



BrettYoung[™]

NATIVE SEED GUIDE

**AN ILLUSTRATED A-Z GUIDE TO OUR
NATIVE AND INTRODUCED SPECIES LINEUP**

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IT STARTS WITH SEED

The success of any reclamation project starts and ends with high quality seed. When reclaiming areas disturbed during the construction or reclamation of roads, mines, energy projects or any other areas, if you don't have great seed, nothing else matters.

Our highest priority has and will always be maintaining the highest quality standards possible for native grasses. Between our own production, with hand selected growers who bring decades of experience, to our rigorous quality standards when we purchase seed, you can trust BrettYoung to ensure your project's success.

Beyond our high quality standards, many come to BrettYoung for another important reason: portfolio diversity. As you'll see over the next 130+ pages, we have a very diverse native seed offering. However, availability depends on varying environmental conditions, so there are some things to keep in mind when sourcing your native seed. Inventory is highest in the spring (March and April) and lowest in the fall (October and November). Keep this in mind when specifying product and try to source seed in the spring whenever possible.

Your BrettYoung rep can also suggest suitable and available substitutions if a seed is out-of-stock. We've indicated common substitutions throughout this guide to help keep things simple, but feel free to consult with your rep anytime regarding availability of a desired product.

Start with seed that ends with beautiful native grasses, enhanced landscapes and healthier ecosystems — start with seed from BrettYoung.

Find Native Seed to meet your project needs at brettyoung.ca

SEED PRODUCTION

Seed production at BrettYoung is built on a partnership with farmers. Our seed production agronomists make sure to find the right growers for the right species.

We learn the ins and outs of each farm – agronomy practices, equipment capabilities and field history – and then we set them up with the appropriate native species to grow.

But this isn't when our job ends – it's actually when it begins. Our agronomists scout the fields throughout the growing season to keep an eye on crop progress, forecast yield estimates, and monitor for pests. After harvest, preliminary tests are done to make sure there's good germination on the seed. If a seed lot has good germination, then we proceed with cleaning, conditioning, bagging and getting a final Report of Seed Analysis (or Seed Certificate) on the cleaned lot of seed.

RECLAMATION, SIMPLIFIED:

Before you set specifications for your site, contact your BrettYoung rep to discuss your project's needs and available species. Getting practical advice as early as possible is the best way to ensure the seed you specify is commercially available, in stock, and can get to the site when you need it.



INFORMATION ON SEED ANALYSIS REPORTS

SPECIES IDENTIFIER – LATIN & COMMON NAMES

At the very top of the Report of Seed Analysis, you will see the seed's name, identified both by a scientific or Latin name and its common name recognized in Canada.

Here's where things get tricky. Common names can be country- or region-specific. In order to meet your project's specifications, we recommend using the Latin name on a seed certificate to make sure you are getting the seed you expected. For example, *Elymus lanceolatus* spp. *lanceolatus* is referred to as Northern Wheatgrass in Canada, but in the United States, its common name is Thickspike.

Not all Reports of Seed Analysis contain a variety name. If the seed lot originated from a certified, registered variety in Canada, then the report would state that. For example, BrettYoung currently offers certified Elbee Northern Wheatgrass and certified Adanac Slender Wheatgrass in our lineup, and if you requested a report, it would have this certified name at the top. Some reports may list the variety as "variety not specified" or "VNS." This is more common with native species than turf or forage species, as the native seed industry is much smaller. It has fewer recognized, registered varieties and less field reproduction. As well, many certified varieties that are recognized in the United States may not be recognized varieties in Canada and therefore cannot be sold as a named variety.



PURITY

BrettYoung takes great pride in its high quality seed offering.

An accredited seed lab grades the seed and provides a purity analysis as part of the Report of Seed Analysis (also referred to as a “seed cert”) analyzed according to Canadian Methods & Procedures for Testing Seed outlined by the Canadian Food Inspection Agency. Since we also export seed into the United States, the Report of Seed Analysis must be analyzed according to AOSA Rules & Regulations outlined by the United States Association of Official Seed Analysts.

The report will outline:

- % of pure seed
- % of other crop
- % of weed seed
- % of inert matter

To ensure you are always receiving the highest quality products from our business, we aim to have the highest percent of pure seed in each seed lot we sell.

WEEDS / OTHER CROP SEEDS

Due to the nature of plants and soil, it is inevitable there will be other crops and weeds growing alongside our target species. If the seed size of the other crop or weed is similar to the target species, it can be difficult to completely clean the contaminants out of our target species.

We try our very best to adjust cleaning screens and fan speed, and often re-clean seed lots to improve quality. We follow the Canada Seeds Act under the *Weed Seed Order, 2016*, as well as specific provincial guidelines for prohibited, primary and secondary noxious weeds and aim to have none of these in our seed lots.

RECLAMATION, SIMPLIFIED:

You may also want to verify that any other crop seeds won't be invasive and take over your native meadow. Your BrettYoung rep can help with identifying undesirable crop seeds.



INERT MATTER

Inert matter is straw, chaff, empty seed heads, or even dirt and debris that was not cleaned out of the sample prior to testing. Through the cleaning process, we remove the majority of inert material.

PURE SEED

Pure seed is what is left when you subtract any inert material, weed seed or other crop seed from the sample. This is the percentage of actual seed you set out to source – pure and simple. BrettYoung has high standards for purity, which are reflected on our seed certificates.

GERMINATION

There are two methods for testing native seed viability. One is the shorter Tetrazolium Chloride (TZ) test, and the other method is the germination test, which takes longer to complete. A TZ test is often called the quick germination test. It is a chemical test used to determine seed viability, and results are available within 24 to 48 hours.

We test seed lots for germination to understand how viable the seeds will be for future planting. As you will find on the Report of Seed Analysis, the germination results can show % germination (normal seedlings), % abnormal seedlings, % dead, % dormant, % fresh, and % hard. The TZ results will simply tell you the % of seed that is viable.

The percentage of total germination (required for a Pure Live Seed calculation), is the percentage of germination that occurred in testing, plus any dormant or hard seed. Though dormant or hard seed may not have germinated during testing, it has the potential to germinate in the future.

DORMANT SEED

This percentage may not always be indicated on a Report of Seed Analysis, but it is part of your total germination result. Dormant seed is similar to an animal hibernating. Some seed just needs to go through a dormancy period before it awakens to germinate the following spring.

HARD SEED

Hard seed needs to soften before it germinates. Sometimes animals help the seed coat open up, or rainfall/watering may soften the seed, adding to your total viable seed.



RECLAMATION, SIMPLIFIED:

Some seed or seed blends may be sold with a coating added, which means there is less seed per bag. The coating adds size and surface area and reduces the actual number of seeds per bag. As a consumer, you may need to purchase more bags of seed to hit your desired plant populations. Also, there is a wide range of percentages of coatings used, so make sure to look for the % of coat as well. Keep this in mind when budgeting for your project and completing your order.

PURE LIVE SEED (PLS)

Pure Live Seed is a measurement used by the seed industry to describe the percentage of a quantity of seed that will germinate. It refers to the amount of live, viable seed in a lot of bulk seed. Therefore, it tells you the amount of seed in the lot that can develop into seedlings.

You will typically find suppliers provide a price per pound for seed. Some projects request that seed be priced based on PLS. Calculations to determine the quantity of seed required are usually completed by the consultant on the project, once the seed certificates are requested and reviewed.

CALCULATING PURE LIVE SEED

We're starting to get more blend requests using Pure Live Seed numbers – and it's an incredibly helpful measurement when comparing the value of different seed lots or bulk seed purchases.

There are a few elements that go into calculating the germination potential of your seed.

% Pure Seed x % Total Germination / 100 = % Pure Live Seed



ORDERING IN PLS POUNDS

100 / % Pure Live Seed = PLS lb

Once you have the percentage of Pure Live Seed, you can convert this number into the viable pounds in the product, reflecting how much you need to order to cover your land needs.

For instance, if your % PLS is 90, $100 / 90 = 1.11$ PLS lbs

This means you should plant 1.11 lbs for every pound of desired product to get the best results.

When comparing products, having the PLS pounds helps you consider the true value of a bulk seed product. If a less costly product has lower germination, the number of PLS pounds you need to cover your land may negate any savings.

PURE LIVE SEED PRICING

Use the Pure Live Seed pounds to calculate the cost of a project based on actual viable seed numbers. You just need the bulk price of the seed and the Pure Live Seed pounds.

Bulk Price x PLS lb = PLS \$ / lb

For example, if the bulk price is \$4.99 / lb

$\$4.99 \times 1.11 = \$5.54 / lb$

NATIVE VS. INTRODUCED SPECIES

At BrettYoung, we offer both native and introduced (or naturalized) species to our customers. We feel offering both options can help with project budgeting, give you greater choice and increase the variation of the landscape.

So, how are they different?

NATIVE SPECIES

Native species are indigenous to a given area in a geologic time. In North America, any plants that existed on the continent before European settlement are considered native to North America.

These plants are, of course, genetically adapted to local growing conditions, and benefit local wildlife (including pollinators). They play a crucial role in soil structure and conservation with their deep root systems, hardiness and adaptability.

They are incredible products for revegetating disturbed industrial and agricultural lands. They also have a unique beauty and come in a variety of colours, textures and shapes.

Our native species are often priced at a premium over introduced species as they can be more difficult to reproduce in a broad-acre growing environment. Hand collection or wild harvesting is very time-consuming and labour-intensive, which also increases costs. Cleaning native seed compared to introduced species is also more difficult and time-consuming.

Benefits of Native Plants:

- Thrive in their local environment and help protect biodiversity
- Attract wildlife, including migrating birds, butterflies and pollinating insects
- Revegetate disturbed industrial and agricultural lands
- Play a crucial role in soil structure and conservation; stabilize soil
- Develop deep root systems that help protect and build the soil structure
- Present unique and enduring beauty in a variety of colours, textures and shapes
- Are hardy, adaptable and drought tolerant in their natural habitats

INTRODUCED (NATURALIZED) SPECIES

These species aren't truly native to an area, but they have become established as part of the plant life of a region beyond their place of origin. These species would have become established either intentionally or accidentally through human intervention.

To become naturalized, an introduced species must be able to grow on its own and produce a new generation without human interference.

Often, these plants mirror a native plant's natural beauty, grow well in its adapted environment and come at a lower cost than their native counterparts.

Throughout this guide, we've noted the species' origins, whether they're introduced or native, next to their Latin name.

RECLAMATION, SIMPLIFIED:

Many people set out for native species and then realize a naturalized pasture will have similar benefits or meet their needs at a lower cost. Introduced species are easy to reproduce commercially and don't need to be wild harvested or hand collected.



BLUEGRASS SPECIES

You're likely familiar with Kentucky bluegrass – the largest genus in the bluegrass family. But did you know it's only one of about 500 bluegrass species in the *Poa* genus?

A perennial, cool season grass, bluegrass gets its name from the plant's seed heads, which turn blue at maturity. The seeds themselves are tiny, with anywhere from 1 to 2.5 million of them making up a single pound.

Brett Young offers four bluegrass species – alpine bluegrass, Canada bluegrass, fowl bluegrass and sandberg bluegrass – which are generally short, gently tufted grasses that are not deeply rooted. They are fairly well adapted to a wide range of soil types and will establish quickly and easily, so that if they're planted early in the spring, you can expect them to start growing shortly after. They can also tolerate colder temperatures (great for our northern climate) and are drought tolerant.

