

GREAT BASIN SEED

EST. 1974

2025 SEED CATALOG

BRAND NEW!

COVER CROP MIXES,
MICROCLOVERS, GRASSES,
GRAINS, WILDFLOWER MIXES,
PASTURE MIXES AND MORE!



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

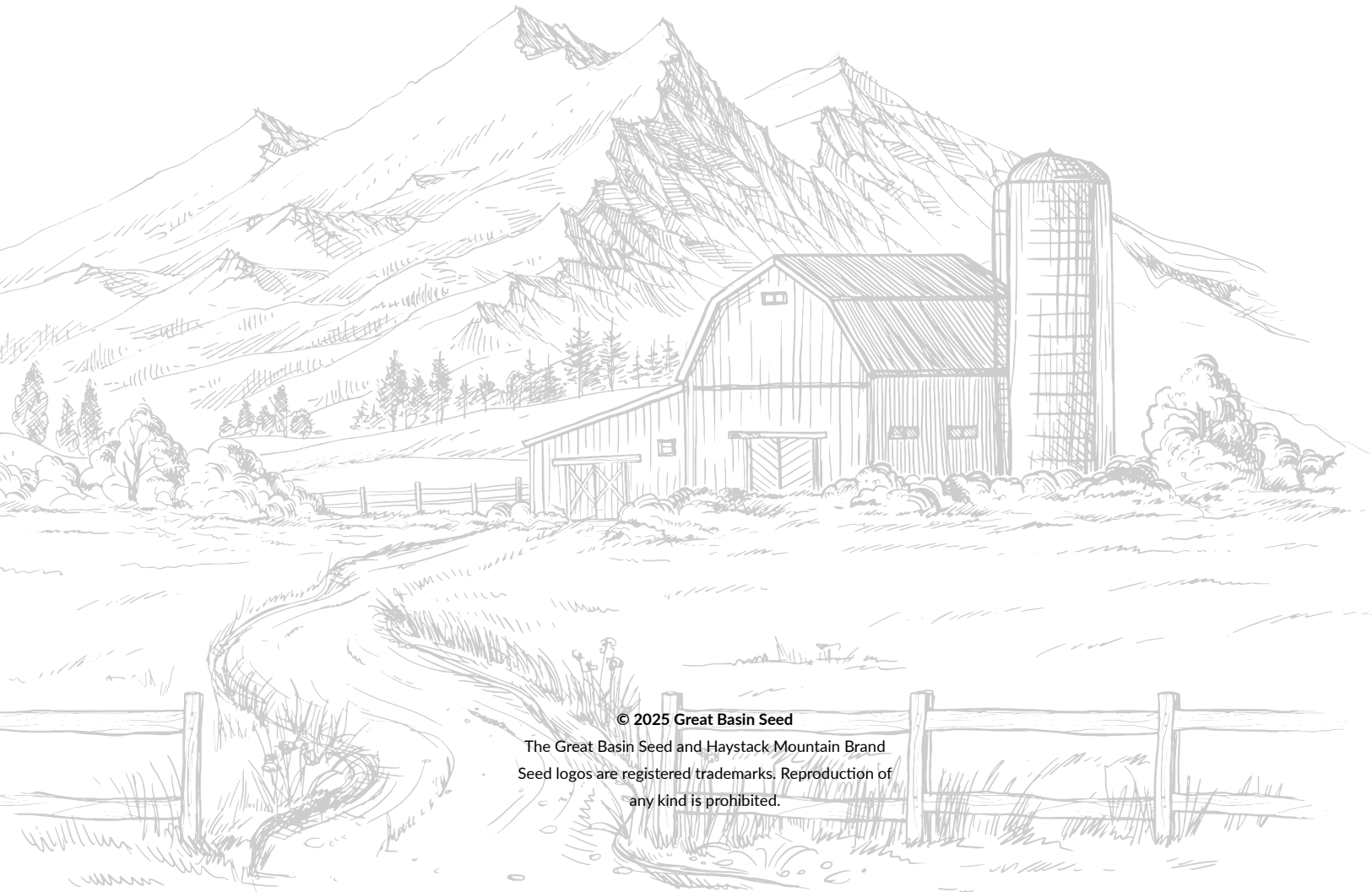


@greatbasinseeds @greatbasinseed

This catalog is a complementary publication of Great Basin Seed.
Request a copy on our website, call, write or email:

Great Basin Seed
450 South 50 East
Ephraim, UT 84627

(Office) 435.283.1411
payton@haystackmtn.com



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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.



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 CHRISTIANSEN: Sales Representative
Mary is one of our head seed sales representatives. She manages online, over-the-phone, and walk-in orders, coordinates LTL and full truckload freight, and handles the majority of our customer relations. Mary is a wealth of knowledge and recently celebrated her sixth anniversary with Great Basin Seed. Aside from her career, Mary remains involved in agriculture by operating a small alfalfa crop and running a horse business with her husband. She also graduated with a Master of Business Administration degree from Southern Utah University in spring of 2024.



DAYSHA MAROZZO: Sales Representative, Logistics
Daysha graduated 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 2 children.



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 KING: Receptionist, Social Media Manager
Payton is a receptionist, social media manager, and a member of our order fulfillment team. She started working at Great Basin Seed at the age of twelve, filing paperwork and cleaning the office. Payton graduated from Snow College with an associate’s degree in December 2023 and got married in May 2024. She and her husband are expecting their first child in the spring of 2025. In her free time, she enjoys traveling, spending time on the farm with her husband, and running her photography business.



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.



KAYTLYNN RANSOM: Marketing, Website Developer
Kaytlynn oversees the company’s websites and digital marketing efforts. She has worked with the company since 2014. She designed and developed our ecommerce and business websites. Kaytlynn works remotely from home in Salt Lake City, UT. She enjoys traveling, painting, hiking, and spending time in nature. She is a new mother who is thoroughly enjoying motherhood.

OUR HISTORY

FOUNDED IN THE HEART OF THE GREAT BASIN



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



PIONEERS IN THE SEED INDUSTRY



Processing and bagging sagebrush in the mid 1980's.

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.

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.

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 work 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.





FIFTY STATES. FIFTY RANCHES. ONE YEAR.

The Anvil Project is a documentary series that seeks to tell the stories of ranchers and farmers across the US. The goal of the project is to inform the public about farm lifestyle to encourage people to support farming and buy local. Family owned ranches and farms face many struggles. They fight economic, environmental, and political battles. Without them, we lose access to clean, quality food and the ability to choose how we feed our families.

Creator and photographer Calli M. at Anvil Film Co. will show you what it takes to operate a farm or ranch by filming fifty ranches in fifty states in one year. She hopes to inspire anyone who cares about ensuring future generations have a choice in the food they eat.

Great Basin Seed is a proud sponsor of the Anvil Project. You can follow the journey in 2025 through social media. Instagram, Facebook and Youtube updates will be posted every week.

@Anvilfilmco



SCAN ME

Follow the journey by visiting
the Anvil Project on social
media: @anvilfilmco

Scan the QR code to the left
for quick access to all links

**GREAT BASIN SEED IS A PROUD SPONSOR AND
COLLABORATOR OF THE ANVIL PROJECT**



SEED CLEANING, QUALITY TESTING, AND LABELING



Great Basin Seed has been supplying the mining and exploration industries since 1974. We have supplied seed to all 50 states 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.

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.

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

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, 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:

- Exploratory mine, open-pit, strip mine, precious metal mine, and abandoned mine reclamation
- Drill hole reclamation
- Gas, oil, well and pipeline reclamation/restoration
- Road and highway reclamation
- Wildfire prevention and reclamation
- Habitat restoration and improvement
- CRP/NRCS mixes
- Solar farm reclamation and restoration
- Wind energy farm reclamation and restoration



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



RECLAMATION



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

Middle: Customer submitted photo, Okanogan Fire, WA

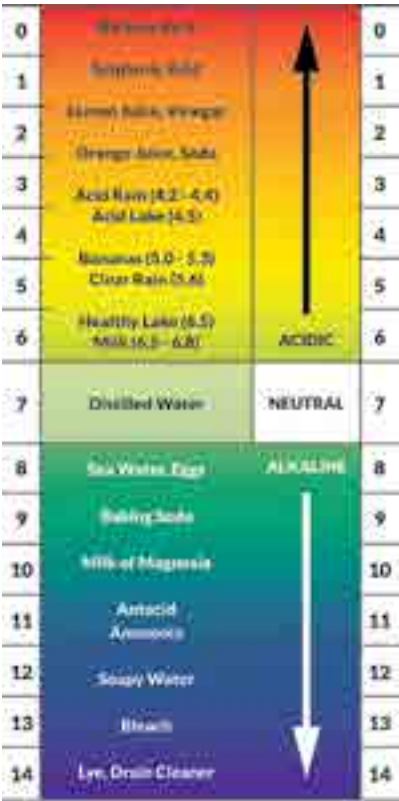
Saline, sodic and alkali soils present challenges for farmers, ranchers and landowners. While these soil conditions will never be ideal or produce forage and biomass equal to more hospitable soils, there are solutions that will provide some satisfactory results. We offer a variety of seeds adapted to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

LINEAR PH SCALE: THE WAY WE USUALLY SEE IT

The pH scale below is the one we are all 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. The examples help us understand pH by using common household items and everyday things. 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:

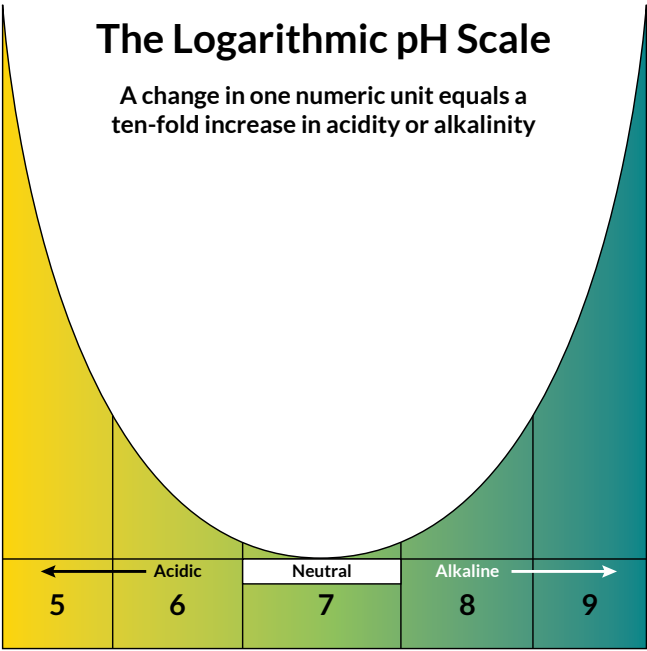
- Healthy Stomach: 2.0
Beer and Wine: 4.0
Tomato Juice: 4.0
Black Coffee: 5.0
- Urine: 6.0
Healthy Mouth: 6.7
Healthy Blood: 7.4
Great Salt Lake: 10.00



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 than 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 organisms 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. This also helps us select species appropriate for your site.



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"

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 that will analyze the makeup of your soil and provide a chemical and mineral report. This report will include information critical to the selection of appropriate plant species, soil preparation, condition methods, and chemical recommendations. As you can see from the logarithmic pH scale on page 8, a soil analysis that reports 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 also offer fertilizer recommendations with the analysis. The cost of a soil sample (about \$20-\$70) 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.



PLANTS ADAPTED TO SALT AND ALKALI:

Soils high in salt and alkali, referred to as "basic soils," make growing conditions tough. Mildly alkaline soils (7.5-8.3 pH) only need a variety chosen for tolerance, whereas very alkaline soils (8.4 - 9.5 pH) are almost at the point where very little will survive. Desert valleys and lowlands, marshy and/or damp borders, valley bottoms, and "sump" areas are common locations for these challenging soil conditions.

Despite the difficult conditions that high alkaline soils bring, there are ways to turn an underutilized property into a lucrative asset. Several species can be grown in salty and alkaline environments. The list on the left will help you get started with your selection process.



Left: "The Pots", Monitor Valley, NV. Jason Steven
Right: River bottom pastures, Burns, OR. Jason Steven



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. 12)

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. 14)

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 CRP projects 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. 15)

Sage Grouse habitat is threatened all over the Intermountain West. We specialize in seed mixes that are recommended by the NRCS and Sage Grouse Initiative – mixes that will benefit and improve habitats.



CUSTOM SEED 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 involve 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?

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 visit their website:
www.fsa.usda.gov/conservation

HOW CAN GREAT BASIN SEED HELP?

After you enroll in the program, the NRCS will recommend a seed mix recipe specific to your location. Once you’ve received their recommendations, call us to get a quote on your seed mixture. Great Basin Seed has been supplying seed to farmers and ranchers for the CRP program since its inception. We’ve sold millions of pounds of CRP seed and stock every species suggested by the program, including pollinators.

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

HOW CAN GBS HELP?

Seed recommendations for habitat improvement have been established by the NRCS, state agencies, cooperating universities, and CRP partners. The list on the following page includes some of the most common species.

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. It is advised that you visit the SGI website and get in touch with us if you are or would like to be a landowner in the SGI.

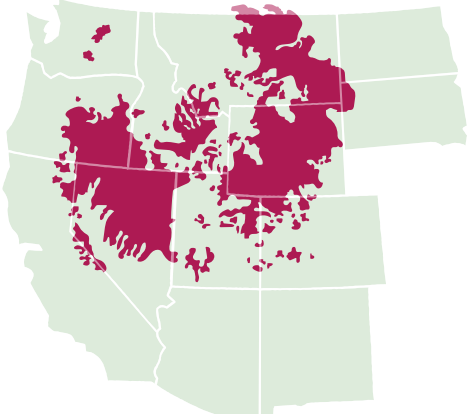
Sage grouse (*Centrocercus urophasianus*) lives in the sagebrush-steppe of the western United States and southern Canada. They are termed “permanent residents,” which means they only travel short distances and do not migrate. They feed on the ground, eating sagebrush, insects, and other plants. They nest on the ground beneath sagebrush or grass patches. The sagebrush-steppe is an important part of their ecosystem.

