30”	1-3 lbs.	600,000	F	Full Sun	7.0-8.5	Medium to coarse soils, winter hardy	3 - 8
Ephedra nevadensis Nevada Ephedra		N	P	5”	30-60”	10 lbs.	20,000	F	Full Sun	7.0-8.5	Cold desert, dry rocky foothills	5 - 9
Ephedra viridis Green Ephedra	Brigham Tea, Mormon Tea	N	P	7”	24-55”	10 lbs.	25,000	F	Full Sun	7.0-8.5	Sandy slopes, cold deserts	5 - 9
Ericameria nauseosa Rubber Rabbitbrush		N	P	9”	24-72”	1 lb.	400,000	F	Full Sun	7.0-8.5	North central to Southwest, cold deserts	4 - 9
Krascheninnikovia lanata Winterfat	White Sage	N	P	5”	12-36”	2-4 lbs.	113,000	F	Full Sun	6.6-8.5	Western states, silty saline flats	3 - 8
Larrea tridentata Creosote Bush		N	P	4”	3-12 ft.	5 lbs.	75,000	S/F	Full Sun	6.8-8.5	Southwest arid deserts	7 - 11
Prunus virginiana Chokecherry	Black Chokecherry	N	P	12”	2-30 ft.	10-15 lbs.	4,800	S/F	Full Sun	5.2-8.4	Rich moist soils, foothills and on borders of woods, landscaping	2 - 7
Purshia glandulosa Desert Bitterbrush		N	P	6”	2-84”	1-3 lbs.	21,000	F	Full Sun	6.8-8.0	Cool deserts in Intermountain West, persists on harsh sites	3 - 8
Purshia mexicana stansburiana Cliffrose		N	P	7”	3-20 ft.	1 lb.	65,000	F	Full Sun	7.0-8.5	Medium to coarse soils, low fertility requirements	4 - 9
Purshia tridentata Antelope Bitterbrush		N	P	8”	2-15 ft.	1-3 lbs.	15,000	F	Full Sun	5.6-8.4	Mountain West, medium to coarse soils	3 - 6
Rhus glabra Smooth Sumac		N	P	10”	3-15 ft.	1-3 lbs.	49,000	F	Full Sun	5.3-7.5	Landscaping, widely distributed	3 - 8
Rhus trilobata Skunkbrush Sumac	Oakbrush Sumac, Squawbush	N	P	10”	36-90”	1-3 lbs.	20,000	F	Full Sun, Partial	6.5-8.2	Along gullies and seasonal streambeds, medium textured soils	4 - 8
Rosa woodsii Woods Rose		N	P	12”	24-72”	1-3 lbs.	45,000	F	Full Sun, Partial	5.0-8.0	Aggressive, stream bottoms, ditch banks, fence lines	3 - 8
Sambucus nigra cerulea Blue Elderberry		N	P	12”	6-20 ft.	1 lb.	217,000	F	Full Sun, Partial	4.9-7.5	Grows along streams, roadsides, moist soils	4 - 9
Sambucus racemosa Red Elderberry		N	P	18”	36-72”	1 lb.	217,000	F	Full Sun, Partial	5.2-7.2	High elevation mountainous terrain, fine to medium soils	3 - 7
Symphoricarpos oreophilus Mountain Snowberry		N	P	12”	24-60”	1-3 lbs.	75,000	F	Full Sun, Partial	5.2-7.5	Cold hardy, fine to medium soil textures	3 - 10

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PARTING SHOT

Top: *Company founder Lloyd Stevens on the phone, circa 1980.*
Bottom: *Lloyd Stevens wearing the same Maple Leaf hat, still on the phone 40 years later. November 2023*

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