These grasses are also sown in pastures and rangeland since they're a good source of forage. Because they aren't very tall, they aren't a huge forage producer, but they're quick to green up in the spring, making them palatable to livestock early in the season.

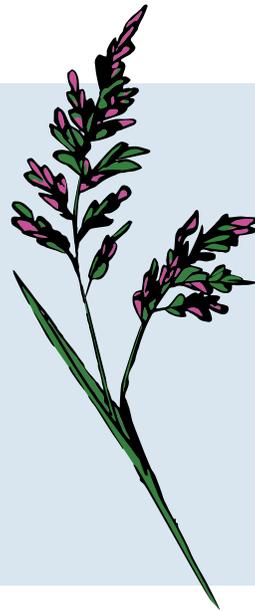
The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

ALPINE BLUEGRASS

Poa alpina, native

VARIETY KEY FEATURES

- Short, densely tufted plant
- Leaves form a dense mat providing good ground cover
- Palatable to wildlife but does not produce a lot of forage material
- Colonizes disturbances
- Tolerates heavy traffic
- Bluish-green leaves
- Starts to grow very early in the spring
- Very cold tolerant



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Good	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	1,000,000
Salt Tolerance	Fair	Canopy Mature Height	10-50 cm

Natural Habitat

- Cool season perennial
- Adapted to subalpine and alpine slopes and meadows
- Suitable in a wide variety of soils, from clay to gravel

Other Notes

- Used to revegetate high-elevation rangelands

CANADA BLUEGRASS

Poa compressa, introduced

VARIETY KEY FEATURES

- Short, bunchy sod-forming grass
- Long-lived perennial
- Stabilizes low-fertility soils
- Palatable to wildlife and livestock
- Helps to improve poor sites where more productive species won't establish
- Good forage value in early spring
- Can begin to dominate heavily grazed areas
- Not shade tolerant



Growth Habit	Rhizomatous	Soil PH	Acidic to Neutral
Flood Tolerance	Fair	Soil Type	Medium to Fine
Drought Tolerance	Good	Approx. Seeds/lb	2,500,000
Salt Tolerance	Good	Canopy Mature Height	30-60 cm

Natural Habitat

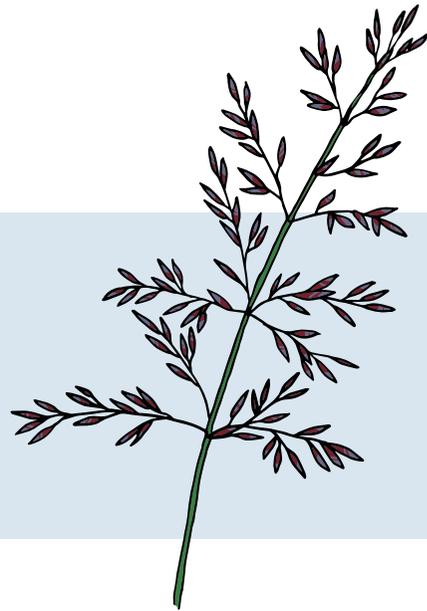
- Cool season perennial
- Introduced to North America
- Found on shores, moist foothills grasslands and in open woods
- Grows in areas from open montane woods to alpine elevations
- Restricted to better soils and moist locations in the Prairies

Other Notes

- Many characteristics similar to Kentucky bluegrass but with a distinctive blue-green colour and with a flatter leaf
- Less invasive than Kentucky bluegrass

FOWL BLUEGRASS

Poa palustris, native



VARIETY KEY FEATURES

- Weak sod-forming bunchgrass
- Native to wet marshlands
- Excellent seedling vigour
- Loves sloughs and dugout areas
- Easy to establish

Growth Habit	Bunchgrass to Slightly Rhizomatous	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Medium to Fine
Drought Tolerance	Good	Approx. Seeds/lb	1,800,000
Salt Tolerance	Good	Canopy Mature Height	20-60 cm

Natural Habitat

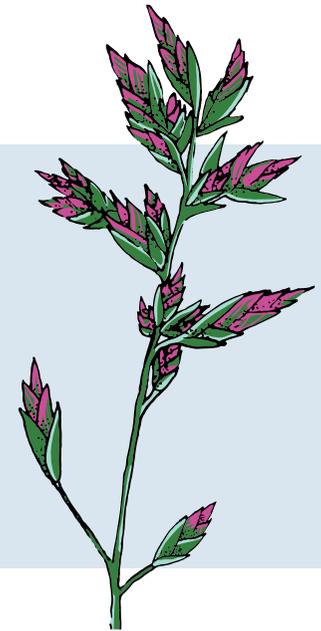
- Cool season perennial
- Likes meadows and moist open marshes, from low to medium elevations
- Can be found anywhere in the Parkland Region
- Native to conifer and boreal forest regions across the Prairies

Other Notes

- Used for quick coverage in habitat restoration
- Well-suited for mixes with reed canarygrass, ticklegrass, tufted hairgrass and fescues

SANDBERG BLUEGRASS

Poa secunda, native



VARIETY KEY FEATURES

- Short, densely tufted perennial with fibrous roots
- Early green up in spring
- Palatable early in the season
- Most common native bluegrass in the western part of North America
- Used to revegetate after forest fires
- Tolerates cold, drought and shade

Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	1,047,000
Salt Tolerance	Poor	Canopy Mature Height	Under 30 cm

Natural Habitat

- Cool season perennial
- Common in southern regions throughout the Prairies
- Found on dry slopes, clay flats and dry prairie grasslands
- More noticeable in years of drought when more desirable species die back

Other Notes

- Has adapted to drought and infertile, shallow and often alkaline soils, which makes it useful in mixes with western wheatgrass to stabilize poor reclamation sites
- Also referred to as alkali bluegrass

BROMEGRASS SPECIES

Bromegrass belongs to the *Bromus* genus, which contains about 160 different species. It is a perennial cool season grass that grows in many temperate regions around the world. BrettYoung offers three bromegrass selections – fringed brome, mountain brome and nodding brome – all native to North America.

This is a medium to tall grass that will establish rapidly. Typically, bromegrass is planted in the spring, but because it establishes so quickly, it can also be planted in the fall.

Our bromegrass varieties grow best in moist soils, but be mindful if the area is predisposed to heavy rainfall, as their flood tolerances are only rated fair to poor.

Bromegrass species are generally short-lived and will die back, enabling other native grass species to take over. Because they come up quickly, they tend to have excellent soil-holding properties and are often a popular choice for soil stabilization projects.

In addition, bromegrass has good forage value and is very palatable for livestock. It's also a favourite for foraging wildlife and will attract deer and elk if they're in your area.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

FRINGED BROME

Bromus ciliatus, native

VARIETY KEY FEATURES

- Cool season perennial
- Starts spring growth around mid-May
- Highly palatable forage for livestock and wildlife
- Excellent for roadside ditches
- Very tolerant to cold
- Makes excellent quality hay



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Fair	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	236,000
Salt Tolerance	Fair	Canopy Mature Height	50-100 cm

Natural Habitat

- Found on a wide variety of habitats and sites
- Adapted to riparian habitats and moist areas that can become seasonally dry
- Tolerant to poorly drained soils
- Can be found as far north as the Alaska interior

Other Notes

- This species is sold as bare seed or coated seed
- Good species for mine reclamation — naturally establishes on coal mine tailings

MOUNTAIN BROME

Bromus marginatus, native

VARIETY KEY FEATURES

- Cool season, short-lived perennial
- Rapid establishment
- Ideal root system for stabilizing slopes
- Good shade tolerance
- Good palatability for livestock and wildlife
- Makes good quality hay and produces high yields



Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Medium to Moderately Fine
Drought Tolerance	Fair	Approx. Seeds/lb	90,000
Salt Tolerance	Poor	Canopy Mature Height	60-120 cm

Natural Habitat

- Adapted to a wide variety of relatively moist soils
- Intolerant to high water tables
- Common in foothills and mountain valleys
- Can be found in the Parkland Region (Northern Prairies)
- Grows in open woods, moist meadows and shrubby coulees

Other Notes

- Mountain brome is taller than fringed brome at mature height
- Good for quick cover of disturbed sites or forest fire regrowth

NODDING BROME

Bromus anomalus, native

VARIETY KEY FEATURES

- Cool season, short-lived perennial
- Drought tolerant
- Medium to high palatability to livestock and wildlife
- Graceful nodding seed heads
- High seedling vigour



Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	142,800
Salt Tolerance	Fair	Canopy Mature Height	15-30 cm

Natural Habitat

- Adapted to coarse-textured soils
- Frequent species in the Parkland Region (Northern Prairies)
- Prefers areas with better moisture conditions
- Grows in open woods, fescue grasslands and moist meadows

Other Notes

- Nodding brome is shorter than fringed brome and mountain brome

DRYLAND GRASS SPECIES

BrettYoung offers seven different dryland grass species, which are a mixture of cool and warm season perennials found in the Southern Prairies, also known as the Grassland Region. These (as the name implies) do well in dry conditions. Our selections in this category are all native to North America and are well-suited to growing conditions in the southern parts of Manitoba, Saskatchewan and Alberta. A key species is prairie junegrass, the most common grass on the Canadian prairies, which is why you'll find it in most of our native species blends.

Our dryland grass species are generally long-lived and super hardy. They have excellent drought tolerance and are able to withstand hot and cold temperature extremes. They are also able to grow in medium to coarse soils and are less susceptible to wind and water erosion than many other grasses.

Dryland grasses provide good native pasture for livestock and are often used for rangeland restoration. They are best for early season grazing or as a winter forage, as animals don't find them that tasty during the peak summer months. They are also beneficial for stabilizing soils along roadsides, pipelines, mines and other reclamation sites.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

GREEN NEEDLEGRASS

Nassella viridula, native



VARIETY KEY FEATURES

- Good forage value with high spring protein and good palatability
- Produces good quality hay with high yields
- Cold and drought tolerant
- Good soil stabilizer (2-3m of roots)
- Moderately resistant to grazing
- Excellent seedling vigour
- Tall, slender bunchgrass
- Cool season perennial that starts growth in late April

Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Fair	Soil Type	Medium to Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	180,000
Salt Tolerance	Poor	Canopy Mature Height	50-120 cm

Natural Habitat

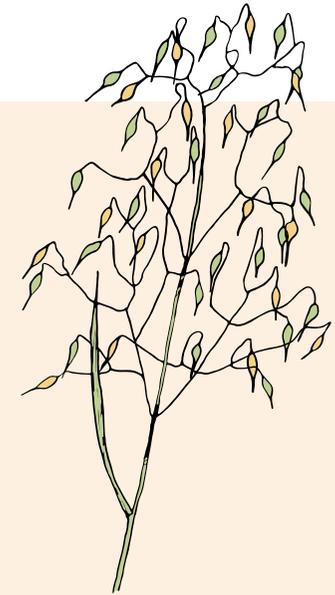
- Found in open meadows, foothills grasslands and parkland areas
- In the Prairies, found where topsoil is deeper and richer, on heavy clays or sometimes on sandy soil with a high water table

Other Notes

- Used extensively for mine revegetation
- Suitable for range rehabilitation or restoration
- Grows well alongside western wheatgrass, blue grama and needle + thread