At risk: In the United States the sage grouse is a candidate under the Endangered Species Act. The leading cause of sage grouse population decline is habitat loss. Urbanization, wildfires, invasive weeds and exotic grasses, and sagebrush-steppe removal are all contributing to the population decline.

Sage Grouse Initiative: In an effort to revitalize the dwindling sage grouse population, the Natural Resources Conservation Service (NRCS) started the Sage Grouse Initiative (SGI) in 2010. The majority of the effort is being done on private land. The program relies on volunteer landowner participation and collaboration with partners to improve and conserve habitat. These efforts 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

Recommended Seed Species for Sage Grouse Habitat:

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



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. 24)**

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. 20)**

Dryland pasture mix is our top-selling pasture mix. It is designed for areas with as little as 9" of annual precipitation.

BEST SELLER!
→ **IRRIGATED PASTURE MIX (SEE PG. 21)**

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

HORSE PASTURE MIX (SEE PG. 23)

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 accommodated - give us a call!

CUSTOM MIXES (SEE PG. 12)

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 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 disking 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 or frost seeding) 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 & CLOVER SPECIES 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	Galletta Grass	Fair	\$\$\$\$
6	Purple Threeawn	Fair	\$\$\$\$\$
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	Plains Bristlegrass	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	\$
12	Switchgrass	High	\$
12	Green Sprangletop	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	\$
	Sand Bluestem		
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	Intermediate Ryegrass	Fair	\$
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. Visit website for more info.



DRYLAND PASTURE MIX

For zones with less than 12 inches of annual precipitation

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

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.



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



IRRIGATED PASTURE MIX

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

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

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

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

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.



PASTURE MIXES



All Purpose Pasture Mix

A cost-effective pasture mixture for all livestock and applications. Will preform well as a cut-and-bale crop, or for grazing and pasture.

MIX COMPONENTS	MINIMUM PRECIPITATION
Tall Fescue	16 Inches
Orchardgrass	
Forage Kentucky Bluegrass	
Climax Timothy	
White Clover	
Perennial Ryegrass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable most areas in the United States up to 7,000 ft. in elevation



Alpaca and Llama Pasture Mix

Varieties selected for alpacas & llamas. Well suited to grazing. Dense, soft leaves. Adapted to a broad geographic range.

MIX COMPONENTS	MINIMUM PRECIPITATION
Orchardgrass	16 Inches
Meadow Brome	
Forage Kentucky Bluegrass	
Timothy	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable most areas in the United States up to 8,000 ft. in elevation



Chicken Pasture Mix

Produces excellent chicken forage that is naturally low-growing and nutrient-dense. Contains varieties high in omega-3 fatty acids. Ideal for large acreages or small backyard plots and can also be used as a cover crop.

MIX COMPONENTS	MINIMUM PRECIPITATION
Hairy Vetch	16 Inches
White Dutch Clover	
Strawberry Clover	
Alfalfa	
Field Pea	
Crimson Clover	
Common Flax	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
1 lb per 1000 sqft	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable most areas in the United States up to 8,000 ft. in elevation



Horse Pasture Mix

Blended specifically for horse pasture and hay. Good for cattle. Performs best under sprinkler irrigation. Best planting time is late fall when seed will lay dormant until spring.

MIX COMPONENTS	MINIMUM PRECIPITATION
Timothy	16 Inches
Tetraploid Perennial Rye	
Forage Orchardgrass	
Forage Kentucky Bluegrass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Adapted to all regions of the United States



Irrigated Pasture Mix

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.

MIX COMPONENTS	MINIMUM PRECIPITATION
Mid-Maturing	16 Inches
Forage Orchardgrass	
Late-Maturing	
Forage Orchardgrass	
Forage Type Tall Fescue	
Tetraploid Perennial Ryegrass	
Meadow Bromegrass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable most areas in the United States up to 7,000 ft. in elevation

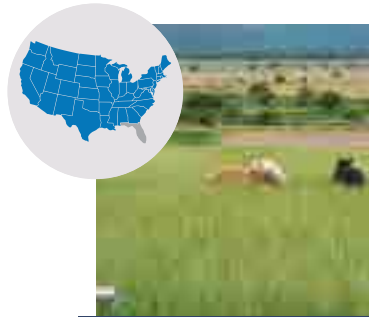


Cabin Mix

A blend of mountain grasses and wildflowers adapted to 4,000-8,000 feet in elevation. Very effective at erosion control, ground cover, and showy displays of red clover. Wildflower can be added to this mix.

MIX COMPONENTS	MINIMUM PRECIPITATION
Winter Rye Grain	16 Inches
Perennial Ryegrass	
Smooth Brome	
Orchardgrass	
Forage Kentucky Bluegrass	
Timothy	
Red Clover	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for states west of Mississippi River at 4,000 - 9,000 ft. elevation

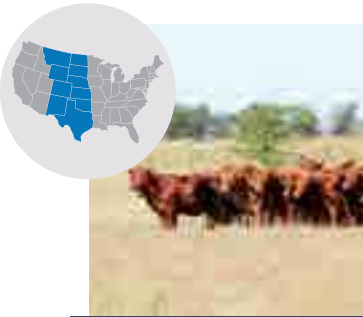


Dryland Pasture Mix

For zones with 9-12" of annual precipitation. Designed for farm, ranch and range where no irrigation is present. A best seller for 45 years!

MIX COMPONENTS	MINIMUM PRECIPITATION
Intermediate Wheatgrass	9 Inches
Dryland Orchardgrass	
Slender Wheatgrass	
Hycrest Crested Wheatgrass	
Smooth Bromegrass	
Ladak Alfalfa	
Dahurian Wildrye	
Siberian Wheatgrass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for all regions of the USA except tropical areas of Florida and Texas



Great Plains Pasture Mix

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.

MIX COMPONENTS	MINIMUM PRECIPITATION
Intermediate Wheatgrass	16 Inches
Forage Type Meadow Brome	
Forage Type Tall Fescue	
Pubescent Wheatgrass	
Tetraploid Perennial Ryegrass	
Intermediate Ryegrass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for most areas of the Great Plains on average annual precipitation



Honey Bee Pasture Mix

A blend of clovers, legumes and flowers. Inexpensive, rapid establishment. Can be grazed by livestock or used as green manure.

MIX COMPONENTS	MINIMUM PRECIPITATION
Crimson Clover	18 Inches
White Dutch Clover	
Yellow Sweet Clover	
Alsike Clover	
Sainfoin	
Phacelia	
Blue Flax	
& others!	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
1 lb covers 2,500 sq. ft.	
4-8 lbs broadcast	

ZONES
Adapted to all regions of the United States

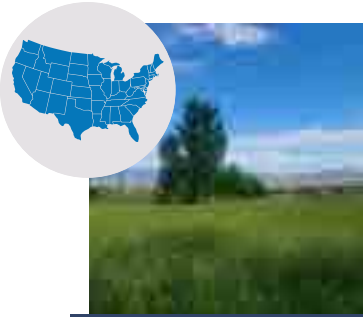


Pig and Hog Pasture Mix

A mix of clovers, alfalfa and grasses. Designed for the foraging characteristics of pigs. Great for full-season forging.

MIX COMPONENTS	MINIMUM PRECIPITATION
Orchardgrass	16 Inches
Forage Kentucky Bluegrass	
Powell Alfalfa	
Triticale	
White Clover	
Red Clover	
Birdsfoot Trefoil	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for all regions of the USA except tropical areas of Florida and Texas



Rapid Establishment Pasture Mix

Fast establishing grasses for immediate results. Can be cut and/or grazed. Excellent forage production and quality. Perfect for early summer or early fall planting.

MIX COMPONENTS	MINIMUM PRECIPITATION
Meadow Bromegrass	14 Inches
Tetraploid Perennial Ryegrass	
Forage Type Tall Fescue	
Orchardgrass	
Bonus Festulolium	
Annual Ryegrass	
Italian Ryegrass	
Teff Grass	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for all regions in the USA up to 7,000 ft. elevation



Salt & Alkali Soils Pasture Mix

Can be customized based on soil tests (see page 9). 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!

MIX COMPONENTS	MINIMUM PRECIPITATION
Tall Wheatgrass	12 Inches
Hercules Tall Wheatgrass	
AC Saltlander Wheatgrass	
Garrison Creeping Foxtail	
Intermediate Wheatgrass	
Salt Tolerant Alfalfa	
Strawberry Clover	
SEEDING DEPTH/ RATE PER ACRE	
1/4" MAX**	
16 lbs drilled	
20 lbs broadcast	

ZONES
Suitable for states west of Mississippi River up to 7,000 ft. elevation

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.

*Mix varieties may vary

WARM SEASON GRASS MIXES



Mountain Pass Grass Mixture

Suited to high elevation sites of the West. Excellent mix for mountain meadows, passes and valleys. Deep rooted and hardy. Good resistance to grazing.

MIX COMPONENTS

Smooth Bromegrass
Crested Wheatgrass
Slender Wheatgrass
Intermediate Wheatgrass
Russian Wildrye

MINIMUM PRECIPITATION

16 Inches

SEEDING RATE PER ACRE

20 lbs drilled
30-40 lbs broadcast

ZONES

Suitable to high elevation sites of the West, Southwest and Midwest prairies United States above 8,000'



Pioneer Pride Grass Mixture

Our low elevation native prairie mix. Intended for site between 4,000-5,000' in elevation. Adapted in the prairies of the Southwest and Midwest prairies, from Canada to the Mexico border states.

MIX COMPONENTS

Little Bluestem
Galleta
Sideoats Grama
Sand Dropseed
Indian Ricegrass
Alkali Sacaton

MINIMUM PRECIPITATION

12 Inches

SEEDING RATE PER ACRE

12 lbs drilled
15 lbs broadcast

ZONES

Suited to the Southwest and Midwest prairies between 4,000-5,000'



Sante Fe Trail Mixture

You are planting a little history as you spread our Santa Fe Trail Mixture. This native grass mix is well adapted to the plains and prairies of the United States. Excellent for forage and feed.

MIX COMPONENTS

Blue Grama
Indian Ricegrass
Western Wheatgrass
Sideoats Grama
Buffalograss
Alkali Sacaton
Little Bluestem

MINIMUM PRECIPITATION

16 Inches

SEEDING RATE PER ACRE

16 lbs drilled
20-30 lbs broadcast

ZONES

Suited to the Southwest and Midwest prairies, from Canada to the Mexico border states up to 8,000'



Homesteader's Choice Mixture

Homesteader's choice of range species for native grass on prairie lands from 3,000-6,000'. Use for pasture, forage grass, or as a revegetation base in any low input Western range setting.

MIX COMPONENTS

Blue Grama
Buffalograss
Sideoats Grama
Western Wheatgrass
Sand Dropseed

MINIMUM PRECIPITATION

14 Inches

SEEDING RATE PER ACRE

20 lbs drilled
30-40 lbs broadcast

ZONES

Suited to the Southwest and Midwest prairies, from Canada to the Mexico border states from 3,000-6,000'





GREAT BASIN SEED OFFERS A VARIETY OF INOCULANTS BROUGHT TO YOU BY EXCEED®

Peat-based inoculant is applied to seeds before planting, enhancing the symbiotic relationship with Rhizobium bacteria. This facilitates nitrogen fixation, promotes faster germination, activates plant hormones for root growth, and leads to stronger plants and higher yields.

TRY OUR COVER CROP INOCULANTS

Learn about inoculant best practices on our website



Growing and rotating cover crops can help to improve soil health. Planting cover crops is also cost effective. Cover crops offer several benefits:

- Reduce soil disturbance.
- Increase plant diversity through rotation and mixed cover crops.
- Maintain living roots for as long as possible. Use no-till methods.
- Keep the soil covered. Use cover crops in shoulder seasons.
- Incorporate livestock grazing practices.

NEW!

SOIL BUILDER COVER CROP MIX (PG. 30)

Soil Builder Cover Crop mix improves soil! It's a low-cost, eco-friendly approach to rapidly increase soil nutrients and break up compaction.

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

NEW!

CHUBBY CHICKOREE (PG. 3)

This chicory is a mix of a New Zealand forage type and an Italian variety called Pan de Sucre, designed for human consumption and less bitter than many other chicories. It is called 'Chubby' due to its big, thick leaves, which set it apart from other forage types. The leaves are slightly fuzzy, making them more appealing to livestock and deer.

SOIL COMPACTION COVER CROP MIX (PG. 30)

Our Soil Compaction mix is designed to improve the nutrient levels in your soil while addressing compaction problems.

Mix Contents: Persian Clover, Crimson Clover, Daikon Radish, Phacelia, Common Vetch, Triticale or Lone Star ARG



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.

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.

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

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



Soil Builder Cover Crop Mix

Our Soil Builder Cover Crop mix is designed to improve your soil! It is an inexpensive, eco-friendly way to rapidly build soil nutrients and break-up soil compaction. The mix promotes healthy soil biomes by providing a stable and healthy environment for beneficial soil “bugs”. The roots retain water and break up hard pan soils. It establishes quickly and paves the way for more permanent crops.

MIX COMPONENTS

- Eco-Till Radish
- Common Vetch
- Flax
- Crimson Clover
- Gunner Triticale
- Sunn Hemp
- Forage Peas

QUICK PLANTING GUIDE

- Seeding Rate: 25lbs Per Acre
- Seeding Depth: .25 to .50 inches
- Planting Season: Spring-midsummer
- Sowing Methods: Broadcast or Drill
- Minimum Precip.: 16 inches
- Avoid planting too early or too late. The components of this mix are not cold tolerant.*



Soil Compaction Cover Crop Mix

Our Soil Compaction mix is designed to improve the nutrient levels in your soil while addressing compaction problems. Implementing cover crop rotations is an effective way to restore soil nutrients and promote beneficial soil organisms. Additionally, using a rotational cover crop aids in water retention and weed suppression. For best results, plant this mix when temperatures reach 45 degrees or higher for a minimum of 6 weeks. Use 60 pounds per acre if you’re seeding with a no-till drill or similar equipment, and 90 pounds per acre for broadcasting.