INDIAN RICEGRASS

Achnatherum hymenoides, native



VARIETY KEY FEATURES

- Cool season perennial
- Lighter green in colour
- Good source of protein in spring
- Valuable winter forage
- Grows on extreme sites
- Deep root system
- Good soil builder
- Known for its ability to reseed and establish itself after heavy grazing or fire
- Cold and drought tolerant

Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Coarse to Medium
Drought Tolerance	Excellent	Approx. Seeds/lb	141,000
Salt Tolerance	Good	Canopy Mature Height	10-60 cm

Natural Habitat

- Common in the Prairies, with sporadic appearances in the parkland or boreal forest regions
- Grows on dry, exposed riverbanks, eroded slopes and sandy grasslands
- Adapted to a wide range of soils but does not do well on wet or poorly drained soils

Other Notes

- Best to plant in fall
- One of the most palatable native grasses

NEEDLE + THREAD GRASS

Hesperostipa comata, native



VARIETY KEY FEATURES

- Densely tufted
- Characteristic awns
- Light greyish-green colour
- Widely adapted to poor soils
- Emergence is poor and may even require two growing seasons to establish
- Very drought tolerant
- High protein forage value for spring grazing
- Excellent winter hardiness

Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	115,000
Salt Tolerance	Fair	Canopy Mature Height	30-70 cm

Natural Habitat

- Long-lived, cool season perennial
- Found on dry grasslands
- Prevalent on sandy or poor soils and south-facing slopes
- Dominant species in the dry central area of the Great Plains
- Very common in southern regions and more sporadic as you move north

Other Notes

- Recommended for use in range rehabilitation and restoration
- Can be very difficult and expensive to source
- Increaser species on moist native rangelands and decreaser species on dry native rangelands
- Compatible in mixes with western wheatgrass, northern wheatgrass, junegrass and western porcupine grass

PRAIRIE JUNEGRASS

Koeleria macrantha, native



VARIETY KEY FEATURES

- Small, densely tufted
- Blue-green in colour
- Long-lived perennial
- Excellent results stabilizing tailings
- Early spring growth
- Seldom grows in dense stands
- Highly palatable in spring but rarely grazed in the summer
- Cold, heat and drought tolerant
- Good fire tolerance
- Seedlings are slow to establish and are not vigorous

Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Fair	Soil Type	Coarse to Medium
Drought Tolerance	Excellent	Approx. Seeds/lb	2,300,000
Salt Tolerance	Fair	Canopy Mature Height	10-60 cm

Natural Habitat

- Cool season perennial
- Found in grasslands and forest openings in the northern boreal forest
- Prevalent on light calcareous soils
- Grows on rangeland meadows, plains, mountain foothills and open forestlands

Other Notes

- One of the most common species on the Canadian Prairies
- Not recommended for fall or dormant fall seedings
- A very variable species — can show a variety of growth forms depending on environmental conditions

PRAIRIE SANDREED

Calamovilfa longifolia, native



VARIETY KEY FEATURES

- Long-lived, warm season perennial
- Great erosion control due to very deep root system
- Important species for stabilizing sandy sites
- Source of good winter grazing
- Begins growing earlier in spring than other warm season grasses
- Sod-forming grass
- Leaves are pale green to straw coloured
- Not salt tolerant

Growth Habit	Rhizomatous	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Coarse
Drought Tolerance	Excellent	Approx. Seeds/lb	273,000
Salt Tolerance	Poor	Canopy Mature Height	50-180 cm

Natural Habitat

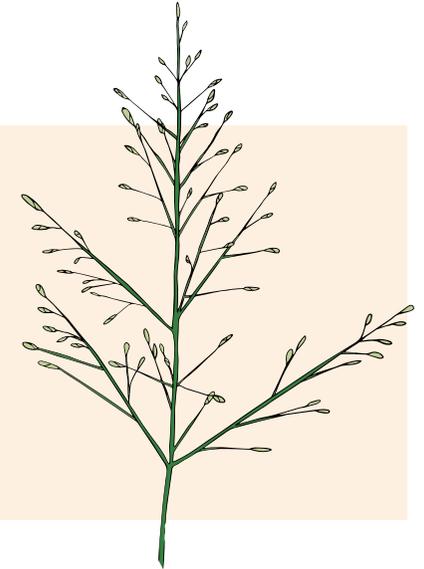
- Grows well in sandy prairies, open forests and sand dunes
- Found across the Great Plains
- Can be found on suitable sites in the parkland and foothills regions

Other Notes

- Best to plant in late spring
- Also referred to as sand reedgrass, prairie sandgrass or sand grass
- Grows alongside sand dropseed and Indian ricegrass

SAND DROPSEED

Sporobolus cryptandrus, native



VARIETY KEY FEATURES

- Long-lived, warm season perennial
- Not palatable to livestock or wildlife
- Stabilizes sandy soils and hills with its extensive root system
- Very prolific seed producer
- Extremely drought tolerant
- Slow to establish

Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Medium
Drought Tolerance	Excellent	Approx. Seeds/lb	5,298,000
Salt Tolerance	Good	Canopy Mature Height	25-100 cm

Natural Habitat

- Found in dry, open sandy woods and in open prairie grasslands
- Common in the shortgrass prairies

Other Notes

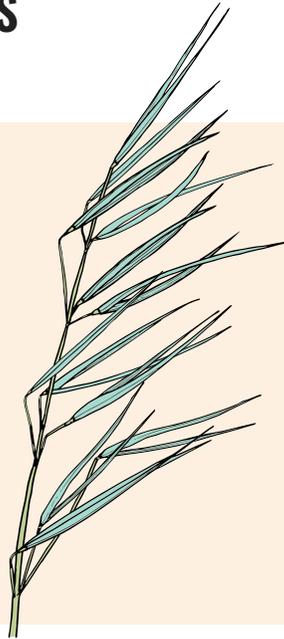
- Grows alongside Indian ricegrass, sideoats grama and bluebunch wheatgrass
- Seed coat is very hard, so it is not uncommon to have 50%+ hard seed on seed test
- Low seeding rate required due to small seed size – recommend 0.56–1.12 kg/ha (0.5–1 lb/ac)

WESTERN PORCUPINE GRASS

Hesperostipa spartea, native

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Light green, shiny leaves
- Mature awns resemble quills of a porcupine
- Can be grazed before seed heads appear
- Natural tendency to establish on disturbed sites
- Good winter hardiness
- Deep root system to stabilize soil
- Can be difficult to establish



Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Fair	Soil Type	Medium to Fine
Drought Tolerance	Good	Approx. Seeds/lb	203,000
Salt Tolerance	Fair	Canopy Mature Height	Up to 100 cm

Natural Habitat

- Found in moist prairies and open areas in the aspen parkland
- Prefers medium-textured loamy soils
- Common in foothills and montane grasslands

Other Notes

- Requires more moisture than needle + thread
- Can be very difficult and expensive to source
- Naturally grows alongside plains rough fescue
- Works well in seed mixes with needle + thread, northern wheatgrass, western wheatgrass, native legumes, green needlegrass, prairie junegrass and blue grama

FESCUE GRASS SPECIES

Fescue grass species belong to the *Festuca* genus, which is closely related to the *Lolium* (ryegrass) genus. This type of grass is found in temperate regions all over the world and can grow in a broad range of habitats. BrettYoung offers five fescue varieties – hard fescue, Idaho fescue, Rocky Mountain fescue, rough fescue complex and sheep fescue – that are a mix of native and introduced species.

Fescue is a cool season perennial grass that generally does well on a variety of soils, except where flooding is a concern (as it has poor flood tolerance). It establishes very quickly and easily, even on bare ground, and can be planted in either the spring or the fall. It has an extensive fibrous root system that makes it a good fit for land reclamation and soil stabilization projects. It's also an attractive grass that is sometimes used as ornamental or turf grass, and it can be used as hay or pasture. Two of our fescue species, hard fescue and sheep fescue, are sometimes used to hold piles of contaminated soil together. They can also be used in golf course roughs and unmaintained areas.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

HARD FESCUE

Festuca brevipila, introduced

VARIETY KEY FEATURES

- Primarily used for erosion control and stabilization of roadsides and trails due to extensive root system
- Can be used to suppress weeds and invasive species (non-invasive)
- Good as groundcover in orchards
- Plant remains green all season long
- Long-lived
- Average forage quality
- Shade tolerant
- Moderately tolerant to cold
- Dark blue-green colour
- Low maintenance species
- Naturally salt tolerant



Natural Habitat

- Cool season perennial
- Originated in Europe and Eurasia
- Through seeding and hybridization, hard fescue is now found throughout North America
- Found on dry to moderately moist disturbed sites
- Adapted to forest margins and openings due to shade tolerance
- Does well on low fertility soils

Other Notes

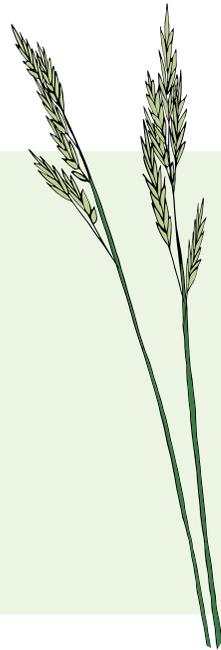
- Will grow on soil piles contaminated with heavy metals
- Can be used as drought tolerant lawn grass
- Not adapted to close mowing
- Suitable for golf course rough



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	680,000
Salt Tolerance	Good	Canopy Mature Height	10-15 cm

IDAHO FESCUE

Festuca idahoensis, native



VARIETY KEY FEATURES

- Bluish-green with very fine leaves
- Resistant to grazing and trampling
- One of the most palatable forages
- Heavily grazed by livestock in fall and wildlife in winter
- Grows in a wide variety of soil types
- Extensive root system makes it suitable for erosion control
- Similar drought tolerance to hard fescue

Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	450,000
Salt Tolerance	Poor	Canopy Mature Height	30-100 cm

Natural Habitat

- Cool season perennial
- Found in open pine and poplar forests and open meadows
- Best suited to deep, fertile silt and clay soils
- Emergence is fair even if germination % is high
- Requires at least two full growing seasons to fully establish

Other Notes

- May also be called bluebunch fescue

ROCKY MOUNTAIN FESCUE

Festuca saximontana, native



VARIETY KEY FEATURES

- Densely tufted with very fine leaves
- Bluish-grey to bright green in colour
- Starts growing very early in spring as snowbanks start to melt
- Good for erosion control on sandy or gravelly soils
- Germinates rapidly
- Drought tolerant
- Heavily grazed by wildlife

Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	475,000
Salt Tolerance	Poor	Canopy Mature Height	10-60 cm

Natural Habitat

- Cool season perennial
- Found in grasslands, dry hillsides, open woods, sandy soils in the moister regions of the Prairies and exposed sites in the Rocky Mountains up to the tree line

Other Notes

- Suited for high-elevation reclamation projects
- Compatible in mixes with prairie junegrass and alpine bluegrass

ROUGH FESCUE COMPLEX

Festuca scabrella, native

VARIETY KEY FEATURES

- Includes northern rough fescue (*Festuca altaica*), foothills rough fescue (*Festuca campestris*) and plains rough fescue (*Festuca hallii*)
- Good early spring protein
- Forage for mule deer and bighorn sheep through fall and winter
- Long-lived, cool season perennial
- Emergence can be poor as high soil moisture is required for adequate emergence
- Requires at least two full growing seasons to fully establish
- Very productive forage
- Will decline in vigour and prominence over time and be replaced by an increase of forbs and grasses
- Plants produce seed only every two years (at the very most), making seed expensive and in short supply



Natural Habitat

- Cool season perennial
- Dominant in transitional zones between dry prairie areas dominated by woody species
- *F. hallii* likes moist prairies and grassy openings in aspen parkland – found in the central to northern parts of the Canadian Prairies
- *F. campestris* likes cool, moist grasslands of the foothills and montane regions – found in the grasslands of the Canadian Rocky Mountains and Cypress Hills
- *F. altaica* likes a wide variety of habitats from gravel outwashes to open pine forest and meadows in the northern subalpine and arctic – found in northern boreal forest and along Canadian Rocky Mountains

Other Notes

- Extremely difficult species to source as it is all wild harvested and does not set seed annually
- Acceptable substitutes are Rocky Mountain fescue or Idaho fescue
- Grows alongside western porcupine grass and awned wheatgrass

Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Fair	Approx. Seeds/lb	200,000
Salt Tolerance	Poor	Canopy Mature Height	<i>F. hallii</i> 20-60 cm <i>F. campestris</i> 30-100 cm <i>F. altaica</i> 30-80 cm



SHEEP FESCUE

Festuca ovina, introduced

VARIETY KEY FEATURES

- Excellent cold tolerance
- Moderate shade tolerance
- More drought tolerant than hard fescue and Idaho fescue
- Primary use is for ground cover and erosion control
- Commonly planted to protect roadsides, ditches, clear-cuts, shelterbelts, ski hills and other recreational areas
- Can withstand moderate equipment traffic
- Low maintenance
- More shade tolerant than hard fescue
- Non-invasive
- Blue-green colour



Natural Habitat

- Cool season perennial
- Native to Europe
- Planted in open forests, mountain slopes and foothill slopes from Alaska to North Dakota
- Adapted to a wide variety of soil conditions

Other Notes

- Can be confused with hard fescue and Idaho fescue
- Often found in association with Mountain Brome, bluebunch wheatgrass, slender wheatgrass, northern wheatgrass, streambank wheatgrass and western yarrow



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	680,000
Salt Tolerance	Poor	Canopy Mature Height	15-30 cm

SALT TOLERANT GRASS SPECIES

Salt tolerant grass species are called this because of one defining characteristic they share: they can establish, grow in, and withstand moderate to high salt concentrations in the soil.

BrettYoung offers three species in this category – inland saltgrass, nuttall's alkaligrass and Fults alkaligrass – which could earn them another descriptive name, as in addition to being very salt tolerant, they are also flood tolerant. All three are rhizomatous and will grow from 25 to 90 cm in height.

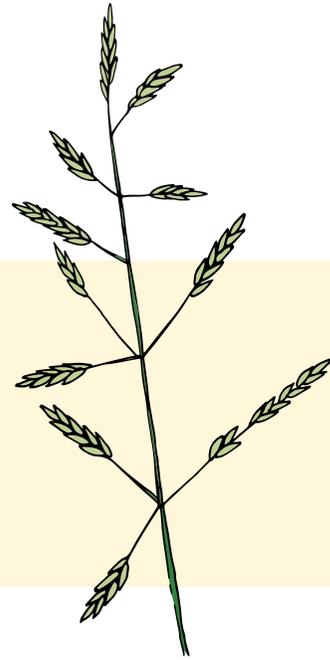
These grasses can be found in many locations, from beaches and coastal estuaries (where they are a popular nesting site for some birds) to desert scrubland and salt flats. The best use for salt tolerant grasses is on marginal land, particularly in areas with saline alkaline soils where they can help stabilize the soil and prevent erosion.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.



FULTS ALKALIGRASS

Puccinellia distans, introduced



VARIETY KEY FEATURES

- Smaller plant than Nuttall's alkaligrass
- Very salt tolerant
- Can withstand partial shade
- Cool season perennial
- Shallow, fibrous root system

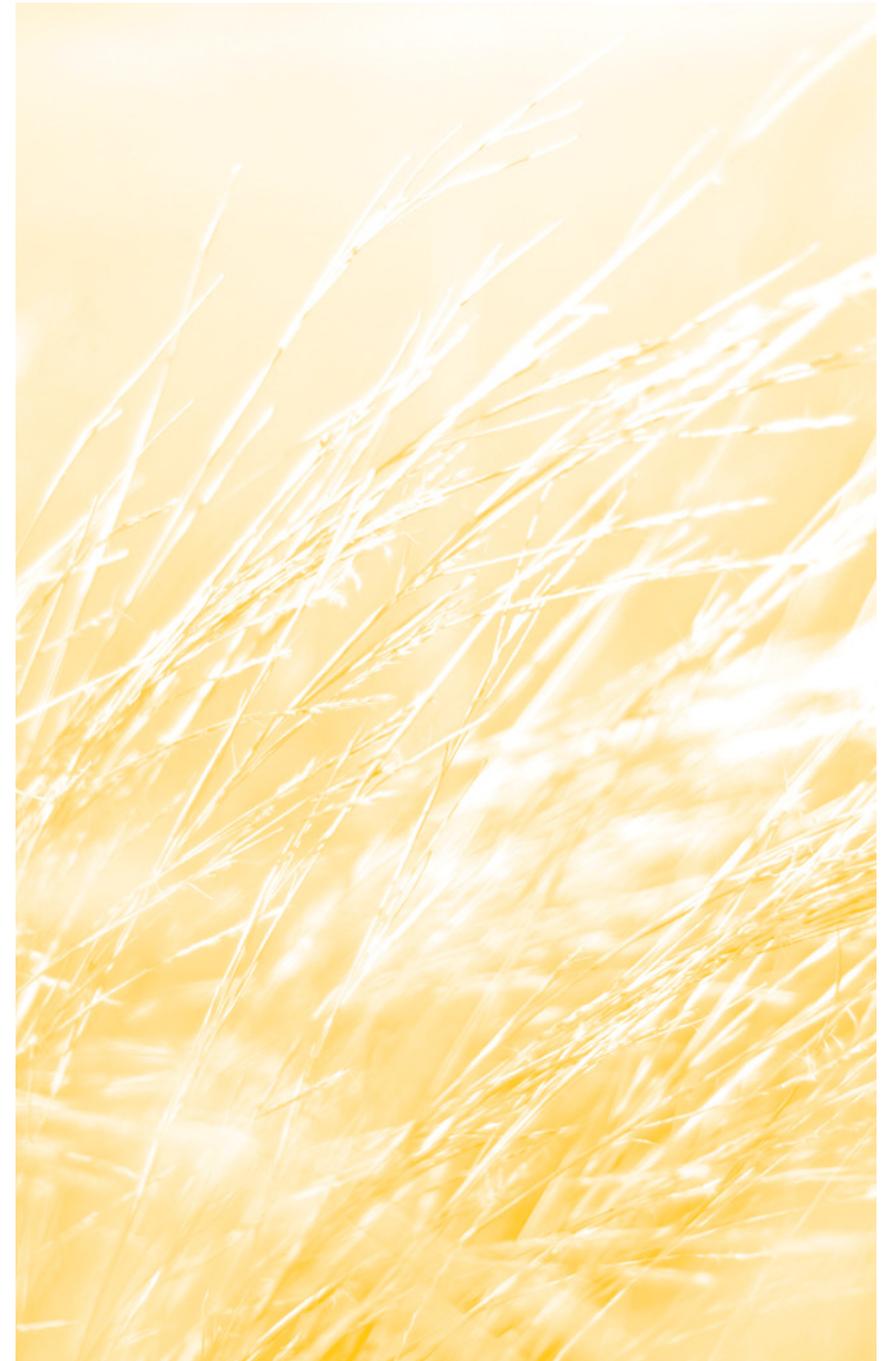
Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Medium to Fine
Drought Tolerance	Fair	Approx. Seeds/lb	1,200,000
Salt Tolerance	Excellent	Canopy Mature Height	30-60 cm

Natural Habitat

- Native to Europe but now present in most of North America
- Likes moist to periodically moist saline soils

Other Notes

- Less expensive and more commercially available than Nuttall's alkaligrass
- Can also be used as a turfgrass



INLAND SALTGRASS

Distichlis spicata, native

VARIETY KEY FEATURES

- Extremely salt tolerant
- Can form dense monoculture stands
- Sod-forming with a hearty root system
- Rhizomes have sharp points that allow roots to spread in hard soils
- Grows easily in salty and alkaline soils, excreting salts via salt glands
- Can grow up to 50 cm tall but is usually shorter
- Plant has solid, stiff stems
- Has green or purple-tinted spikelets
- Nesting grounds for birds
- Resistant to fire



Natural Habitat

- Native to North America
- Widespread throughout North and South America
- Thrives along coastlines, salt flats and disturbed soils
- Found in forests, woodlands, slopes of mountains and desert scrub habitats
- Likes poorly drained soils with high water table
- Warm season grass

Other Notes

- Also known as desert saltgrass
- Can be used in pastures irrigated with salty water
- Can be grazed by cattle and horses
- Fair to good forage value
- Resistant to grazing and trampling



Growth Habit	Rhizomatous	Soil PH	Basic to Saline
Flood Tolerance	Excellent	Soil Type	Medium to Fine
Drought Tolerance	Good	Approx. Seeds/lb	520,000
Salt Tolerance	Excellent	Canopy Mature Height	25-65 cm

NUTTALL'S ALKALIGRASS

Puccinellia nuttalliana, native

VARIETY KEY FEATURES

- Palatable early in the season
- Good forage value with early season nutrient content
- Blue-green leaves
- Generally fairly easy to establish
- Slow growing
- Small yellow flowers
- Can withstand partial shade
- Does not tolerate heavy grazing



Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Medium to Moderately Fine
Drought Tolerance	Fair	Approx. Seeds/lb	2,700,000
Salt Tolerance	Excellent	Canopy Mature Height	30-90 cm

Natural Habitat

- Native to North America
- Widespread from Alaska east throughout Canada to Greenland, and common in the Western and Central United States
- Found in areas with moist alkaline or saline soils
- Found around slough margins and shorelines

Other Notes

- Recommended for sites with infertile, highly alkaline or saline soils
- Most similar is the introduced, related weeping alkaligrass

WARM SEASON GRASS SPECIES

BrettYoung's selection of seven warm season grass species are all native to North America and can be found in tall grass prairie areas in Saskatchewan, Manitoba, Ontario and Quebec. They include big bluestem, which is the official grass of Manitoba.

Our warm season grass offerings are deep-rooted and generally tall, with some growing up to 90 centimetres in height (making them a popular nesting spot for birds). The drought tolerances of these perennial grasses range from good to excellent, and they're known to do well on dry slopes.

These species lack the winter hardiness of cool season grasses and do best in areas with hot summers. Because they need heat to grow, they will typically emerge later on in the spring and then remain lush and green throughout the summer if they have adequate moisture. In the fall, some of these species will turn beautiful shades of deep orange and purple.