MIX COMPONENTS

- Enhance Persian Clover
- KY Pride Crimson Clover
- Driller Daikon Radish
- Phacelia
- Common Vetch
- Triticale or Lone Star ARG

QUICK PLANTING GUIDE

- Seeding Rate: 25lbs Per Acre
- Seeding Depth: .25 to .75 inches
- Planting Season: Spring or early fall
- Sowing Methods: Broadcast or Drill
- Minimum Precip.: 16 inches



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TRY OUR COVER CROP, SAINFOIN, DEER PLOT, ALFALFA & CLOVER, AND LEGUME INOCULANTS

Learn more about inoculant on our website.



Right: Owner Eric “Zeke” Stevens in a field of cover crops, South Dakota. Jason Stevens

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
14"	Rango 8 Alfalfa	Fair	\$\$\$
14"	FSG 415BR Alfalfa	Moderate	\$\$\$
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	High	\$\$\$



GREAT BASIN SEED OFFERS A VARIETY OF INOCULANTS BROUGHT TO YOU BY EXCEED®

Peat-based inoculant is applied to seeds before planting, enhancing the symbiotic relationship with Rhizobium bacteria. This facilitates nitrogen fixation, promotes faster germination, activates plant hormones for root growth, and leads to stronger plants and higher yields.

TRY OUR INOCULANTS FOR ALFALFA AND CLOVERS

Learn about inoculant best practices on our website



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

NEW!
FSG 415 BRANCH ROOT ALFALFA (SEE PG. 34)

- Aphanomyces Race 2 resistance
- Adapted to variable soil conditions
- Stands up to wheel traffic pressure
- High yield and quality potential
- Excellent for pasture and grazing

NEW!
RANGO 8 ALFALFA (SEE PG. 34)

- Excels in the warm-to-hot climates
- Excels in the south and desert southwest
- Good for 8-10 cuttings per year
- Good tolerance to harsh conditions and heat

LANDER ALFALFA (SEE PG. 35)

- 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. 35)

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



NAME	FALL DORMANCY	WINTER SURVIVAL	COATED	INOCULATED	FEATURES
Falcata Alfalfa	4.0	Excellent	Yes	No	<ul style="list-style-type: none">- 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	Yes	Yes	<ul style="list-style-type: none">- 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
FSG 415 Branch Root Alfalfa	4.0	Excellent	No	No	<ul style="list-style-type: none">- Aphanomyces Race 2 resistance- Branch root type- Adapted to variable soil conditions- Stands up to wheel traffic pressure- High yield and quality potential- Excellent for pasture and grazing
Ladak II Alfalfa	2.0	Superior	Yes	Yes	<ul style="list-style-type: none">- 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	<ul style="list-style-type: none">- 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	<ul style="list-style-type: none">- Resists brown root rot- Resists stem nematodes and verticillium wilt- Excels in dryland or irrigated conditions- Persists in challenging soil conditions- Certified, coated, treated and inoculated
Powell Alfalfa	3.0	Very Good	Yes	Yes	<ul style="list-style-type: none">- 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	<ul style="list-style-type: none">- 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	Yes	Yes	<ul style="list-style-type: none">- Developed directly from Ranger- Excellent drought tolerance- Excellent winter hardiness and persistence- Superior forage yield when compared to original Ranger- Certified seed production
Rango 8 Alfalfa	8.0	Good	Yes	Yes	<ul style="list-style-type: none">- Excels in the warm-to-hot climates- Excels in the south and desert southwest- Good for 8-10 cuttings per year- Good tolerance to harsh conditions and heat
438RR Roundup Ready Alfalfa	4.0	Excellent	Yes	Yes	<ul style="list-style-type: none">- Unsurpassed weed control- Great forage yield potential, superior forage quality- Perfect 30/30 Wisconsin DRI rating
Salt Tolerant Alfalfa FSG 423ST	4.0	Excellent	Yes	Yes	<ul style="list-style-type: none">- 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	<ul style="list-style-type: none">- 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

NEED HELP? GIVE US A CALL AT 435.283.1411 | GREATBASINSEED.COM

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

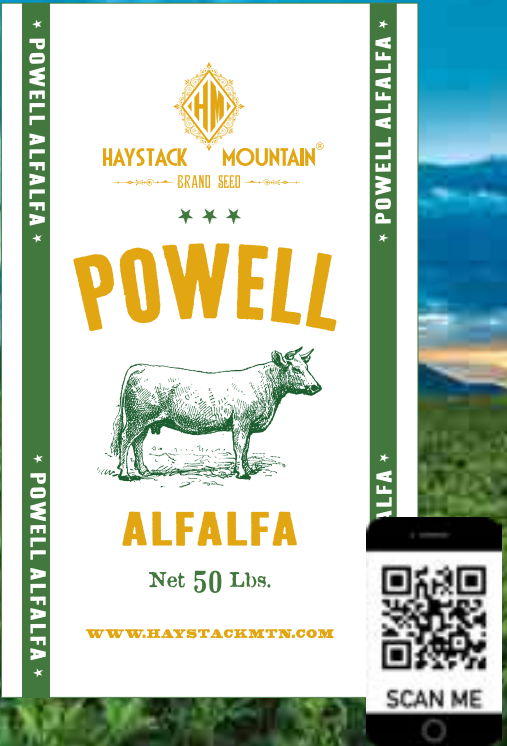


POWELL ALFALFA

- 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





GREAT BASIN SEED OFFERS A VARIETY OF INOCULANTS BROUGHT TO YOU BY EXCEED®

Peat-based inoculant is applied to seeds before planting, enhancing the symbiotic relationship with Rhizobium bacteria. This facilitates nitrogen fixation, promotes faster germination, activates plant hormones for root growth, and leads to stronger plants and higher yields.

TRY OUR INOCULANTS FOR SAINFOIN. CLOVERS AND LEGUMES

Learn about inoculant best practices on our website



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. 38)

- 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. 38)

- 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. 38)

- 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. 38)

- 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

CLOVER & LEGUMES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN*	USES	MIN. PRECIP.	SOW	SOWING SEASON
<i>Astragalus cicer</i>	Cicer Milkvetch	P	Spreading legume with strong alkali tolerance. Very palatable forage producer, good for reclamation.	10"	1/4- 3/4"	Spring or Fall
<i>Coronilla varia</i>	Crownvetch	P	Winter hardy forage producer, excellent for watershed stabilization and erosion control.	20"	1/4"	Fall
<i>Dalea purpureum purpurea</i>	Purple Prairie Clover	P	A low water nitrogen fixing legume. Commonly used for wildflower mixes and habitat improvement.	12"	1/4"	Spring or Fall
<i>Fagopyrum esculentum</i>	Buckwheat	A	Grain forage crop, bee pasture, and soil improving cover crop.	15"	1/2- 1"	Summer
<i>Lotus corniculatus</i>	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
<i>Medicago sativa</i>	Alfalfa	P	Widely adapted heavy forage and hay producer. Also useful in range and pasture mixes.	9"	1/4- 3/4"	Spring or Fall
<i>Medicago sativa falcata</i>	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
<i>Melilotus albus</i>	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
<i>Melilotus officinalis</i>	Yellow Sweetclover	B	Widely used, beneficial clover for reclamation and disturbed sites, but low in forage value.	8"	1/2- 3/4"	Spring
<i>Onobrychis viciifolia</i>	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
<i>Trifolium alexandrinum</i>	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
<i>Trifolium fragiferum</i>	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
<i>Trifolium hybridum</i>	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
<i>Trifolium incarnatum</i>	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
<i>Trifolium michelianum</i>	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
<i>Trifolium pratense</i>	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
<i>Trifolium repens</i>	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
<i>Trifolium repens latum</i>	Ladino Clover	P	A taller version of White Dutch Clover with less grazing tolerance.	18"	1/4- 1/2"	Fall
<i>Vicia americana</i>	American Vetch	P	Widely occurring legume. Drought tolerant. Useful for livestock, wildlife and range improvement.	18"	1/2"	Spring or Fall
<i>Vicia sativa</i>	Common Vetch	A	Adapts to full or partial sun. Common winter fodder for cattle. Cover crop. Weedy.	25	1/4 - 1"	Spring or Fall
<i>Vicia villosa</i>	Hairy Vetch	P	Good erosion control species. Nitrogen fixing, good pollinator. Good high protein forage for livestock.	18"	1/2"	Spring or Fall

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





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

BEST SELLER!
➤ **PREMIUM LAWN AND TURF BLEND (SEE PG. 42)**

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!
➤ **ABERACE MICRO CLOVER (SEE PG. 43)**

A short, hardy micro clover used as an alternative lawn and ground cover.

- Widely used for lawn and ground cover
- Comparatively maintenance free
- Dense, green, fast growing
- Great nitrogen fixer

NEW!
➤ **EMERALD ELITE LAWN AND TURF MIX (SEE PG. 42)**

- Elite version of our Lawn and Turf Mix
- Three varieties kentucky bluegrass
- Three varieties of perennial ryegrass
- Denser, greener, and faster growing than our other turf mixes

XERISCAPE GRASS MIX (SEE PG. 42)

An alternative lawn and ground cover for the western US. This mix of grasses helps conserve water and replaces lawns with drought tolerant native grasses.





Emerald Elite Lawn & Turf Mix

Our Emerald Elite Lawn and Turf is the elite version of our Lawn and Turf Mix. With this mix, you will get varieties that are deeper green and fill in faster. It is blended for a broad range of climates throughout the continental US.

MIX COMPONENTS

SPF30 Kentucky Bluegrass
Midnight Kentucky Bluegrass
Wildhorse Kentucky Bluegrass
New Sealand Perennial Ryegrass
Electra 37 Perennial Ryegrass
Swift Perennial Ryegrass

SEEDING RATE

5 lbs. per 1,000 sq. ft. or
250 pounds per acre



Premium Lawn & Turf Mix

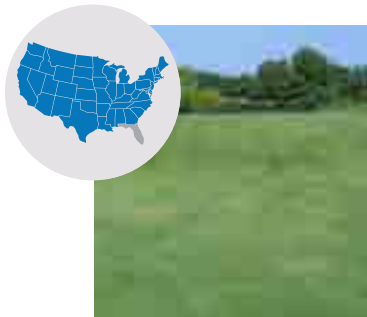
Our #1 selling turf mix for 30 years! Well suited for yards and landscapes. Our Lawn and Turf mix is your premium, soft, fine bladed turf. It has a mix of Kentucky Bluegrass and Perennial Ryegrass giving your lawn a bit of variety. This mix does require irrigation but varies depending on your location. The varieties in this blend is adapted to a broad range of climates.

MIX COMPONENTS

70% Kentucky Bluegrass
30% Perennial Ryegrass

SEEDING RATE

5 lbs. per 1,000 sq. ft. or
250 pounds per acre



Sundancer Buffalograss

Turf-type buffalograss. Very drought tolerant. Premium turf for dry southern states. Not tolerant of competition or traffic. Sundancer Buffalograss is an improvement over older varieties but retains the core low maintenance characteristics that make Buffalograss desirable:

- Extreme drought tolerance
- Low water & nitrogen requirements
- Winter hardiness
- Laterally spreads by stolons
- Low growth habit

SEEDING RATE

3 lbs. per 1,000 sq. ft. or
200 pounds per acre



Turf Type Perennial Ryegrass Blend

Our turf type 3-way blend of persistent perennial ryegrass is adaptable to most zones within the USA. Those in the coldest zones of the United States will see repressed results with this blend. Great for use in home lawns, parks, reclamation areas, golf courses, sport fields, stadiums and more!

MIX COMPONENTS

33% Singular Perennial Ryegrass
33% Exacta II Perennial Ryegrass
34% Manhattan 6 Perennial Ryegrass

SEEDING RATE

5 lbs. per 1,000 sq. ft. or
250 pounds per acre



Turf Type Tall Fescue Blend

Our Tall Fescue Turf is a three variety blend of several turf type fescues, bred over 30 years for drought tolerance, softer texture, and better cold resistance.

It excels in high-traffic areas, grows quickly, and conserves water. Avoid using it for livestock. This turf is ideal in both lawn and turf setups, with good shade tolerance and suitability for various planting conditions.

SEEDING RATE

5-9 lbs. per 1,000 sq. ft. or
250-350 pounds per acre



Xeriscape Grass Mix

Alternative lawns and ground cover. Often used in water conscientious regions in the Western United States. Developed to maintain a green cover with minimal upkeep and water. This mix offers green cover in low-maintenance settings, such as highway medians, residential parkways, and alternative lawns. Can be mowed or unmowed depending on your look preference.

MIX COMPONENTS

35% Sheep Fescue
30% Sandberg Bluegrass
20% Hard Fescue
15% Siberian Wheatgrass

SEEDING RATE

3 lbs. per 1,000 sq. ft. or
100 pounds per acre

ABERACE MICRO CLOVER:
THE NEW LAWN ALTERNATIVE

Aberace Micro Clover is a dwarf-type, white, perennial clover. It grows densely, blends well with other lawn grass varieties and enriches the soil through nitrogen fixation. It is resilient, endures wear and tear, is drought and shade tolerant, and handles short mowing heights (2-3 inches tall).



- Ideal for lawns
- Suppresses weeds
- Aids erosion control
- Supports pollinators
- Minimal flowering.
- Improves soil health

Plant in cool, humid areas with pH 6.0-7.0. Thrives in various conditions, including poor clay soils. Sow in early spring or late summer/early fall. Water lightly during germination and establish high frequency, low duration watering. Mow at 2-3 inches, water weekly once established, adjusting frequency based on conditions.

SEEDING DEPTH/ RATE PER ACRE

1/4-1/2 lbs per 1,000 sq ft (Lawn)
8-10 lbs per acre (Pasture)

**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. 47)**

A beardless triticale that can be sown in spring or fall. Stands approximately 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. 46)**

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

FALL FORAGE BLEND (SEE PG. 46)

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. 47)

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

TRICAL® VALOR BARLEY (SEE PG. 48)

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. 49)

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.



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.

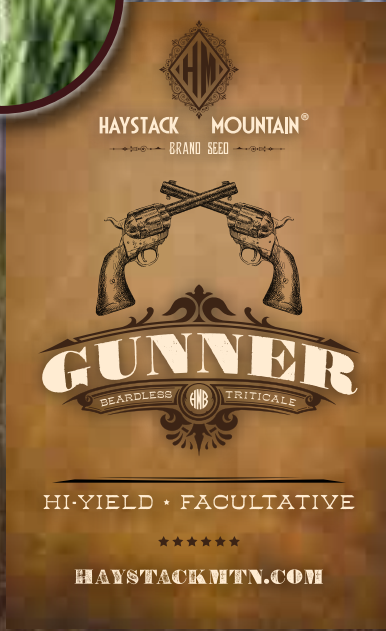
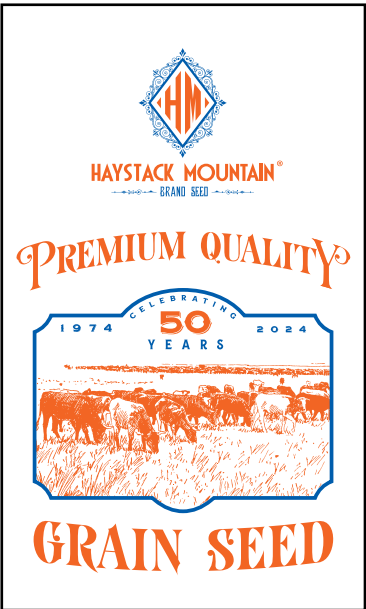
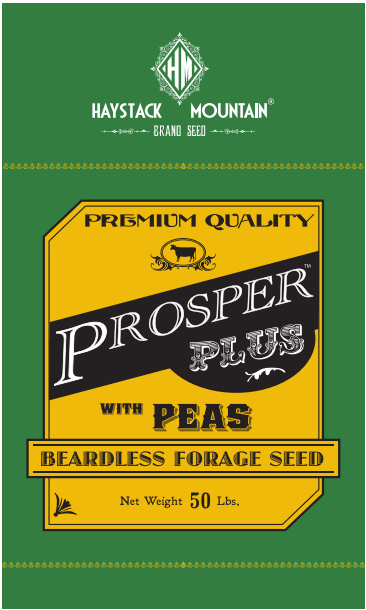
A variety of grains also eliminates the risk of nitrate toxicity, which can occur when planting single grains such as oats or triticale. This product's comprehensive nutritional balance and variety have helped it become a household name in the Intermountain West.

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, beardless forage triticale that is facultative and has high yield potential. It features shorter stems, resists lodging, and has 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

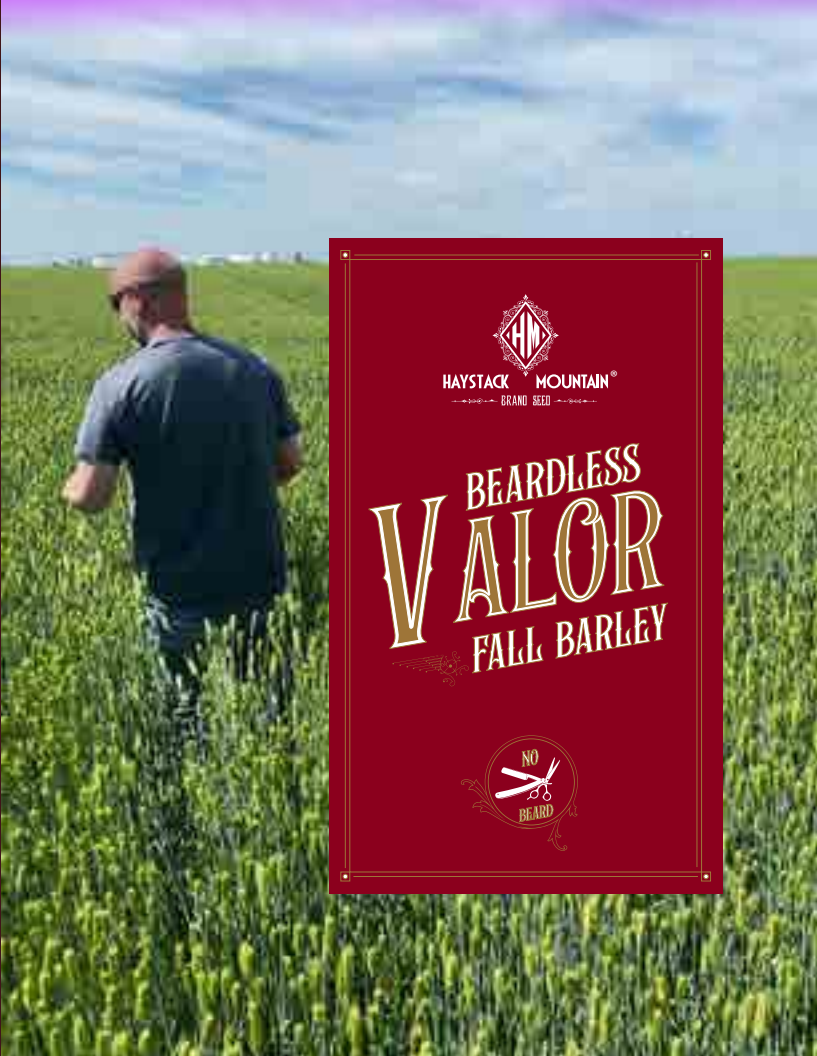
Gunner & Motley are PVP protected varieties. Unauthorized propagation is prohibited.


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 trait, 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	Vaquero Barley	A premier forage barley. Hooded, spring-planted barley developed specifically to produce forage for livestock. Compared to 'Stockford', 'Vaquero' yields more forage, stands better, and is taller.	PVP Variety	100 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
	Everleaf™ Falcon Oats	Very tall high producing forage oat. Seeds are dark brown. Higher tonnage yield, shorter maturity window and less lodging than Everleaf 126.	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	100 lbs acre
	Annual Rye Grain	Early maturing, drought tolerant, spring small grain. Fair forage value.	Hazelet, 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
Facultative Grains	Twin Wheat	Beardless soft white spring wheat.	Component of our forage mixes	100 lbs acre
	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-stememd variety. 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
Fall or “Winter” Small Grains	TriCal® Flex 719	Can be planted spring or fall, does not require vernalization. Excellent winter hardiness.	Awnletted	100-140 lbs acre
	TriCal® Valor Barley	Beardless fall barle. Well suited to forage mixes.	PVP Variety	100 lbs acre
	KWS Hybrid Rye	Earliest heading hybrid rye. Best dryland variety adapted to the Midwest.	Bearded Grain cannot be saved for seed	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
	Ray Wheat	A new, high-production beardless forage wheat. Excellent for grain production.	PVP Variety	100-140 lbs acre
Grain Mixes	Willow Creek Wheat	Popular, tall fall beardless wheat. High forge production.	Component of our forage mixes	100-140 lbs acre
	Prosper™ 3 Grain Forage Mix	#1 selling grain product. Ideal for hay or silage. Beardless barley, beardless wheat, spring 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.



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 conjunction with our website to help you select species adapted to your site and needs.

BEST SELLER!
CRESTED WHEATGRASS (SEE PG. 53)

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. 53)

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. 52)

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 GRASS MIXES (SEE PG. 24)

We now offer four 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.

WARM SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
<i>Andropogon gerardi</i>	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
<i>Bouteloua Curtipendula</i>	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
<i>Bouteloua gracilis</i>	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
<i>Buchloe dactyloides</i>	Buffalograss	P	Short sod forming grass, very important species on the Midwest prairies. Excellent forage grass.	12"	1/2-3/4"	Spring
<i>Eragrostis Tef</i>	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
<i>Distichlis spicata</i>	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
<i>Pleuraphis jamesii</i>	Galleta Grass	P	Very drought tolerant warm season, bunch/sod former. Commonly used for dryland improvement.	5"	1/2-3/4"	Spring or Summer
<i>Psathyrostachys juncea</i>	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
<i>Schizachyrium scoparium</i>	Little Bluestem	P	Warm season bunchgrass, widely distributed. Drought tolerant, useful for wildlife - especially birds.	12"	1/2"	Spring or Early Summer
<i>Schoenoplectus maritimus</i>	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
<i>Sporobolus airoides</i>	Alkali Sacaton	P	Used for erosion control, range and habitat improvement. Tolerates occasional flooding. Salt and alkali tolerant.	7"	1/4"	Summer
<i>Sporobolus cryptandrus</i>	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
<i>Achnatherum hymenoides</i>	Indian Ricegrass	P	Important range species for arid climates and well drained soils. Excellent food source for birds.	6"	1 - 3"	Spring or Fall
<i>Achnatherum lettermanii</i>	Letterman Needlegrass	P	High elevation needlegrass in the Intermountain West. Grows in mountain meadows and slopes.	14"	1/4- 1/2"	Spring or Fall
<i>A. cristatum x desertorum</i>	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
<i>Agropyron cristatum</i>	Crested Wheatgrass	P	Very important range grass for reclamation and pasture. Establishes well, long lived, aggressive.	9"	1/4- 1/2"	Spring or Fall
<i>Agropyron desertorum</i>	Standard Crested Wheatgrass	P	Drought tolerant, larger and more robust than Agropyron cristatum.	7"	1/4- 1/2"	Spring or Fall
<i>Agropyron fragile sibiricum</i>	Siberian Wheatgrass	P	Very drought tolerant bunchgrass. Similar to Agropyron desertorum. Late maturing and good palatability.	5"	1/4- 1/2"	Spring or Fall
<i>Alopecurus arundinaceus</i>	Creeping Foxtail	P	Sod forming cool season grass, adapted to waterways and inundation. Also drought tolerant.	20"	1/4- 1/2"	Spring or Fall
<i>Bromus biebersteinii</i>	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
<i>Bromus inermis</i>	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
<i>Bromus marginatus</i>	Mountain Brome	P	Short lived bunchgrass. A good choice for high elevation pasture, soil stabilization and reclamation.	16"	1/4-1/2"	Fall
<i>Dactylis glomerata</i>	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
<i>Elymus dahuricus</i>	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
<i>Elymus elymoides</i>	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
<i>Elymus lanceolatus</i>	Thickspike Wheatgrass	P	Widely distributed, very drought tolerant cool season sod former. Excellent species for reclamation.	5"	1/4- 1/2"	Spring or Fall
<i>Elymus lanceolatus psammophilus</i>	Streambank Wheatgrass	P	Excellent for erosion control, reclamation, habitat restoration. Moderate pH tolerance.	7"	1/4- 1/2"	Spring or Fall
<i>Elymus trachycaulus trachycaulus</i>	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
<i>Elymus wawawaiensis</i>	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
<i>Festuca arundinacea</i>	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
<i>Festuca idahoensis</i>	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
<i>Festuca ovina</i>	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
<i>Festuca rubra</i>	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
<i>Festuca trachyphylla</i>	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

COOL SEASON GRASSES

SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
<i>Hesperostipa comata comata</i>	Needle & Thread Grass	P	Important species after fire or disturbance. Needles with long awns. Valuable native grass, widely distributed.	8"	1/2"	Fall
<i>Juncus balticus</i>	Baltic Rush	P	Grass-like with rhizomatous rootstock. Common and widely occurring. Good for wetland restoration.	7"	1/8- 1/4"	Spring or Fall
<i>Koeleria macrantha</i>	Prairie Junegrass	P	Widely distributed cool season bunchgrass. 4,000-12,000 feet elevation. Used for reclamation and site improvement.	12"	1/4- 1/2"	Spring or Fall
<i>Leymus cinereus</i>	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
<i>Lolium perenne multiflorum</i>	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
<i>Lolium perenne multiflorum</i>	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
<i>Lolium perenne perenne</i>	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
<i>Nassella viridula</i>	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
<i>Pascopyrum smithii</i>	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
<i>Phalaris arundinacea</i>	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
<i>Phleum pratense</i>	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
<i>Poa fendleriana</i>	Muttongrass	P	Drought tolerant, cool season grass. Very useful for wildlife and livestock. Valuable restoration species.	10"	1/4"	Spring or Fall
<i>Poa pratensis</i>	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
<i>Poa secunda ampla</i>	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
<i>Poa secunda sandbergii</i>	Sandberg Bluegrass	P	Excellent harsh-site species for reclamation, erosion control, habitat improvement. Commonly occurring.	7"	1/4"	Spring or Fall
<i>Pseudorogneria spicata x Elytriga repens</i>	Hybrid Wheatgrass	P	Hybrid of Bluebunch Wheatgrass and Quack-Grass. Cool season, rhizomatous. High salt tolerance.	10"	1/4- 1/2"	Spring or Fall
<i>Pseudoroegneria spicata spicata</i>	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
<i>Thinopyrum intermedium intermedia</i>	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
<i>Thinopyrum intermedium trichophorum</i>	Pubescent Wheatgrass	P	Widely distributed, drought tolerant, cool season sod forming variety. Excellent species for reclamation.	11"	1/4- 1/2"	Spring or Fall
<i>Thinopyrum ponticum</i>	Tall Wheatgrass	P	Long lived cool season bunchgrass. Very adaptable to saline and alkaline soils.	8"	1/4-1/2"	Spring or Fall





WILDFLOWERS & FORBS

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

NEW!
BEE FEED WILDFLOWER MIX (SEE PG. 61)

Annual and perennial flowers that provide not only nectar and pollen for honey bees but many other pollinators. Ideal for those that want to bring in all sorts of bees and other pollinators to their gardens.

NEW!
COSMOS SENSATIONS MIX (SEE PG. 61)

A blend of multiple colors of dwarf cosmos. Likes full sun. Heat tolerant. Excellent for open areas and fields. Dwarf Cosmos flower seeds make lovely, long lasting cut flowers.

NEW!
DEER RESISTANT WILDFLOWER MIX (SEE PG. 61)

A mix of flowers and wildflowers that are known to be resistant to deer browsing.