Warm season grass species are widely used for soil stabilization projects. Landscapers will frequently turn to them when they're looking to incorporate native grasses, as these grasses have a natural eye-catching aesthetic. One of our warm season grass offerings, switchgrass, has many alternative uses, such as livestock bedding, mushroom compost, and even feedstock for ethanol production.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

BIG BLUESTEM

Andropogon gerardii, native

VARIETY KEY FEATURES

- Warm season perennial
- Plants send out tough, strong rhizomes so the stand becomes sod-forming
- Grows very tall in good soil and moisture conditions
- Base of plant turns purplish-blue as it matures
- Not tolerant to shade
- Tolerant to wildfire
- High protein forage for livestock
- Drought tolerant
- Commonly used for erosion control
- Can be slow to establish
- Provides shelter for nesting birds



Natural Habitat

- Found in shortgrass prairies to coastal plains
- Can tolerate a wide variety of well-drained soils
- Typically does well on low fertility soils
- Dominant species in tallgrass prairies
- Common in open woods, prairies, meadows, along riverbanks and roadsides
- Abundant in lowland prairies, overflow sites and sandy areas

Other Notes

- Official grass of Manitoba
- Can be used in landscaping projects



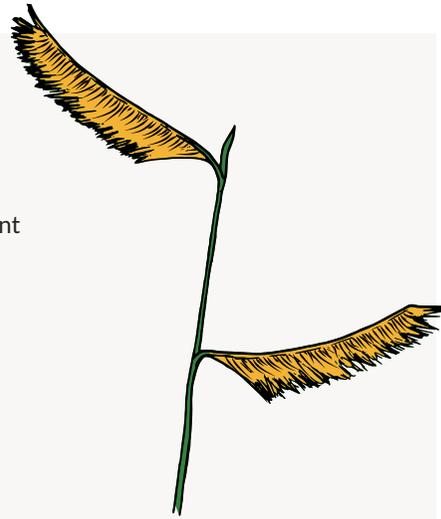
Growth Habit	Bunchgrass to Rhizomatus	Soil PH	Neutral to Basic
Flood Tolerance	Excellent	Soil Type	Moderately Coarse to Fine
Drought Tolerance	Good	Approx. Seeds/lb	130,000
Salt Tolerance	Fair	Canopy Mature Height	1-3m

BLUE GRAMA

Bouteloua gracilis, native

VARIETY KEY FEATURES

- Long-lived, warm season perennial
- Starts growth later in spring
- Not very competitive during establishment but then forms dense mat
- Suitable for revegetating poor, dry soils
- Grazed by livestock and wildlife in fall and early winter
- Resistant to heavy grazing
- Not tolerant to shade or acidic soils
- Tolerant to wildfire



Growth Habit	Bunchgrass to Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Medium to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	825,000
Salt Tolerance	Fair	Canopy Mature Height	10-40 cm

Natural Habitat

- Found on dry grasslands and thin, soiled upland sites
- Common in the dry mixed-grass prairie
- Occasionally found in drier sites in the foothills and Parkland Regions

Other Notes

- Can be used in native plant landscaping and habitat restoration projects
- Also used in golf course rough areas
- Often found in association with buffalo grass, needle + thread, western wheatgrass and green needlegrass

BUFFALO GRASS

Bouteloua dactyloides, native

VARIETY KEY FEATURES

- Warm season perennial
- Short grass
- Resistant to drought, heat and cold
- Palatable for deer
- Use in low traffic areas
- Used for erosion control
- Soft blue-green colour
- Spreads easily via stolons



Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Medium to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	56,000
Salt Tolerance	Fair	Canopy Mature Height	5-13 cm

Natural Habitat

- Common throughout the Great Plains
- Found across Canadian Prairies
- Best adapted to low rainfall areas

Other Notes

- Species should be planted in the spring
- Can be used as a drought tolerant turfgrass

INDIANGRASS

Sorghastrum nutans, native



VARIETY KEY FEATURES

- Warm season perennial
- Bluish-green vegetation during the spring and summer, changing to a showy deep orange to purple in fall
- Tolerant to wildfires
- Used in roadside cover and on areas subject to wind erosion
- Grazed by livestock and wildlife

Growth Habit	Rhizomatous	Soil PH	Acidic to Neutral
Flood Tolerance	Good	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	170,000
Salt Tolerance	Good	Canopy Mature Height	1-2m

Natural Habitat

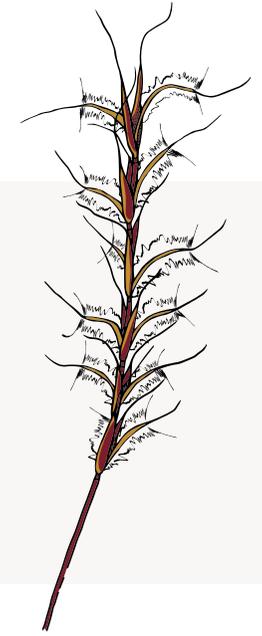
- Found on the tall grass prairies
- Grows in Saskatchewan, Manitoba, Ontario and Quebec
- Common in prairies, open woods, fields and dry slopes
- Grows best in deep, well-drained floodplain soils

Other Notes

- Species should be planted in late spring to early summer
- Often found in association with little bluestem, big bluestem and switchgrass

LITTLE BLUESTEM

Schizachyrium scoparium, native



VARIETY KEY FEATURES

- Warm season perennial
- Light green to purplish leaves
- Turns a beautiful red colour in fall
- Palatable to livestock in early spring
- Grows well on slopes
- Can develop short rhizomes on wetter sites
- Excellent nesting grass for birds

Growth Habit	Bunchgrass	Soil PH	Neutral, Basic, Acidic
Flood Tolerance	Poor	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	260,000
Salt Tolerance	Good	Canopy Mature Height	45-60 cm

Natural Habitat

- Found in prairie grasslands in dry, often sandy rangeland with a high water table
- Grows on south-facing slopes
- Adapted to a wide range of soils
- Very broad geographic distribution, therefore significant ecotype variation

Other Notes

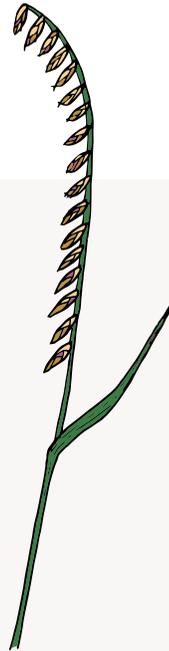
- Species should be planted in late spring to early summer
- Popular species for native landscaping due to vibrant colour and low maintenance

SIDEOATS GRAMA

Bouteloua curtipendula, native

VARIETY KEY FEATURES

- Warm season perennial
- Light green to blue-green leaves
- Drought and cold tolerant
- Used for erosion control
- Good source of forage for livestock and wildlife
- Deep-rooted
- Most adaptive warm season grass
- Can tolerate wildfire damage and spring flooding



Growth Habit	Bunchgrass to Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	191,000
Salt Tolerance	Good	Canopy Mature Height	30-90 cm

Natural Habitat

- Grows well on mountainous plateaus, rocky slopes and sandy plains
- Found throughout Southcentral Canada, the United States, Mexico and down into South America
- Common on prairies, open brush, forest openings and rocky slopes
- Grows in the mixed-grass prairie area of the Great Plains

Other Notes

- Species should be planted in the spring
- Often found growing with little bluestem and blue grama

SWITCHGRASS

Panicum virgatum, native

VARIETY KEY FEATURES

- Warm season perennial
- Hardy and deep-rooted
- Very versatile and adaptable plant
- Grows very tall
- Biomass can be used for ethanol production
- Valuable forage for both pasture and hay for cattle (can be toxic to horses, sheep and goats)
- Grown to control soil erosion
- Provides good habitat for game bird species
- Can also be used for livestock bedding or mushroom compost
- Easy to establish



Growth Habit	Rhizomatous	Soil PH	Acidic, Neutral, Basic
Flood Tolerance	Good	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	389,000
Salt Tolerance	Good	Canopy Mature Height	Up to 2.5m

Natural Habitat

- Dominant species in the tall grass prairies
- Grows well in a variety of soil types, except for wet soils
- Grows along roadsides where moisture is present
- Can be found on streambanks or in open woods

Other Notes

- Also known as tall panic grass or tall prairiegrass
- Often found growing alongside little bluestem, big bluestem, sideoats grama and Indiangrass

WETLAND GRASS SPECIES

As the name implies, wetland grass species thrive in wet habitats like marshes, swamps, ponds, stream banks, sloughs and dugouts. They include many different cool and warm season perennial grasses, so you'll see lots of variation between plants in this category.

BrettYoung carries six types of wetland grasses, of which five are native to North America and one is an introduced species. They all are very tolerant to flooding, while their drought tolerances range from poor to good. Wetland grasses are often used to stabilize soil along ditches, riverbanks and shorelines, and they're also used for lesser-known purposes such as shoring up tailing ponds at mines.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

BLUEJOINT REEDGRASS

Calamagrostis canadensis, native



VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Good source of spring forage for livestock and wildlife
- Very winter-hardy
- Dominant species on disturbed wetland sites – can become a problem weed species for forest stand establishment
- Bluish-green leaves
- Very small seed so generally slow, poor seedling vigour

Growth Habit	Rhizomatous	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Medium to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	2,270,000
Salt Tolerance	Good	Canopy Mature Height	Up to 2m

Natural Habitat

- Found in moist to wet thickets, meadows, streambanks, shorelines, wetlands and meadows
- Native to boreal forest region
- Widely distributed on disturbed sites such as roadsides, abandoned fields, logging landings, harvested forest sites and skid trails

Other Notes

- Also known as Canada bluejoint grass or marsh reedgrass

RED TOP

Agrostis gigantea, introduced



VARIETY KEY FEATURES

- Cool season, introduced species
- Red-tinged at the base of the plant
- Widely used as a pasture grass or hay
- Best source of forage early in the season
- Can also be used in lawns and as golf course turf
- Used for erosion control along riparian zones and wetlands
- Germinates very quickly
- Grows well in acidic, low-fertility soils
- Provides nesting cover for ducks and geese

Growth Habit	Rhizomatous	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Medium to Fine
Drought Tolerance	Poor	Approx. Seeds/lb	4,900,000
Salt Tolerance	Fair	Canopy Mature Height	40-120 cm

Natural Habitat

- Native to Europe, Eurasia and North Africa
- Now widely-distributed throughout North America
- Common in moist depressional areas and disturbed sites
- Well adapted to wetlands and the banks of waterways and ditches
- Prefers the moist mountain areas of the West and humid areas of the Northeast

Other Notes

- Also known as red top bentgrass or carpet bentgrass
- More tolerant to acidic soils than Kentucky bluegrass
- Can become weedy or invasive, so this species should not be planted on a site where revegetation of native species is desired

SLOUGHGRASS

Beckmannia syzigachne, native

VARIETY KEY FEATURES

- Cool season annual or short-lived perennial
- Lower protein content in the leaves compared to upland grasses
- Makes palatable, moderately nutritious but light hay
- Early successional species in wetlands
- Able to reseed itself easily
- Very unique spikelet shape and arrangement



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Medium to Moderately Fine
Drought Tolerance	Poor	Approx. Seeds/lb	1,150,000
Salt Tolerance	Excellent	Canopy Mature Height	20-90 cm

Natural Habitat

- Very common throughout most regions
- Grows along shorelines, wet meadows and ditches
- Also grows on upland sites with good soil and moisture conditions
- Found in shallow marshes or sloughs