NEW!
ANNUAL SUNFLOWER MIX (SEE PG. 62)

This mix offers a diverse selection of sunflowers that bloom beautifully together, adding depth and variety to gardens, farms, or large-scale planting projects.

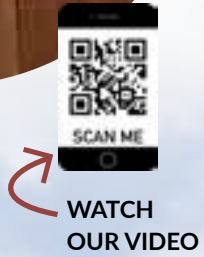
NEW!
FIREWISE WILDFLOWER MIX (SEE PG. 61)

Annual and perennial flowers suitable for firewise planting. These plants have higher moisture content, lower volatile oils, and a compact growth habit, helping to create a fire-resistant floral barrier on your property.

FEATURING:
COATED WILDFLOWER MIXES!

Our wildflower seed mixes are coated with Pinnacle 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 allows you to save 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.

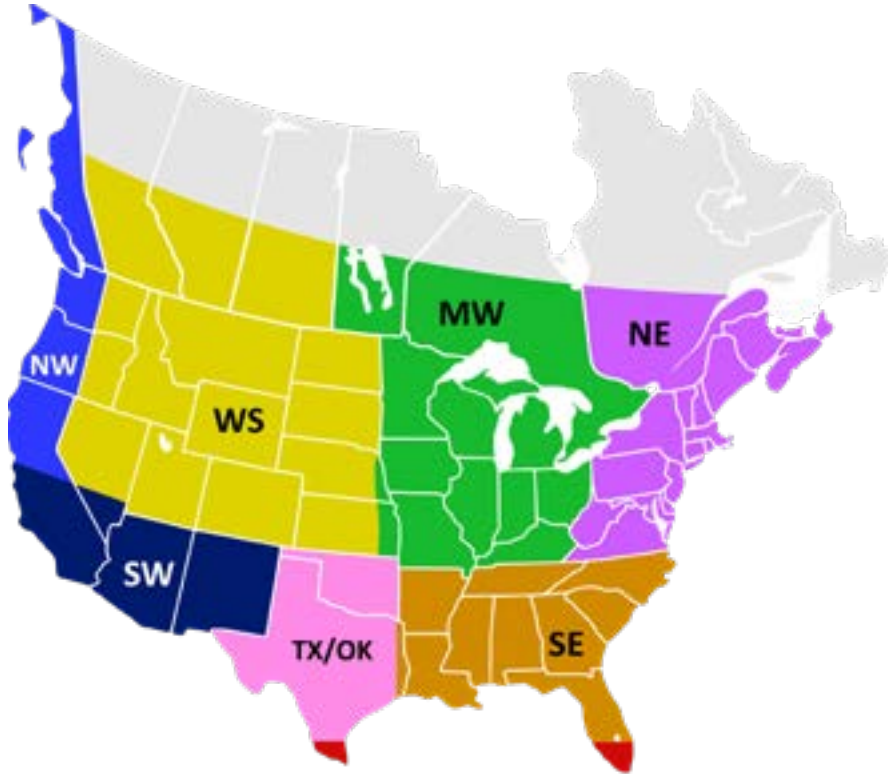


Reduced Seeding Rate = Larger Savings!
With higher germination rates, less seed can be sown. Coated seed results in greater plant density.



REGIONAL WILDFLOWER MIXES

We offer regional wildflower seed mixes for all locations in the lower 48 states. Use the general map below to identify your area and seed mix. Your location may be on the border of two areas and more than one mix may be appropriate. Charts with more information are available in the pages that follow.



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

MOST LOCATIONS:

- Annual Sunflower Mix
- Bee Feed Wildflower Mix
- Beneficial Bug Wildflower Seed Mix
- Butterfly Wildflower Seed Mix
- Cosmos Sensation Mix
- Honey Bee Wildflower Seed Mix
- Red, White & Blue Wildflower Seed Mix

WESTERN UNITED STATES:

- All-Native Western Wildflower Seed Mix
- Deer Resistant Flower Mix
- Firewise Wildflower Mix
- Xeriscape Wildflower Seed Mix

HIGHER ELEVATION LOCATIONS:

- Mountain Wildflower Seed Mix
- Great Basin Wildflower Seed Mix



All-Native Western Wildflower Mix

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.

MIX COMPONENTS

- Arrowleaf Balsamroot
Aspen Fleabane
Blue Flax
California Poppy
Firecracker Penstemon
Mules Ear
Munros Globemallow
Palmers Penstemon
Perennial Gaillardia
Rocky Mtn. Beeplant
- Rocky Mtn. Penstemon
Scarlet Globemallow
Showy Goldeneye
Silky Lupine
Silvery Lupine
Sulphur Flower
Buckwheat
Western Sweetroot
Yellow Beeplant

USDA HARDINESS ZONES: 4 - 8
Suitable for states west of Mississippi River at 4,000 - 9,000 ft. elevation



Annual Sunflower Mix

The Annual Sunflower Mix features distinctive varieties that bring a unique palette of color and charm to any landscape. Annual sunflowers are perfect for home and farm use. This mix offers a diverse selection of sunflowers that bloom beautifully together, adding depth and variety to gardens, farms, or large-scale planting projects.

MIX COMPONENTS

This mix includes a variety of unique annual sunflowers. It features 'Chocolate Cherry' with its rich, dark petals. The vibrant hues of 'Autumn Beauty'. The soft, creamy tones of 'Moonshine'. The deep red elegance of 'Velvet Queen'. Finally, the classic 'Grey Stripe' for added texture and visual interest.

USDA HARDINESS ZONES: 3-10
Widely adapted to all areas of the United States.



Bee Feed Wildflower Mix

Annual and perennial flowers that provide not only nectar and pollen for honey bees but many other pollinators. Ideal for those that want to bring in all sorts of bees and other pollinators to their gardens.

MIX COMPONENTS

- Chinese Forget-Me-Not
Siberian Wallflower
Purple Coneflower
Corn Poppy
Lance-Leaved Coreopsis
Blue Flax
China Aster
California Poppy
Baby Blue-eyes
- Tidy-Tips
Globe Gilia
Plains Coreopsis
Sweet Alyssum
Purple Giant Hyssop
New England Aster
Fleabane Daisy
Bergamont
Indian Blanket

USDA HARDINESS ZONES: 4 - 9
Suitable for most areas of the United States



Beneficial Bug Flower Mix

Attracts beneficial insects to your yard and garden. These beneficial insects help to destroy harmful garden pests such as aphids, thrips and mites.

MIX COMPONENTS

- 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

USDA HARDINESS ZONES: 3 - 9
Suitable for most areas of the United States



Cosmos Sensation Mix

A blend of multiple colors of dwarf cosmos. Likes full sun. Heat tolerant. Excellent for open areas and fields. Dwarf Cosmos flower seeds make lovely, long lasting cut flowers.

SOWING:

In early spring or after the last frost, scatter the seeds on the surface of loose soil. Keep the soil lightly moist until germination, which should take place within 10-20 days at soil temperatures from 65-75 degrees F. Seedlings do not need to be thinned, they can be sown at any time before midsummer for another crop of flowers.

USDA HARDINESS ZONES: 3 - 10
Suitable for most areas of the USA. Not for tropical areas of TX or FL.



Deer Resistant Flower Mix

A blend of annual and perennial garden flowers and wildflowers that are known to be resistant to deer browsing. Deer being deer, though, if natural food supplies are low or local populations are dense these flowers may be browsed by deer

MIX COMPONENTS

- Mixed Rocket Larkspur
Mixed Four-O'Clocks
Sweet William Pinks
California Poppy
Shirley Corn Poppy
True Lavender
Perennial Lupine
- Lemon Mint
Sweet Alyssum
Blue Sage
Mixed French Marigold
Purple Giant Hyssop
Bergamont
Gold Yarrow

USDA HARDINESS ZONES: 4 - 9
Suitable for most areas of the United States

NOW AVAILABLE IN SMALL-PLOT POUCHES!



Firewise Wildflower Mix

Annual and perennial flowers suitable for firewise planting. These plants have higher moisture content, lower volatile oils, and a compact growth habit, helping to create a fire-resistant floral barrier on your property.

MIX COMPONENTS

- Purple Coneflower
Lance-Leaved Coreopsis
California Poppy
Blanketflower
Prairie Spiderwort
Rocky Mtn. Penstemon
Palmer Penstemon
Cottage Pinks
- Blue Columbine
Blue Flax
Prairie Coneflower
Black-Eyed Susan
Smooth Aster
Indian Blanket
Mountain Lupine

USDA HARDINESS ZONES: 4 - 9
Suitable for most areas of the western United States



Great Basin Wildflower Mix

Contains many of the same species found in our Western Wildflower mix with a high percentage of flowers native to the Great Basin Province. Proven annuals and perennials.

MIX COMPONENTS

- 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
Praire Coneflower
Red Corn Poppy
Rocky Mtn. Beeplant
Rocky Mtn. Penstemon
Silvery Lupine
Showy Goldeneye

USDA HARDINESS ZONES: 3 - 8
Used for beautification of valleys and foothills in the Intermountain West and Great Basin.



Honey Bee Flower Mix

A mix of annual and perennial flowers that supply nectar and pollen for honey bees all season. Ideal for beekeepers and interested in those supporting bee health, it can be planted in gardens and borders.

MIX COMPONENTS

- Blanketflower
California Poppy
Cape Forget-Me-Not
China Aster
Chinese Forget-Me-Not
Corn Poppy
Lacy Phacelia
Lance-Leaved Coreopsis
New England Aster
Prairie Coneflower
- Purple Coneflower
Purple Giant Hyssop
Purple Prairie Clover
Scarlet Cinquefoil
Siberian Wallflower
Slender Mountain Mint
Sulphur Cosmos
Sweet Basil
Sweet Mignonette

USDA HARDINESS ZONES: 3 - 9
Suitable for most areas of the United States



Midwest Wildflower Mix

Annual and perennial mix. Designed for ornamental landscaping in: Illinois, Indiana, Iowa, eastern Kansas, Kentucky, Missouri, Minnesota, Michigan, eastern Nebraska, Ohio and Wisconsin.

MIX COMPONENTS

- | | |
|------------------------|-----------------------|
| Black-Eyed Susan | New England Aster |
| Cornflower | Ox-Eye Sunflower |
| Corn Poppy | Plains Coreopsis |
| Dwarf Evening Primrose | Prairie Aster |
| Grey-Headed Coneflower | Prairie Coneflower |
| Indian Blanket | Purple Coneflower |
| Lance-Leaved Coreopsis | Purple Prairie Clover |
| Lavender Hyssop | Scarlet Flax |
| Mexican Hat | Shasta Daisy |
| | Thickspike Gayfeather |

USDA HARDINESS ZONES: 3 - 8

Midwestern U.S. and south central Canada.



Mountain Wildflower Mix

Proven annuals and perennials suited for mountainous areas in the western US and Southern Canada. Often used with our Cabin Seed Mix for restoring road cuts, septic sites, and construction areas in mountain communities.

MIX COMPONENTS

- | | |
|----------------------|----------------------|
| Annual Baby's Breath | Dwarf Godetia |
| Bigflower Cinquefoil | Flanagan Daisy |
| Black-Eyed Susan | Rocket Larkspur |
| Blanketflower | Rocky Mtn. Penstemon |
| Blue Columbine | Shasta Daisy |
| Blue Flax | Showy Goldeneye |
| California Poppy | Siberian Wallflower |
| Catchfly | Tussock Bellflower |
| Cornflower | |

USDA HARDINESS ZONES: 3 - 8

Adapted to mountain parks, valleys and slopes above 7,000 feet mountain regions of the western US.



Northeast Wildflower Mix

Annual and perennial mix of native and non-native species. Adapted to hot humid summers and very cold winters of the Northeast. Annuals will re-seed themselves each year, and perennials bloom all summer long and return every year.

MIX COMPONENTS

- | | |
|------------------------|---------------------|
| Annual Baby's Breath | New England Aster |
| Black-Eyed Susan | Perennial Lupine |
| Catchfly | Purple Coneflower |
| Corn Poppy | Scarlet Flax |
| Cornflower | Shasta Daisy |
| Evening Primrose | Siberian Wallflower |
| Gayfeather | Smooth Penstemon |
| Hairy Beardtongue | Spurred Snapdragon |
| Indian Blanket | Sweet William Pinks |
| Lance-Leaved Coreopsis | |

USDA HARDINESS ZONES: 3 - 7

Adapted to New England and the Northeastern states of the US.



Southeast Wildflower Mix

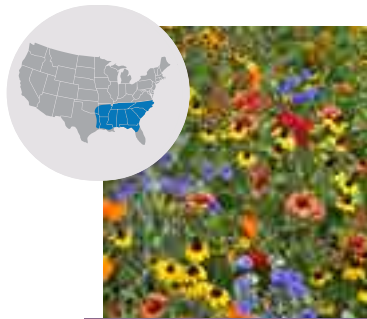
Combination of annuals and perennials that grow back year-over-year. Formulated for: AL, AR, northern FL, GA, LA, MS, NC, SC, TN and eastern TX.

MIX COMPONENTS

- | | |
|------------------------|------------------------|
| Annual Baby's Breath | Leavenworth's Tickseed |
| Black-Eyed Susan | Lemon Mint |
| Clasping Coneflower | Moss Verbena |
| Corn Poppy | New England Aster |
| Gaura | Plains Coreopsis |
| Gayfeather | Purple Coneflower |
| Gilia | Red Phlox |
| Golden Wave Tickseed | Scarlet Flax |
| Indian Blanket | Scarlet Sage |
| Lance-Leaved Coreopsis | Sulphur Cosmos |
| | Tree Mallow |

USDA HARDINESS ZONES: 6 - 10

Adapted to the southeast U.S. Adapted to hot, humid climates. Not adapted to the tropical climate of south Florida.



Southwest Wildflower Mix

A combination of annuals and perennials. Formulated for these areas: AZ, NM & western TX, southern CA, southern NV, Great Basin Province, and southern UT.

MIX COMPONENTS

- | | |
|----------------------|------------------------|
| Annual Baby's Breath | Indian Blanket |
| African Daisy | Mountain Phlox |
| Arroyo Lupine | Pale Evening Primrose |
| Bigelow's Aster | Palmer's Penstemon |
| Bird's Eyes | Prairie Coneflower |
| Blazing Star | Showy Penstemon |
| Blue Flax | Sweet Alyssum |
| California Bluebell | Small Leaf Globemallow |
| California Poppy | Sulfur Cosmos |
| Clarkia | Tidy Tips |
| Corn Poppy | Rocky Mtn. Penstemon |
| Desert Marigold | Firecracker Penstemon |
| Five-Spot | |

USDA HARDINESS ZONES: 6 - 10

Adapted to areas below 7,000 ft. in the Midwest



Texas & Oklahoma Wildflower Mix

A blend of annuals and perennials that grow back year-after-year. Adapted to Oklahoma, Texas and the southern plains.

MIX COMPONENTS

- | | |
|------------------------|------------------------|
| Annual Baby's Breath | Indian Blanket |
| Annual Candytuft | Lance-Leaved Coreopsis |
| Black-Eyed Susan | Lemon Mint |
| Clasping Coneflower | Prairie Coneflower |
| Corn Poppy | Purple Coneflower |
| Cornflower | Purple Prairie Clover |
| Crown Tickseed | Red Phlox |
| Dwarf Evening Primrose | Scarlet Sage |
| Dwarf Helenium | Showy Evening Primrose |
| Golden Wave Tickseed | Sulphur Cosmos |
| Greenthread | Texas Bluebonnet |

USDA HARDINESS ZONES: 6 - 8

Adapted to Texas, Oklahoma and the southern plains.



Northwest Wildflower Mix

Annual and perennial mix used for ornamental landscaping in the northwestern U.S. and extreme western Canada. Use for elevations below 7,000 feet in: northern CA, western OR, western WA, and coastal British Columbia.

MIX COMPONENTS

- | | |
|------------------|------------------------|
| Baby Blue-Eyes | Globe Gilia |
| Bird's Eyes | Lance-Leaved Coreopsis |
| Black-Eyed Susan | Mountain Phlox |
| Blue Flax | Russell Lupine |
| California Poppy | Scarlet Flax |
| Chinese Houses | Shasta Daisy |
| Clarkia | Siberian Wallflower |
| Dwarf Godetia | Sweet Alyssum |
| Corn Poppy | Tidy Tips |
| Five-Spot | Yellow Lupine |

USDA HARDINESS ZONES: 6 - 9

Suitable for most northwestern states. For elevations below 7,000 feet.



Monarch Butterfly Flower Mix

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.

MIX COMPONENTS

- | | |
|------------------------|-----------------------|
| Black-Eyed Susan | Pincushion Flower |
| Butterfly Milkweed | Purple Coneflower |
| Candytuft | Purple Prairie Clover |
| Cosmos | Rounded Bush Clover |
| Dwarf Godetia | Shasta Daisy |
| Gayfeather | Siberian Wallflower |
| Illinois Bundleflower | Sweet Alyssum |
| Indian Blanket | Sweet William Pinks |
| Lance-Leaved Coreopsis | Zinnia |
| New England Aster | |

USDA HARDINESS ZONES: 4 - 9A

Suitable for all US zones except Florida panhandle.



Red, White & Blue Flower Mix

Show your patriotism with our special mix of red, white and blue annual and perennial wildflowers. Suitable for most zones in the USA. Pinnacle-coated for improved germination.

MIX COMPONENTS

- | | |
|-----------------------|------------------|
| Annual Baby's Breath | Gaura |
| Baby Blue Eyes | Maltese Cross |
| Bishop's Flower | Perennial Lupine |
| Blue Cornflower | Red Corn Poppy |
| Blue Flax | Rockcress |
| Blue Sage | Scarlet Flax |
| Carmine Baby's Breath | Scarlet Sage |
| Chinese Forget-Me-Not | Shasta Daisy |
| Dwarf Red Coneflower | Sweet Alyssum |

USDA HARDINESS ZONES: 4 - 10

Widely adapted to all areas of the United States.



Western Wildflower Mix

Combination of annuals and perennials that return year-after-year. Mixture is for ornamental landscaping in the western US. Contains native and non-native species.

MIX COMPONENTS

- | | |
|------------------------|-----------------------|
| Annual Candytuft | Greenthread |
| Blanketflower | Indian Blanket |
| Blue Flax | Pale Evening Primrose |
| California Poppy | Palmer Penstemon |
| Cornflower | Perennial Lupine |
| Corn Poppy | Plains Coreopsis |
| Crown Tickseed | Prairie Aster |
| Deerhorn Clarkia | Prairie Coneflower |
| Dwarf Evening Primrose | Rocky Mtn. Penstemon |
| Globe Gilia | Showy Goldeneye |

USDA HARDINESS ZONES: 3 - 9

Formulated for elevations below 7,000ft elevation in the Midwest and West.



Xeriscape Wildflower Mix

Mixture for xeriscape landscaping and ground cover. Conserves water. Combination of annuals and perennials. Formulated for the Great Basin & Intermountain West regions.




















MIX COMPONENTS



















- | | |
|------------------------|-------------------------|
| Annual Candytuft | Munros Globemallow |
| Arrowleaf Balsamroot | Palmer's Penstemon |
| Blanketflower | Perennial Lupine |
| Blue Flax | Prairie Aster |
| California Poppy | Prairie Coneflower |
| Deerhorn Clarkia | Plains Coreopsis |
| Dwarf Blue Coneflower | Red Corn Poppy |
| Dwarf Evening Primrose | Rocky Mountain Beeplant |
| Globe Gilia | Rocky Mtn. Penstemon |
| Greenthread | Silvery Lupine |
| Godetia | Showy Goldeneye |
| Indian Blanket | |

USDA HARDINESS ZONES: 3 - 9

























Formulated for the Great Basin & Intermountain West regions.

*Mix recipes may vary slightly depending upon crop & availability

	SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	ZONES	BLOOM PERIOD
	<i>Achillea millefolium</i>	White Yarrow	P	Valuable reclamation and wildlife habitat restoration forb. Rhizomatous.	Dry	○	12-36"	Full Sun	3-9	MAY-JUL
	<i>Achillea millefolium occidentalis</i>	Western Yarrow	P	Short lived, drought tolerant. Reclamation and wildlife habitat restoration forb. Rhizomatous.	Dry	○	6-24"	Full Sun	3-9	MAY-OCT
	<i>Asclepias curassavica</i>	Bloodflower Milkweed	P	A tender erect perennial often grown as an annual. Great for attracting pollinators.	Moist	●●	24-36"	Full Sun	6-11	MAY-OCT
	<i>Asclepias incarnata</i>	Swamp Milkweed	P	Native flower and favored food of monarch butterflies. Useful for wetland rehabilitation. Poisonous to sheep.	Moist	●●	36-72"	Full Sun	3-9	JUN-OCT
	<i>Asclepias tuberosa</i>	Butterfly Milkweed	P	Attractive to butterflies. Widely adapted showy native flower.	Dry, Moderate	●	12-30"	Full Sun	3-9	JUN-AUG
	<i>Argemone munita</i>	Flatbud Prickly Poppy	P	Adapted to arid climates, desert regions, and disturbed areas. Drought tolerant.	Dry	●○	24-36"	Full Sun	5-10	AUG
	<i>Aquilegia coerulea</i>	Colorado Blue Columbine	P	High elevation, ornamental native variety. Colorado state flower.	Dry, Moderate	●○	24-36"	Shade	3-10	JUN-AUG
	<i>Baileya multiradiata</i>	Desert Marigold	P	Sun-loving wildflower native to the desert environs of southwest U.S	Dry	●	12-24"	Full Sun	7-10	MAR-NOV
	<i>Balsamorhiza sagittata</i>	Arrowleaf Balsamroot	P	Widely distributed native forb. Reclamation and wildlife habitat species. Drought tolerant.	Dry, Moderate	●	16-36"	Full Sun	3-10	MAY-JUL
	<i>Cleome lutea</i>	Yellow Beeplant	A	Excellent disturbed site species, roadsides and valley bottoms. Very drought tolerant.	Dry	●	12-36"	Full Sun	3-8	MAY-AUG
	<i>Cleome serrulata</i>	Rocky Mountain Beeplant	A	Valuable reclamation and wildlife habitat restoration forb. Very drought tolerant. Widely adapted.	Dry	●●	24-36"	Full Sun	3-8	JUL-SEP
	<i>Coreopsis lanceolata</i>	Lance-Leaf Coreopsis	P	Used mainly for landscape beautification.	Dry, Moderate	●	24"	Full Sun/Partial	3-9	MAY-AUG
	<i>Dracopis amplexicaulis</i>	Clasping Coneflower	A	Widely distributed in west and midwest. Drough tolerant.	Moderate	●●	12-36"	Full Sun	3-10	MAY-AUG
	<i>Dalea purpurea</i>	Purple Prairie Coneflower	P	Widely adapted throughout the US. Legume, nitrogen fixing. Moderate drought tolerance.	Dry	●●	24-48"	Full/Partial	5-9	APR-SEP
	<i>Erigeron speciosus</i>	Aspen Daisy	P	Mid to sub-alpine flower, adapted to intermountain and northwest regions.	Moderate	●●	12-24"	Full/Partial	4-10	JUN-SEP
	<i>Eriogonum umbellatum</i>	Sulfur Buckwheat	P	Widely distributed, drought tolerant forb. Excellent for wildlife habitat and insect populations.	Dry	●	6-18"	Full/Partial	4-9	JUN-SEP
	<i>Eschscholzia californica</i>	California Poppy	P	Easy to establish, spreading forb. Drought tolerant, prolific seed producer. Widely adapted to the western US.	Dry	●	12-36"	Full Sun	4-9	FEB-OCT
	<i>Gaillardia aristata</i>	Blanketflower	P	Adapted to most of US states, widely used in disturbed site mixes. Establishes well, persistent.	Dry	●●	12-48"	Full Sun	3-10	JUL-SEP
	<i>Gaillardia pulchella</i>	Firewheel or Indian Blanket	A	Easily established, grows in most soils and ecotypes. Commonly used for wildflower mixes, reclamation.	Dry	●●	12-36"	Full/Partial	3-10	MAY-AUG

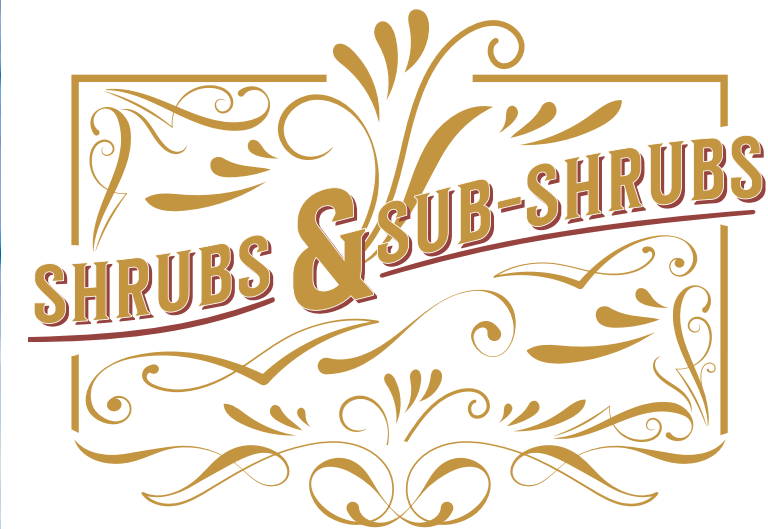
	SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	ZONES	BLOOM PERIOD
	<i>Geranium viscosissimum</i>	Sticky Purple Geranium	P	Predominantly found at sub-alpine elevations. Blooms late summer, leaves and stems produce sticky resin.	Moist	●●	12-36"	Any	2-9	MAY-AUG
	<i>Hedysarum boreale utahensis</i>	Utah Sweetvetch	P	Very valuable nitrogen fixing forb for habitat improvement, disturbed sites and reclamation.	Dry, Moderate	●●	12-24"	Full/Partial	3-8	APR-AUG
	<i>Helianthus annuus</i>	Annual Sunflower	A	Excellent pollinator. Valuable for wildlife habitat, especially birds. Widely adapted, establishes well.	Dry	●	36-84"	Full Sun	3-10	JUL-OCT
	<i>Helianthus annuus</i>	Peredovik Sunflower	A	Large flower heads and shiny black seeds with high oil content.	Dry, Moderate	●	48-72"	Full Sun	4-10	JUN-AUG
	<i>Helianthus maximiliani</i>	Maximilian Sunflower	P	Native prairie perennial. Hardy range plant. Excellent for erosion control and restoration	Moderate	●	84"	Full/Partial	3-9	MAY-AUG
	<i>Heliomeris multiflora</i>	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	4-10	JUL-OCT
	<i>Ipomopsis aggregata</i>	Scarlet Gilia	P	Common in the high plateau areas of the Intermountain West. Very showy trumpet-like flowers.	Dry	●	12-36"	Full Sun, Partial	6-9	AUG-OCT
	<i>Liatris pycnostachya</i>	Prairie Blazing Star	P	Native to the tallgrass prairies of the central United States	Moderate, Moist	●	36"-60"	Full Sun	3-9	JUL-AUG
	<i>Liatris spicata</i>	Marsh Blazing Star	P	Native to wetlands and marshlands of North America. Ideal for garden beds and marshlands.	Moderate, Moist	●	36-48"	Full Sun, Partial	3-9	JUL-AUG
	<i>Linum grandiflorum rubrum</i>	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	4-9	MAY-AUG
	<i>Linum perenne</i>	Perennial Blue Flax	P	Drought tolerant but short lived. Used in beautification, reclamation and wildlife habitat mixes.	Dry	●●	18-30"	Full Sun	5-8	MAR-SEP
	<i>Lupinus alpestris</i>	Mountain Lupine	P	Occurs in most sub-alpine mountainous regions of the West. Poisonous to livestock if eaten exclusively.	Dry, Moderate	●●	18-24"	Any	4-9	JUN-SEP
	<i>Lupinus argenteus</i>	Silvery Lupine	P	Occurs at lower elevations than Mountain Lupine. Important in reclamation and wildflower mixes.	Dry, Moderate	●●	36-60"	Full Sun, Partial	4-9	MAY-OCT
	<i>Lupinus arizonicus</i>	Arizona Lupine	P	Small purple/pink flowers. Adapted to the desert Southwest.	Dry	●●	12-24"	Full Sun, Partial	8-10	APR-MAY
	<i>Lupinus caudatus</i>	Tailcup Lupine	P	Adapted to mountain and foothills of the West.	Dry, Moderate	●●	36-60"	Full Sun	4-8	JUL-OCT
	<i>Monarda citriodora</i>	Lemon Mint	A	Native to the southern US and northern Mexico. Aromatic foliage.	Dry, Moderate	●●	12-24"	Full Sun	5-9	MAY - JUL
	<i>Penstemon cyananthus</i>	Wasatch Penstemon	P	Deep purple flower, grows from foothills to sub-alpine. Used in wildflower and reclamation mixes.	Dry	●	18-30"	Full Sun, Partial	4-9	APR-MAY
	<i>Penstemon eatonii</i>	Firecracker Penstemon	P	Occurs in sandy/poor soils in most western states. Short lived, prolific seed producer.	Dry	●	24-36"	Full Sun, Partial	4-8	MAY-AUG