Other Notes

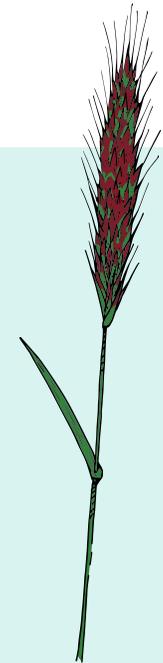
- Also known as American sloughgrass, western sloughgrass or Beckman's sloughgrass

SPIKE TRISETUM

Trisetum spicatum, native

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Densely tufted
- Spike-like seed head that turns brownish-green to purple-tinged
- Mature plants are taller at lower elevations and shorter at higher elevations
- Decent forage value for deer and goats but produces low volume of leaf material
- Resistant to moderate grazing and trampling
- Pioneer species in disturbed areas and along trails
- Extremely cold and fire tolerant



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Moderately Coarse to Medium
Drought Tolerance	Good	Approx. Seeds/lb	2,500,000
Salt Tolerance	Fair	Canopy Mature Height	10-50 cm

Natural Habitat

- Native to North America, South America and Eurasia
- Found throughout Canada and the Northern United States
- Widespread on the Canadian Arctic islands
- Likes Arctic and alpine habitats and mountainous habitats in areas farther south
- Common in foothills, montane and boreal forest regions
- Grows in open woods or on open rocky, often calcareous alpine slopes

Other Notes

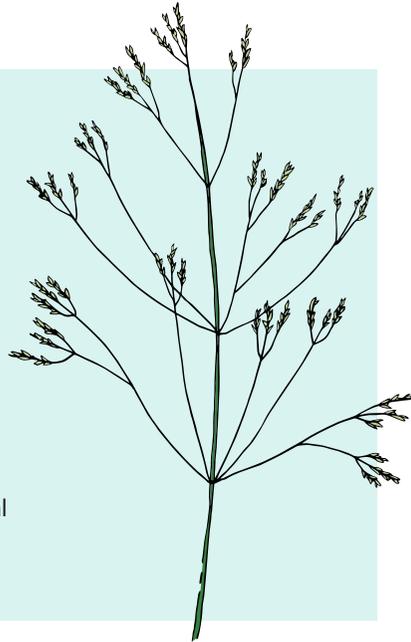
- Often grows in association with tufted hairgrass, red top and Kentucky bluegrass

TICKLEGRASS

Agrostis scabra, native

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Early season growth
- Only palatable to livestock or wildlife early in the spring
- Naturally revegetates sites too barren, rocky or infertile for more desirable species
- Tolerates low pH and acidic soils
- Leaves are rough with tiny hairs
- Has the ability to establish on sites where few other species will grow, such as abandoned coal mines and soils polluted with sulphur, copper and nickel



TUFTED HAIRGRASS

Deschampsia cespitosa, native

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Starts growing early in spring
- Mass of deep-green leaves covering the crown of the plant
- Shallow roots
- Cultivated as an ornamental garden plant
- Tolerant to both acidic and alkaline conditions
- A highly variable species
- Recommended in reclamation seed mixes
- Tolerant to heavy metal contamination
- Highly palatable grass that is resistant to grazing
- Food source for butterflies in North America



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Coarse to Fine
Drought Tolerance	Good	Approx. Seeds/lb	4,000,000
Salt Tolerance	Fair	Canopy Mature Height	30-70 cm

Natural Habitat

- Commonly found in moist depressional areas and on disturbed sites
- Native to North America and can be found from Alaska to Newfoundland
- Grows in meadows, open wood, abandoned fields, dry or open slopes and alluvial flats
- Tolerant to alpine climates

Other Notes

- Related to the introduced species red top
- Also known as rough hairgrass or rough bentgrass

Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Excellent	Soil Type	Medium to Moderately Fine
Drought Tolerance	Fair	Approx. Seeds/lb	1,600,000
Salt Tolerance	Good	Canopy Mature Height	20-120 cm

Natural Habitat

- Widespread distribution globally, including the eastern and western coasts of North America
- Can be found on all types of grasslands but prefers poorly-drained soils
- Habitat includes sloughs, moist draws, wet meadows and streambanks
- Will grow on dry sites at higher elevations

Other Notes

- Species should be planted in the fall

WHEATGRASS SPECIES

Wheatgrass is the common name for a large collection of cool season, perennial plants that used to be all grouped together in the *Agropyron* genus. This genus, however, has undergone significant revisions and some species of wheatgrass have been moved to other grass genera, such as *Elymus* genus, *Pseudoroegneria* genus and *Pascopyrum* genus.

Native to prairie and Grassland Regions, wheatgrass is fairly ubiquitous on the Canadian Prairies, commonly found in ditches, fields and pastures as well as native rangelands and meadows. The 10 wheatgrass species offered by BrettYoung are resilient grasses that can grow under a wide range of conditions. They are drought tolerant, can survive in saline soils and possess good winter hardiness.

Wheatgrass has good grazing value and is generally considered a useful forage plant. It is also used extensively across a broad spectrum of restoration projects, from repairing land disturbed by pipeline installations to revegetating native rangelands.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

AWNED WHEATGRASS

Elymus trachycaulus ssp. subsecundus, native

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Similar to slender wheatgrass but with longer awns and shorter plant
- Pale green to blue-green leaves
- Good forage value, with high protein content in spring
- Makes poor quality hay due to coarseness of stems
- Provides cover for nesting birds and other wildlife
- Heavily grazed by elk in the fall



Growth Habit	Bunchgrass	Soil PH	Basic to Saline
Flood Tolerance	Good	Soil Type	Medium
Drought Tolerance	Good	Approx. Seeds/lb	112,000
Salt Tolerance	Good	Canopy Mature Height	50-100 cm

Natural Habitat

- Commonly found in parkland, montane and foothills regions
- Occurs in higher quality soils and on moist sites in the prairie region
- Will grow in woodland openings up to the tree line in the boreal forest region
- Best adapted to moist, well-drained, non-alkaline loamy soils

Other Notes

- Used extensively in reclamation projects across Canada and into the Northern United States
- Both slender wheatgrass and awned wheatgrass are widely used as early successional grasses to provide early cover, then die back, allowing slower-growing native species to establish

BEARDLESS BLUEBUNCH WHEATGRASS

Pseudoroegneria spicata ssp. inermis, native

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Does not have the long awn typical of bluebunch wheatgrass
- Drought tolerant
- Adapted to a wide variety of sites but intolerant to poor drainage, high water tables and spring flooding
- Starts growing early in spring
- Palatable to livestock and wildlife
- Shorter mature height than bluebunch wheatgrass
- Used to stabilize ditches, dikes and roadsides
- Tolerant to cold and fire



Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	117,000
Salt Tolerance	Fair	Canopy Mature Height	20-90 cm

Natural Habitat

- Common in the southern foothills and southern Rocky Mountain regions
- Grows on dry slopes and in dry, open areas

Other Notes

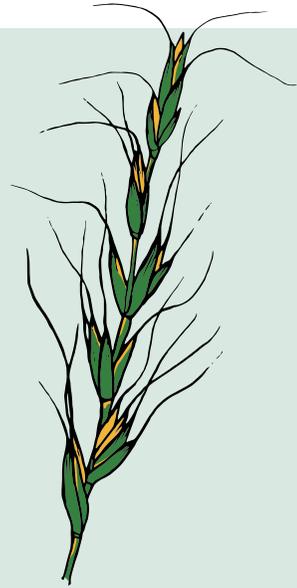
- Grows alongside northern wheatgrass, western wheatgrass, junegrass, Idaho fescue and green needlegrass

BLUEBUNCH WHEATGRASS

Pseudoroegneria spicata, native

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Drought resistant
- Establishes quickly on a wide variety of soil textures, from rocky sites to clay sites
- Can grow on thick, unproductive soils
- Intolerant to poor drainage, high water tables and spring flooding
- Some tolerance to salinity
- Tolerant to cold and fire
- Will decrease with continued heavy grazing or early spring grazing
- Palatable to all livestock and wildlife
- Used to stabilize disturbed soils



Growth Habit	Bunchgrass	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	140,000
Salt Tolerance	Fair	Canopy Mature Height	30-100 cm

Natural Habitat

- Common in the southern foothills and southern Rocky Mountain regions
- Grows on dry slopes and in dry, open areas

Other Notes

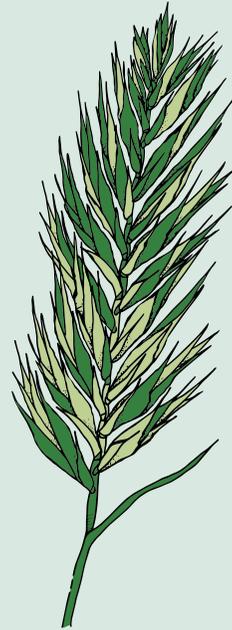
- Grows alongside northern wheatgrass, western wheatgrass, junegrass, Idaho fescue and green needlegrass

CRESTED WHEATGRASS

Agropyron cristatum, introduced

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Commonly recommended for forage production
- Palatable to all livestock and wildlife
- Good protein content, especially in early spring
- Has been used in reclamation in the past due to its extreme drought and cold tolerance, but it can be too persistent and invasive
- Can withstand very heavy grazing
- Well adapted to stabilize disturbed soils
- Fairway type is finer-stemmed for turf and reclamation application
- Very fire tolerant
- Very low maintenance plant
- Easy to establish with high seedling vigour
- Diploid species fairway type



Natural Habitat

- Introduced to North America from western Siberia and Russia
- Adapted to northwest, intermountain and Great Plains regions
- Widespread adaptation to the Prairies in Canada and the United States
- Grows in dry rangeland conditions

Other Notes

- Becoming a less desired species for reclamation projects as it can become very invasive in pastures, rangelands and wastelands
- Also known as fairway crested wheatgrass
- Commonly grown with alfalfa, sainfoin, sweet clover or cicer milkvetch
- For reference, crested wheatgrass stands typically produce 1.5 to 2x more forage than a native grass stand



Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Fair	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	218,000
Salt Tolerance	Good	Canopy Mature Height	30-50 cm

INTERMEDIATE WHEATGRASS

Thinopyrum intermedium, introduced

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Good soil builder due to heavy root production
- Good palatability for livestock and wildlife
- Provides nesting cover for birds
- Can be used for reclamation, pasture and hay
- Useful for fall pasture as plants cure on the stem
- Not a particularly aggressive species so not troublesome in native rangeland
- Used in site stabilization while slower growing native species establish
- Tolerance to alkaline, saline and prolonged flooding is low
- Very fire tolerant



Growth Habit	Rhizomatous	Soil PH	Neutral
Flood Tolerance	Fair	Soil Type	Medium to Fine
Drought Tolerance	Good	Approx. Seeds/lb	88,000
Salt Tolerance	Poor	Canopy Mature Height	Up to 100 cm

Natural Habitat

- Introduced to North America from Europe and Western Asia
- Adapted to a wide variety of sites but prefers moister regions
- Mostly found in Western Canada and the western United States

Other Notes

- Commonly grown with alfalfa
- Closely related to pubescent wheatgrass, but plants have smooth leaves without hairs
- Slightly less drought tolerant and winter-hardy compared to pubescent wheatgrass

NORTHERN WHEATGRASS

Elymus lanceolatus ssp. lanceolatus, native

VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Light green to blue-green leaf blade
- Adapted to a wide range of soil types
- Good protein content for forage grass
- Moderately palatable to livestock and wildlife
- Used as an early successional species as it establishes quickly and spreads readily by rhizomes
- Drought and alkaline-tolerant grass
- Starts growing early in spring
- Widely used for reclamation projects on well sites, pipeline construction, roadsides and mining spoils
- Provides excellent erosion control



Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	154,000
Salt Tolerance	Good	Canopy Mature Height	40-70 cm

Natural Habitat

- Found in prairie grasslands; on dry slopes; in dry, open woods; and on sand hills
- The most common wheatgrass on the northern Great Plains
- Found from British Columbia to Manitoba

Other Notes

- Also known as thickspike
- On saline or alkaline sites, use western wheatgrass instead
- Grown in association with western wheatgrass and needle + thread

SLENDER WHEATGRASS

Elymus trachycaulus ssp. trachycaulus, native



VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Early spring growth
- Germinates and establishes quickly
- Plants typically live for five years
- Drought tolerant
- Palatable and nutritious for livestock and wildlife at all growth stages
- Fairly resistant to heavy grazing

Growth Habit	Bunchgrass	Soil PH	Acidic, Neutral, Basic
Flood Tolerance	Good	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	159,000
Salt Tolerance	Good	Canopy Mature Height	50-150 cm

Natural Habitat

- Prairies and woodland openings of the parkland
- Moist, well-drained soils
- Well adapted to low areas with saline soils
- Native to many grassland communities

Other Notes

- Used extensively in reclamation projects across Canada and into the Northern United States
- Both slender wheatgrass and awned wheatgrass are widely used as early successional grasses — provide early cover, then die back, allowing slower-growing native species to establish

STREAMBANK WHEATGRASS

Elymus lanceolatus ssp. psammophilus, native



VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Closely related to northern wheatgrass but can withstand wetter areas
- Less palatable to livestock and wildlife than northern wheatgrass
- Used for revegetation, erosion control and low-maintenance turf
- Extensive root system
- Not recommended for forage production but palatable to livestock and wildlife, especially in spring when protein is high
- Excellent drought tolerance
- Good seedling vigour
- More drought tolerant than western wheatgrass
- Very fire tolerant

Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Excellent	Soil Type	Moderately Coarse to Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	156,000
Salt Tolerance	Good	Canopy Mature Height	30-50 cm

Natural Habitat

- Commonly found in the northern Great Plains and intermountain regions of the Western United States
- Found in the grasslands of Western Canada
- Adapted to a wide variety of soils

Other Notes

- Often grows in association with bluebunch wheatgrass, western wheatgrass, prairie sandreed, Idaho fescue and green needlegrass

TALL WHEATGRASS

Thinopyrum ponticum, introduced



VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Considered the most salt tolerant wheatgrass species
- Later-maturing plant
- Extremely saline and alkaline tolerant (up to pH 10)
- Good flood tolerance
- Used for reclamation of saline sites
- Leaves have short hairs that make them feel scratchy to the touch
- Less palatable and has lower nutritional value compared to other species because of its coarse stems and tough leaves

Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Moderately Coarse to Fine
Drought Tolerance	Good	Approx. Seeds/lb	79,000
Salt Tolerance	Excellent	Canopy Mature Height	Up to 300 cm

Natural Habitat

- Introduced to North America from Russia
- Adapted for dry roadsides and saline areas
- Found in open forests in Grassland Regions and lower montane zones

Other Notes

- Closely related to intermediate wheatgrass and pubescent wheatgrass but it is not rhizomatous
- Less drought tolerant than slender wheatgrass
- Often grown in association with slender wheatgrass

WESTERN WHEATGRASS

Pascopyrum smithii, native



VARIETY KEY FEATURES

- Long-lived, cool season perennial
- Stiff, bluish-green leaves
- Great salt tolerance
- Starts growth early in spring
- Suitable for range improvement and revegetation of sodic soils
- Good species for disturbed sites where spring flooding is expected but seasonal drought occurs
- Good forage value for livestock and wildlife
- Good soil stabilizer due to extensive creeping rhizomes

Growth Habit	Rhizomatous	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Medium to Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	110,000
Salt Tolerance	Excellent	Canopy Mature Height	30-60 cm

Natural Habitat

- Commonly found in the Grassland Regions and on suitable sites in the foothills and Parkland Regions
- Grows from British Columbia to Ontario
- Found in low-lying areas and on heavy alkaline and saline soils

Other Notes

- Often grows in association with needle + thread and blue grama

WILD RYE SPECIES

Wildrye is a wild cousin of domesticated rye and belongs to the *Elymus* genus, which includes 150 or so species of cool season, perennial plants that are related to rye, wheat and other widely-grown cereal grains. The three wildrye selections offered by BrettYoung – Canada wildrye, dahurian wildrye and smooth wildrye – are all native to North America.

Our wildrye species, which will mature to canopy heights ranging from 40 to 150 cm, are all drought tolerant. They are not long-lived and other native species will grow in once they die out. However, they do establish very quickly, at almost the same rate as a fast-growing cover crop. This makes them excellent soil stabilizers for roadsides and ditches as well as for land reclamation projects in sloped areas. Wildrye is also generally a good forage plant.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.



CANADA WILDRYE

Elymus canadensis, native

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Exceptional seedling vigour and rapid establishment
- Used for stabilizing eroded areas due to deep, spreading root system
- Leaves are flat, wide and waxy looking
- Good quality forage early in the grazing season but then quality and palatability drops off as plants mature
- Shade tolerant
- Good winter hardiness



Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Fair	Soil Type	Coarse to Medium
Drought Tolerance	Good	Approx. Seeds/lb	115,000
Salt Tolerance	Good	Canopy Mature Height	60-150 cm

Natural Habitat

- Native to most of North America
- Commonly found in the prairie and Parkland Regions
- Found on sandy soil, shores, grasslands and dunes
- Grows in woody areas along trails, rivers and streams

Other Notes

- Very closely related to smooth wildrye
- Used as an early successional component of a native seed blend

DAHURIAN WILDRYE

Elymus dahuricus, introduced

VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Primarily used for short-term pasture or hay
- Useful in reclamation projects due to its adaptability, ease of establishment and short lifespan
- Stabilizes surface soil very quickly but has shallow roots
- Good winter hardiness
- Can tolerate up to four weeks of flooding in the spring
- Very salt tolerant



Growth Habit	Bunchgrass	Soil PH	Neutral to Basic
Flood Tolerance	Good	Soil Type	Suitable on All Soil Types (Coarse to Fine)
Drought Tolerance	Good	Approx. Seeds/lb	80,000
Salt Tolerance	Excellent	Canopy Mature Height	100-150 cm

Natural Habitat

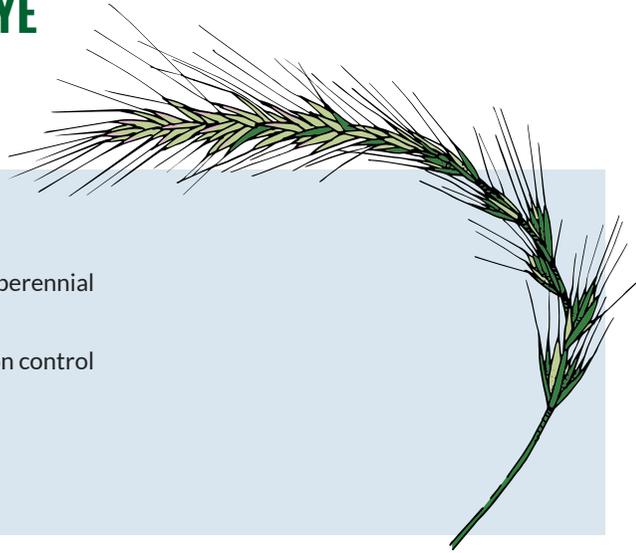
- Native to Siberia, Mongolia and China
- Adapted to a very wide range of soil types across Western Canada

Other Notes

- Grown in association with alfalfa, white prairie clover, western wheatgrass or crested wheatgrass

SMOOTH WILDRYE

Elymus glaucus, native



VARIETY KEY FEATURES

- Short-lived, cool season perennial
- Quick germination
- Highly desired for erosion control
- Shade tolerant
- Blue-green leaves
- Fairly drought tolerant

Growth Habit	Bunchgrass	Soil PH	Acidic to Neutral
Flood Tolerance	Good	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	134,500
Salt Tolerance	Good	Canopy Mature Height	50-120 cm

Natural Habitat

- Native to western North America from Alaska to Ontario
- Commonly found in moist meadows, woodlands or forests at mid-elevations
- Found along the length of the Pacific Northwest

Other Notes

- Also known as blue wildrye or mountain wildrye
- Very closely related to Canada wildrye
- Often grown in association with Idaho fescue and tufted hairgrass



FORAGE VALUE LEGUME SPECIES

The legume family includes a broad variety of plants, some of which are grown for human consumption, such as beans, peas, lentils, and peanuts. Others within this family are grown as livestock forage.

Most of our selections in this category are bloat-free legumes that provide good forage value for farm animals and wildlife because of their high protein content and excellent palatability. They are moderately tolerant to animal traffic and in the summer, they produce a bright display of white, pale yellow, pink or purple flowers that are good at attracting bees, birds, and other pollinators.

Our legume species are fairly quick to establish, will retain water, and are generally able to produce a substantial amount of high-quality, beneficial organic matter. These plants can also improve soil quality by fixing atmospheric nitrogen and helping to circulate soil nutrients. While they are drought tolerant, their tolerance to flooding is quite low.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

CICER MILKVETCH

Astragalus cicer, introduced

VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Very palatable early in the season and makes fair quality hay
- Bloat-free legume
- Can be difficult to establish
- Very winter-hardy
- Flowers are pale yellow to white
- Attracts bees for pollination
- Very drought tolerant
- Performs well in less nutrient-rich soils and disturbed soils
- Seed can remain dormant for a long period of time due to thickness of seed coat



Natural Habitat

- Widely adapted legume
- Native to Eastern Europe and then transported to North America and South America
- Best suited for Rocky Mountain habitats but also flourishes in coastal climates
- Very drought tolerant so does well in climates with less than 36 cm of annual rainfall, such as southern Alberta and Saskatchewan, Idaho, Montana and Wyoming

Other Notes

- Seed is sold coated
- Primarily used in reclamation projects and as a forage
- Seeding rate is 13.45-20.18 kg/ha (12-18 lb/ac)



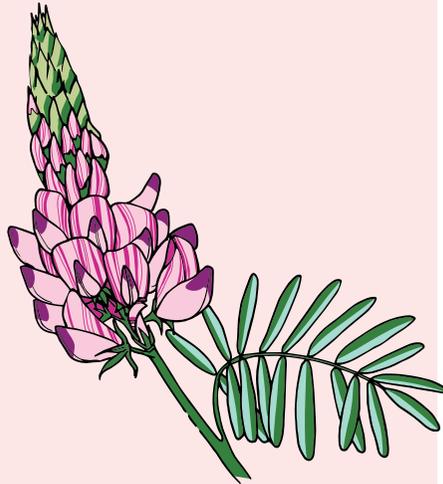
Growth Habit	Rhizomatous	Soil PH	Acidic, Neutral, Basic
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	120,000
Salt Tolerance	Fair	Canopy Mature Height	Up to 60 cm

SAINFOIN

Onobrychis viciifolia scop., introduced

VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Introduced perennial forage legume
- High-quality livestock feed
- High in palatability and protein
- High frost tolerance
- Ideal for late-season grazing
- Produces rosy-pink flowers
- Seed germinates and establishes quickly
- Non-bloating legume
- Matures faster than alfalfa and is a superior honey plant



BRETTYOUNG FORAGE SPECIES

BrettYoung carries an extensive lineup of clover, alfalfa and birdsfoot trefoil. These forage value legumes also play a very important role with pollinators.