WILDFLOWERS & FORBS

	SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MOISTURE	COLOR	HEIGHT (IN.)	SUN	ZONES	BLOOM PERIOD
	<i>Penstemon palmeri</i>	Palmer's Penstemon	P	Common in the Intermountain and Southwest. Low to mid elevations. Does well on disturbed and fire sites.	Dry		36-60"	Full Sun	4-9	MAY-JUN
	<i>Penstemon strictus</i>	Rocky Mountain Penstemon	P	Thrives in foothills and mid elevation mountains. Widely used in wildlife and reclamation mixes.	Dry		12-36"	Full/Partial	4-9	MAY-JUN
	<i>Ratibida columnifera</i>	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	4-9	MAY-SEP
	<i>Rudbeckia occidentalis</i>	Western Coneflower	P	Good for stabilization and wildflower mixes. No petals.	Dry		24-48"	Full Sun	3-9	JUN-NOV
	<i>Rudbeckia hirta</i>	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	3-9	JUN-OCT
	<i>Sanguisorba minor</i>	Small Burnet	P	Good forage producer, establishes easy. Used in pasture and reclamation mixes. Good pollinator.	Dry		6-24"	Full Sun	4-8	JUN-AUG
	<i>Sphaeralcea ambigua</i>	Desert Globemallow	P	Blooms spring and occurs predominantly in the desert Southwest. Drought tolerant.	Dry		24-60"	Full Sun	6-10	FEB-NOV
	<i>Sphaeralcea coccinea</i>	Scarlet Globemallow	P	Common in poor soils of the Intermountain West. Very short, rhizomatous. Valuable for reclamation.	Dry		6-12"	Full Sun	6-8	APR-SEP
	<i>Sphaeralcea grossularifolia</i>	Gooseberryleaf Globemallow	P	Deeply lobed leaves. Drought tolerant and cold-hardy. Common in the low elevation, arid deserts.	Dry		18-40"	Full Sun	3-8	MAY-JUL
	<i>Sphaeralcea munroana</i>	Munro's Globemallow	P	Widely distributed in the arid, poor soils of the desert Intermountain and Southwest. Similar to Small-Leaf Globemallow.	Dry		12-36"	Full Sun, Partial	4-9	MAY-JUL
	<i>Sphaeralcea parvifolia</i>	Small-leaf Globemallow	P	Widely in the arid, poor soils of the desert Intermountain and Southwest. Similar to Munro's Globemallow.	Dry		24-36"	Full Sun	5-10	MAY-JUL
	<i>Wyethia mollis</i>	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	3-8	MAY-JUL

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





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.





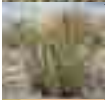
Our work in shrubs began in the early 1970's when the study of seed species for range improvement was in its infancy. We have grown steadily and expanded our capabilities to meet the rising demand for native shrub seed. We designed and fabricated much of our own collection and cleaning machinery as we learned the nuances specific to each species. As the 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.








SHRUBS & SUB-SHRUBS

	SCIENTIFIC NAME	COMMON NAME	LIFESPAN	USES	MIN. PRECIP.	SOW	SOWING SEASON
	<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	P	Valuable shrub for wildlife habitat and site restoration. Fruits used by birds and mammals.	12"	1/4-1/2"	Fall
	<i>Amelanchier utahensis</i>	Utah Serviceberry	P	Similar to Saskatoon, provides excellent cover and food for wildlife and birds.	10"	1/4-1/2"	Fall
	<i>Artemisia arbuscula</i>	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
	<i>Artemisia cana</i>	Silver Sagebrush	P	Frequently occurs in meadows, near streams and in moist soil at high elevations. Important for sage grouse habitat.	9"	1/8"	Fall
	<i>Artemisia filifolia</i>	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
	<i>Artemisia frigida</i>	Fringed Sagebrush	P	Widely distributed in the West. Mat-forming, cold-tolerant sub-shrub. Tolerant of poor soils.	7"	1/16"	Spring or Fall
	<i>Artemisia ludoviciana</i>	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
	<i>Artemisia nova</i>	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
	<i>Artemisia tridentata tridentata</i>	Basin Big Sagebrush	P	Critical and widely distributed North American shrub. Occurs mainly in drainage bottoms, low foothills and more fertile sites. Tallest A. tridentata species. Used in restoration and habitat improvement.	9"	1/8"	Fall or Winter
	<i>Artemisia tridentata vaseyana</i>	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 habitat. Tolerates poor soils.	12"	1/4"	Fall or Winter
	<i>Artemisia tridentata wyomingensis</i>	Wyoming Big Sagebrush	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/disturbed sites.	7"	1/4"	Fall or Winter
	<i>Atriplex canescens</i>	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
	<i>Atriplex confertifolia</i>	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
	<i>Atriplex corrugata</i>	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
	<i>Atriplex gardneri</i>	Gardners Saltbush	P	Found in abundance on WY clay badlands. Very salt and alkali tolerant. Important for mine reclamation.	6"	1/2"	Fall
	<i>Bassia prostrata</i>	Forage Kochia	P	Recommended as a component in seed mixes for saline badlands or challenging soil conditions.	6"	≤1/16"	Fall
	<i>Cercocarpus ledifolius</i>	Curl-leaf Mountain Mahogany	P	Evergreen shrub, grows tree-like, and often found 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
	<i>Cercocarpus montanus</i> var. <i>glaber</i>	Birchleaf Mahogany	P	More shrub-like, shorter and drought tolerant than <i>C. ledifolius</i> . Palatable for wildlife and valuable for reclamation.	9"	1/4-1/2"	Fall
	<i>Chrysothamnus viscidiflorus</i>	Yellow or Douglas Rabbitbrush	p	Valuable for reclamation and habitat improvement. Deciduous and winter hardy.	6"	1/8"	Fall
	<i>Ericameria nauseosa</i>	Rubber Rabbitbrush	P	Widely distributed in Western US. Establishes well and spreads aggressively. Excellent for soil stabilization.	9"	1/2"	Fall
	<i>Ephedra nevadensis</i>	Nevada Ephedra	P	Evergreen shrub, good alkali and salt tolerance. Good for winter browse and wildlife habitat improvement.	5"	1/2"	Fall
	<i>Ephedra viridis</i>	Green Ephedra	P	Evergreen shrub. Good for winter cover/browse, wildlife habitat improvement, and reclamation.	7"	1/2"	Fall
	<i>Krascheninnikovia lanata</i>	Winterfat	p	Highly nutritious for livestock and wildlife. Sub-shrub moderately tolerant of salt and alkali.	5"	1/16-1/4"	Fall
	<i>Larrea tridentata</i>	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
	<i>Prunus virginiana</i>	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
	<i>Purshia glandulosa</i>	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
	<i>Purshia mexicana stansburiana</i>	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
	<i>Purshia tridentata</i>	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
	<i>Rhus glabra</i>	Smooth Sumac	P	Used for revegetation and landscaping. Forms thickets and spreads via aggressive roots. Widely distributed.	10"	1/4-1/2"	Fall
	<i>Rhus trilobata</i>	Skunkbrush Sumac	P	Drought tolerant but commonly found along gullies and seasonal stream beds. Used for restoration.	10"	1/4-1/2"	Fall
	<i>Rosa woodsii</i>	Woods Rose	P	Aggressive, early establishing in stream bottoms, ditch banks, fence lines. Valuable for birds.	12"	1/2-3/4"	Fall
	<i>Sambucus nigra cerulea</i>	Blue Elderberry	P	Found from sea level to 9,000'. Grows along streams, roadsides, and moist areas. Berries valuable for wildlife.	12"	1/4"	Fall
	<i>Sambucus racemosa</i>	Red Elderberry	P	Similar to common elderberry but occurs at high elevation mountainous terrain. Used for revegetation.	18"	1/4"	Fall
	<i>Symphoricarpos oreophilus</i>	Mountain Snowberry	P	Very similar to the common snowberry. Root spreading with moderate salt and alkali tolerance. Persists on harsh sites. Good cover.	12"	1/4-1/2"	Fall

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



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
<i>Brassica campestris</i> 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
<i>Brassica napus</i> 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
<i>Brassica oleracea</i> var. <i>sabellica</i> 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
<i>Crotalaria juncea</i> Sunn Hemp	Broadleaf	Forage, cover crop, green manure	A	Summer	36-108"	30-60 lbs.	YES	Adapted to a wide range of soils, 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
Chicory "Chubby"	Broadleaf							
<i>Linum usitatissimum</i> Brown Flax	Broadleaf	Self-pollinating, mobilizes phosphorus, breaks soil compaction, weed suppression, flowering	A				YES	
<i>Phacelia tanacetifolia</i> 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
<i>Raphanus sativus</i> 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
<i>Raphanus sativus</i> var. <i>niger</i> Daikon Radish	Broadleaf	Breaks soil compaction, weed suppression, nitrogen fixation	A	Summer or Fall	12-48"	3-8 lbs.	NO	Widely adapted, moist soils
<i>Sinapis alba</i> White Mustard	Broadleaf	Green manure, grazing	A	Summer or Fall	36-60"	6-10 lbs.	NO	Sandy loamy soils
<i>Brassica juncea</i> (AKA: <i>Sinapis Alba</i>) Mighty Mustard Mix	Broadleaf	Biomass, suppresses disease and pests, erosion control	A	Summer or Fall	36-72"	6-15 lbs.	NO	Widely adapted
<i>Fagopyrum esculentum</i> Buckwheat	Grain	Quick soil cover, weed suppressor, nectar for pollinators and beneficial insects, top soil loosener, rejuvenator for low-fertility soils	A	Summer	12-24"	50-100 lbs.	NO	Low-fertility, well drained, light to medium soils
<i>Pennisetum glaucum</i> 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
<i>Secale cereale</i> 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
<i>Sorghum × drummondii</i> 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
<i>Eragrostis Tef</i> Teff Grass	Grass	Erosion control, nitrogen scavenger, weed suppression, green chop	A	Summer	24-48"	8-12 lbs.	NO	Warm, firm seedbed, widely adapted
<i>Lolium perenne</i> 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
<i>Trifolium alexandrinum</i> 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
<i>Trifolium incarnatum</i> 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
<i>Trifolium michelianum</i> 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
<i>Pisum sativum</i> subsp. <i>arvense</i> Winter Peas	Legume	Green manures, nitrogen fixation, forage	A	Fall	24-48"	44-130 lbs.	YES	Cool, moist sandy soils
<i>Vicia villosa</i> 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
<i>Astragalus cicer</i> Cicer Milkvetch	(<i>Lutana</i> , <i>Oxley II</i> , <i>Monarch</i>)	C	NB	I	P	10"	12-36"	20-25 lbs.	145,000	S/F	Full Sun, Partial	Strong alkali tolerance, widely adapted
<i>Coronilla varia</i> Crownvetch	Purple Crownvetch, Coronilla Crown Vetch (<i>Chemung</i> , <i>Emerald</i>)	C	B	I	P	20"	24-48"	15-20 lbs.	110,000	F	Full Sun, Partial	Winter hardy, watershed stabilization, tolerates acidic soils
<i>Dalea purpureum purpurea</i> 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
<i>Lotus corniculatus</i> 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
<i>Medicago sativa</i> 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
<i>Medicago sativa falcata</i> 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
<i>Melilotus officinalis</i> Yellow Sweetclover	<i>Madrid</i>	C	B	I	B	8"	24-36"	10-15 lbs.	190,000	S	Full Sun	Widely used, all soil textures
<i>Onobrychis viciifolia</i> Sainfoin	<i>Eski</i> , <i>Melrose</i> , <i>Remont</i> , <i>Shoshone</i>	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
<i>Trifolium alexandrinum</i> 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+

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
<i>Trifolium fragiferum</i> Strawberry Clover	<i>O'Connors</i> , <i>Palenstine</i>	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
<i>Trifolium hybridum</i> 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
<i>Trifolium incarnatum</i> Crimson Clover		C	B	I	A	25"	18-30"	8-10 lbs.	275,000	S/F	Full Sun	Cold hardy, widely adapted
<i>Trifolium michelianum</i> Fixation Balansa Clover		C	B	I	A	25"	24-48"			S/F	Full Sun	Nitrogen fixing, tolerant of waterlogged soils
<i>Trifolium pratense</i> 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
<i>Trifolium repens</i> Aberace Micro Clover	Dwarf White Clover	C	B	I	P	18"	3-8"	5 lbs.	850,000	S/F	Full Sun, Partial	Long lived, widely adapted
<i>Trifolium repens</i> White Dutch Clover		C	B	I	P	18"	8-12"	2 lbs.	850,000	F	Full Sun, Partial	Long lived, widely adapted
<i>Trifolium repens latum</i> Ladino Clover		C	B	I	P	18"	8-14"	2-6 lbs.	850,000	F	Full Sun, Shade	Widely adapted
<i>Vicia americana</i> American Vetch		C	NB	N	P	12"	12-24"	25-35 lbs.	33,000	S/F	Full Sun, Partial	Widely adapted, drought tolerant
<i>Vicia sativ</i> 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
<i>Vicia villosa</i> 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
<i>Avena sativa</i> Oats	<i>Monaco</i> , <i>Monida</i> , <i>Buffalo</i> , <i>Morgan</i>	X	X	X		100 lbs.	16,200	S	Full Sun	Cool, moist soils
<i>Avena sativa</i> Giant Oats	<i>Tree Oats</i> <i>Magnum</i> , <i>Everleaf</i>	X	X	X		100 lbs.	16,000	S	Full Sun	Cool, moist soils
<i>Fagopyrum esculentum</i> Buckwheat		X		X	12-36"	100 lbs.	16,000	Sum	Full Sun, Partial	Fair acid and salt tolerance, wet poorly drained soils
<i>Hordeum vulgare</i> Spring Barley	<i>Lavina</i> , <i>Goldeneye</i> , <i>Claymore</i> , <i>Haymaker</i> , <i>Sunstar Double</i> , <i>Vaquero</i>	X	X		48-60"	100 lbs.	18,000	S	Full Sun	Adapted to high altitudes with cold & short growing seasons
<i>Hordeum vulgare</i> Fall Barley	<i>Valor</i> , <i>Sunstar Pride</i>	X	X		48-60"	100 lbs.	18,000	F	Full Sun	Adapted to high altitudes with cold & short growing seasons
Annual Rye Grain	<i>Rymin</i> , <i>Hazlet</i>	X			60-72"	100 lbs.	18,200	S	Full Sun	Widely adapted, nitrogen fixing, cold hardy
<i>Sorghum bicolor</i> x <i>Sorghum sudanese</i> Sorghum Sudangrass	<i>Honeysuckle</i> , <i>Honeysuckle DM</i>		X	X	<12ft	40-65 lbs.	22,000	S/Sum	Full Sun	Warm, well drained moderately fine to moderately coarse soils
<i>Triticum aestivum</i> Spring Wheat	<i>Twin</i> , <i>Jefferson</i>	X			36-48"	100 lbs.	18,500	S	Full Sun	Warm, well drained moderately fine to moderately coarse soils
<i>Triticum aestivum</i> Fall Wheat	<i>Brundage</i> , <i>Ray</i>	X			36-48"	100 lbs.	18,500	F	Full Sun	Moderately fine to moderately coarse soils
<i>Triticum aestivum</i> x <i>Secale cereale</i> Spring Triticale	<i>Tyndall</i> , 131, <i>TriCal Surge</i> , <i>Merlin Max™</i> , <i>TriCal 141</i>		X	X	50-60"	100 lbs.	18,000	S	Full Sun	Short term, moist soils
<i>Triticum aestivum</i> x <i>Secale cereale</i> , X <i>tritosecale</i> Fall Triticale	<i>FX 1001</i> , <i>Luoma</i> , <i>TriCal Motley</i> , <i>TriCal Gunner</i> , <i>TriCal Flex 719™</i> , <i>TriCal 141</i>		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
<i>Achnatherum hymenoides</i> (AKA: <i>Oryzopsis hymenoides</i>) 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
<i>Achnatherum lettermanii</i> (AKA: <i>Stipa lettermanii</i>) 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
<i>A. cristatum</i> x <i>desertorum</i> 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
<i>Andropogon gerardii</i> 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
<i>Agropyron cristatum</i> 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

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
<i>Agropyron desertorum</i> 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
<i>Agropyron fragile sibiricum</i> (AKA: <i>Agropyron sibiricum</i>) 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
<i>Alopecurus arundinaceus</i> Creeping Foxtail												
<i>Bouteloua curtipendula</i> 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
<i>Bouteloua gracilis</i> 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
<i>Bromus biebersteinii</i> (AKA: <i>Bromopsis biebersteinii</i>) Meadow Brome	Cache, Paddock, Regar, Fleet, Stratus	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
<i>Bromus inermis</i> 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
<i>Bromus marginatus</i> 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
<i>Buchloe dactyloides</i> 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
<i>Dactylis glomerata</i> Orchardgrass	Latar, Paiute, Potomac, Quickdraw, Crown Royal, Extend, Blizzard, Haymaster, Sunset, Sundown, Benchmark	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
<i>Distichlis spicata</i> (AKA: <i>Distichlis stricta</i>) 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
<i>Elymus dahuricus</i> Dahurian Wildrye	Arthur	C	N	P	12"	36-72"	10-15 lbs.	80,000	S/F	Full Sun, Partial	Widely adapted	3 - 9
<i>Elymus elymoides</i> (AKA: <i>Sitanion hystrix</i>) 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
<i>Elymus lanceolatus lanceolatus</i> (AKA: <i>Agropyron dasystachyum</i>) 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
<i>Elymus lanceolatus psammophilus</i> (AKA: <i>Agropyron riparium</i>) Streambank Wheatgrass	Sodar	C	N	P	7"	18-36"	6-11 lbs.	170,000	S/F	Full Sun, Partial	Moderately coarse to fine	4 - 7
<i>Elymus trachycaulus trachycaulus</i> (AKA: <i>Agropyron trachycaulum</i>) 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	Medium to clayey soils	3 - 7
<i>Elymus wawawaiensis</i> 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
<i>Eragrostis Tef</i> 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
<i>Festuca arundinacea</i> (AKA: <i>Schedonorus Phoneix</i>) Tall Fescue	Alta, Fawn, Rustler, 402	C	N	P	16"	12-48"	15 lbs.	500,000	S/F	Full Sun, Partial	Sub-humid climates, poorly drained soils	3 - 6
<i>Festuca idahoensis</i> Idaho Fescue	Joseph, Nezpers, 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
<i>Festuca ovina</i> 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
<i>Festuca rubra</i> 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
<i>Festuca trachyphylla</i> (AKA: <i>Festuca duriuscula</i>) 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
<i>Hesperostipa comata comata</i> (AKA: <i>Stipa comata</i>) 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
<i>Juncus balticus</i> 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
<i>Koeleria macrantha</i> 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
<i>Leymus cinereus</i> (AKA: <i>Elymus cinereus</i>) 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
<i>Lolium perenne multiflorum</i> (AKA: <i>Lolium multiflorum</i>) Annual Ryegrass	Gulf, Fria	C	I	A	11"	24-36"	8-16 lbs.	200,000	S/F	Full Sun, Shade	Acidic soils, medium textures	4 - 7
<i>Lolium perenne multiflorum</i> Italian Ryegrass		C	I	A	11"	24-36"	8-16 lbs.	200,000	S/F	Full Sun, Shade	Acidic soils, medium textures	6 - 10
<i>Lolium perenne perenne</i> Perennial Ryegrass	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
<i>Nassella viridula</i> (AKA: <i>Stipa viridula</i>) 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
<i>Pascopyrum smithii</i> (AKA: <i>Agropyron smithii</i>) 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
<i>Phalaris arundinacea</i> 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

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
<i>Pheleum pratense</i> Timothy	Climax, Conquest, Derby	C	N	P	16"	18-36"	1-2 lbs.	1,300,000	S/F	Full Sun, Shade	Cool moist climates, all soils	5 - 9
<i>Pleuraphis jamesii</i> 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
<i>Poa fendleriana</i> 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
<i>Poa pratensis</i> 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
<i>Poa secunda ampla</i> (AKA: <i>Poa ampla</i>) 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
<i>Poa secunda sandbergii</i> 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
<i>Psathyrostachys juncea</i> (AKA: <i>Elymus junceus</i>) 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
<i>Pseudoroegneria spicata</i> <i>x Elytriga repens</i> 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
<i>Pseudoroegneria spicata spicata</i> (AKA: <i>Agropyron spicatum</i>) 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
<i>Schizachyrium scoparium</i> 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
<i>Schoenoplectus nantimus</i> (AKA: <i>Bolboschoenus martimus</i>) 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
<i>Sporobolus airoides</i> 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
<i>Sporobolus cryptandrus</i> 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
<i>Thinopyrum intermedium intermedia</i> (AKA: <i>Agropyron intermedium</i>) 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
<i>Thinopyrum intermedium</i> <i>trichophorum</i> 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
<i>Thinopyrum ponticum</i> 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
<i>Achillea millefolium</i> 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
<i>Achillea millefolium occidentalis</i> Western Yarrow	(<i>Yakima, Eagle, Great Northern</i>)	White	N	P	8"	6-24"	MAY-OCT	Full Sun	2,800,000	1 lb	S/F	Medium to coarse soil textures	4 - 9
<i>Aquilegia coerulea</i> 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
<i>Balsamorhiza sagittata</i> 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
<i>Cleome lutea</i> 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
<i>Cleome serrulata</i> 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
<i>Echinacea purpurea</i> 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
<i>Erigeron speciosus</i> 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
<i>Eriogonum umbellatum</i> 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
<i>Eschscholzia californica</i> California Poppy		Yellow- Orange	N	A	10"	6-18"	FEB-OCT	Full Sun	293,000	5-10 lbs.	S/F	Widely adapted	3 - 9
<i>Gaillardia aristata</i> Blanketflower		Yellow and Red	N	P	10"	12-24"	JUL-SEP	Full Sun	132,000	7-10 lbs.	S	Widely adapted	3 - 8
<i>Gaillardia pulchella</i> 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
<i>Geranium viscosissimum</i> 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

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: PLUS POUNDS PER ACRE	PLANTING TIME	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
<i>Hedysarum boreale utahensis</i> 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
<i>Helianthus annuus</i> 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
<i>Heliomeris multiflora</i> (AKA: <i>Viguiera multiflora</i>) 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
<i>Ipomopsis aggregata</i> (AKA: <i>Gilia aggregata</i>) 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
<i>Liatris pycnostachya</i> Prairie Blazing Star		Purple	N	P	16"	12-36"	AUG-OCT	Full Sun	120,000	3-6 lbs.	S/F	Clay, loom, sand, wide range of soil pH	3 - 9
<i>Ligusticum porteri</i> 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
<i>Linum grandiflorum rubrum</i> 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
<i>Linum lewisii</i> 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
<i>Linum perenne</i> 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
<i>Lupinus alpestris</i> (AKA: <i>Lupinus argenteus rubricaulis</i>) 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
<i>Lupinus argenteus</i> 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
<i>Lupinus arizonicus</i> 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	6 - 10
<i>Lupinus caudatus</i> Tailcup Lupine		Blue-Purple	N	P	12"	12-24"	MAY-SEP	Full Sun	18,000	20-30 lbs.	F	Mountains, foothills, medium-coarse well drained soil types	3 - 7
<i>Lupinus sericeus</i> Silky Lupine		Blue-Purple	N	P	10"	18-36"	MAY-AUG	Full Sun, Partial	25,000	20-30 lbs.	F	Mountains and foothills; moderately coarse soils	4 - 8
<i>Osmorhiza occidentalis</i> 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
<i>Penstemon cyananthus</i> 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
<i>Penstemon eatonii</i> 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
<i>Penstemon palmeri</i> Palmers Penstemon	Scented Penstemon	Pink-White	N	P	9"	36-60"	MAY-JUN	Full Sun	600,000	2-3 lbs.	F	Low-mid elevations, well adapted	4 - 9
<i>Penstemon rydbergii</i> 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
<i>Penstemon strictus</i> 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
<i>Ratibida columnifera</i> (AKA: <i>Ratibia columnaris</i>) 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
<i>Rudbeckia occidentalis</i> 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
<i>Rudbeckia hirta</i> 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
<i>Sanguisorba minor</i> 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
<i>Sphaeralcea ambigua</i> 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
<i>Sphaeralcea coccinea</i> 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
<i>Sphaeralcea grossulariifolia</i> 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
<i>Sphaeralcea munroana</i> 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
<i>Sphaeralcea parvifolia</i> 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
<i>Wyethia mollis</i> 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: PLUS POUNDS PER ACRE	SEEDS PER LB.	PLANTING TIME	SUN & SHADE TOLERANCE	SOIL PH	ADAPTATION, SOIL TEXTURE	HARDINESS ZONES
<i>Amelanchier alnifolia</i> 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
<i>Amelanchier utahensis</i> 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
<i>Artemisia arbuscula</i> 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
<i>Artemisia cana</i> 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
<i>Artemisia filifolia</i> 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
<i>Artemisia frigida</i> 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
<i>Artemisia ludoviciana</i> 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
<i>Artemisia nova</i> 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
<i>Artemisia tridentata</i> 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
<i>Artemisia tridentata vaseyana</i> 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
<i>Artemisia tridentata wyomingensis</i> 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
<i>Atriplex canescens</i> Fourwing Saltbush		N	P	6"	24-72"	1-3 lbs.	55,000	F	Full Sun	6.5-9.5	Southwest, most soils	5 - 9
<i>Atriplex confertifolia</i> 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
<i>Atriplex corrugata</i> 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
<i>Atriplex gardneri</i> 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
<i>Bassia prostrata</i> 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
<i>Cercocarpus ledifolius</i> 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
<i>Cercocarpus montanus</i> 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
<i>Chrysothamnus viscidiflorus</i> 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
<i>Ephedra nevadensis</i> 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
<i>Ephedra viridis</i> 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
<i>Ericameria nauseosa</i> 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
<i>Krascheniinnikovia lanata</i> 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
<i>Larrea tridentata</i> 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
<i>Prunus virginiana</i> 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
<i>Purshia glandulosa</i> 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
<i>Purshia mexicana stansburiana</i> 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
<i>Purshia tridentata</i> 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
<i>Rhus glabra</i> 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
<i>Rhus trilobata</i> 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
<i>Rosa woodsii</i> 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
<i>Sambucus nigra cerulea</i> 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
<i>Sambucus racemosa</i> 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
<i>Symphoricarpos oreophilus</i> 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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450 S 50 E
Ephraim UT, 84627
435.283.1411

greatbasinseed.com