Please call your Regional Account Manager (RAM) for information on additional forage species that may be available and for pricing.

Growth Habit	Tap Root	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Coarse to Medium
Drought Tolerance	Good	Approx. Seeds/lb	24,000
Salt Tolerance	Fair	Canopy Mature Height	Up to 1m

Natural Habitat

- Native to areas of Europe and Asia
- Well adapted to western Canadian growing conditions
- Likes open grasslands and meadows

Other Notes

- Cool season legume that can be grown as a monoculture or mixed with grasses

WILDFLOWER SPECIES

BrettYoung sells nine different wildflower selections that are all native to North America. An attractive feature of these cool season, perennial plants is that they will bloom in spring and summer into a bright array of colourful flowers that attract a wide range of pollinators from honeybees to hummingbirds.



While a number of these species are palatable for livestock and wildlife, they typically aren't consumed as a forage source, and some will not persist if they are heavily grazed.

Our wildflower species, which can grow up to 30 to 100 centimetres in height, can improve soil quality by naturally fixing nitrogen in the soil and they're generally drought tolerant. They are often utilized in landscaping and naturalization projects in municipal parks, golf courses and other areas as a way to inject interest and colour.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

AMERICAN VETCH

Vicia americana, native

VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Highly palatable for wildlife and livestock
- Two varieties found in Alberta: *var. americana* is taller and *var. sparsifolia* is shorter and more hairy
- Long-lived, cool season perennial
- Lavender- or fuchsia-coloured flowers
- Flowers May to September
- Used primarily for soil improvement along roadsides and for bank stabilization



Growth Habit	Tap Root	Soil PH	Neutral to Basic
Flood Tolerance	Fair	Soil Type	Moderately Coarse to Fine
Drought Tolerance	Good	Approx. Seeds/lb	33,000
Salt Tolerance	Poor	Canopy Mature Height	15-60 cm

Natural Habitat

- Common throughout most regions of Alberta
- Not generally found in the mountains at higher elevations
- Common in mixed-grass prairie across Western Canada and south to Texas

Other Notes

- Suitable native substitute is northern sweetvetch or any introduced legume
- Also referred to as wild vetch or purple vetch
- Most commonly used vetch in North America
- Not tolerant to heavy or continuous grazing and can be easily grazed out

ARROWLEAF BALSAMROOT

Balsamorhiza sagittata, native

VARIETY KEY FEATURES

- Long-lived perennial
- Yellow flowers
- Flowers spring to summer
- Tolerant to fire, grazing, trampling and drought
- Low to moderate moisture requirements
- Favours full sun



Growth Habit	Tap Root	Soil PH	Neutral
Flood Tolerance	N/A	Soil Type	Moderately Coarse to Moderately Fine
Drought Tolerance	Good	Approx. Seeds/lb	55,000
Salt Tolerance	N/A	Canopy Mature Height	20-60 cm

Natural Habitat

- Common in mountain shrub communities, woodlands and open forests
- Widespread across Western Canada and the Western United States

Other Notes

- Also called Okanagan sunflower and is the official flower for the City of Kelowna, B.C.

BLANKET FLOWER

Gaillardia aristata



VARIETY KEY FEATURES

- Widely adapted, short-lived perennial
- Yellow to reddish flowers
- Flowers spring to summer
- Attracts bees & butterflies due to long bloom period
- Fire resistant & will increase after a wildfire

Growth Habit	Tap Root	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Medium
Drought Tolerance	Good	Approx. Seeds/lb	132,000
Salt Tolerance	N/A	Canopy Mature Height	45-60 cm

Natural Habitat

- Widely adapted, drought tolerant native perennial
- Yellow and red flowers
- Blooms April to September
- Can be found in well-drained soils in grasslands, shrubland, open woodlands, & mountain meadows
- Grows at up to 10,000 ft elevation

Other Notes

- Establishes quickly and can grow into large colonies – especially on disturbed sites
- Fire resistant and will increase after a wildfire
- Attracts pollinators like bees & butterflies
- Use in restoration, erosion control, or landscape projects

BLUE FLAX

Linum perenne, introduced



VARIETY KEY FEATURES

- Short-lived perennial wildflower
- Low moisture requirements
- Favours full sun to part shade
- Sky blue, saucer-shaped flowers
- Flowers spring to summer
- Tolerant to the cold
- Used for habitat restoration, reclamation, roadsides and beautification

Growth Habit	Tap Root	Soil PH	Neutral to Basic
Flood Tolerance	Poor	Soil Type	Moderately Coarse to Medium
Drought Tolerance	Good	Approx. Seeds/lb	293,000
Salt Tolerance	N/A	Canopy Mature Height	30-60 cm

Natural Habitat

- Native to Europe
- Common in foothills, montane and Parkland Regions
- Grows in fescue and prairie grasslands

Other Notes

- Also called perennial flax

CANADA MILKVETCH

Astragalus canadensis, native

VARIETY KEY FEATURES

- Short-lived perennial
- Naturally fixes nitrogen in the soil
- Beautiful white to greenish flowers May to July
- Great for bees
- Attracts hummingbirds and butterflies
- Plants live 3-4 years in general but self-seed
- Good forage value
- Seedlings are slow to establish
- Used in riparian restoration and erosion control
- Not tolerant to extreme cold



Growth Habit	Rhizomatous	Soil PH	Neutral
Flood Tolerance	Good	Soil Type	Medium
Drought Tolerance	Fair	Approx. Seeds/lb	226,000
Salt Tolerance	Good	Canopy Mature Height	30-100 cm

Natural Habitat

- Found throughout Canada and the United States in wetlands, woodlands and prairies
- Likes sunny, moist, well-drained habitats
- Thrives in the grasslands of the foothills and Parkland Regions

Other Notes

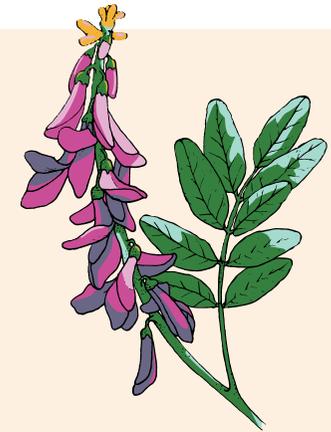
- Suitable native substitute is northern sweetvetch or any introduced legume
- Not tolerant to heavy or continuous grazing and can be easily grazed out
- Closely related to the introduced species cicer milkvetch

NORTHERN SWEETVETCH

Hedysarum boreale, native

VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Native, cool season perennial
- Flowers are white, pink or purple
- Attracts honey bees
- Palatable to livestock and wildlife
- Good soil stabilizer
- Germinates in 6 to 30 days
- Moderately tolerant to grazing



Growth Habit	Tap Root	Soil PH	Acidic to Neutral
Flood Tolerance	Fair	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	45,000
Salt Tolerance	Good	Canopy Mature Height	30-60 cm

Natural Habitat

- Widespread in northern and western regions of Canada and the United States
- Generally grows at 1,200-2,400m elevation
- Very winter-hardy

Other Notes

- Also called Utah sweetvetch or boreal sweetvetch
- Native species substitute for American vetch or Canada milkvetch
- Added to seed mixes to help improve rangeland and grazing
- Seeding rate 15-25 PLS/acre
- Plant in early spring or late fall for best establishment
- Not tolerant to heavy or continuous grazing and can be easily grazed out

PRAIRIE BLOOM WILDFLOWER MIX



VARIETY KEY FEATURES

- Stock blend with 10-15 species of wildflowers that are native to Western Canada
- Grows easily in full sun to part sun and well-drained soils
- Variety of colour, size and flowering timing for naturalized landscaping

Natural Habitat

- Commonly found in the plains and foothills of Western Canada

Other Notes

- Packaged in 0.45 kg (1 lb) bags, which is suitable to cover 371.61 m² (4000 ft²)



PURPLE PRAIRIE CLOVER

Dalea purpurea, native



VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Flowers attract pollinators
- Highly palatable and nutritious
- Wildlife like to graze
- Long-lived, warm season perennial
- Well adapted to very dry conditions
- Flowers are purple to reddish purple
- Nectar and pollen attracts bees, wasps and butterflies
- Prevents soil erosion
- Flowers in the summer

Growth Habit	Tap Root	Soil PH	Neutral
Flood Tolerance	Fair	Soil Type	Coarse to Moderately Fine
Drought Tolerance	Excellent	Approx. Seeds/lb	210,000
Salt Tolerance	Poor	Canopy Mature Height	30-60 cm

Natural Habitat

- Prairie grasslands, dry banks, hillsides and eroded slopes
- Found from Central Canada to the Southeastern and Southwestern United States
- Not found on East Coast or West Coast
- Adapted to areas prone to wildfires

Other Notes

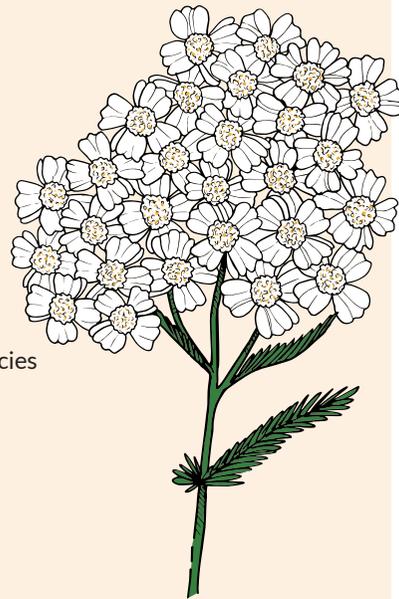
- Excellent blend companion with plants such as little bluestem, big bluestem, junegrass, sand dropseed, sideoats grama, blue grama and buffalo grass
- Not tolerant to heavy or continuous grazing and can be easily grazed out

WESTERN YARROW

Achillea millefolium var. occidentalis, native

VARIETY KEY FEATURES

- Long-lived, native perennial wildflower
- Small, flat white flowers in clusters
- Flowers spring to fall
- Fern-like leaves
- Extremely drought tolerant
- Used for prairie restoration, mine reclamation and roadsides
- Provides pollinator habitat for native bee species
- Can be used for ornamental purposes for naturalized landscapes
- Thrives in recently disturbed soils
- Palatable to livestock and wildlife
- Prefers full sun
- Highly variable plant



Growth Habit	Rhizomatous	Soil PH	Neutral
Flood Tolerance	N/A	Soil Type	Coarse to Medium
Drought Tolerance	Excellent	Approx. Seeds/lb	4,000,000
Salt Tolerance	N/A	Canopy Mature Height	30-100 cm

Natural Habitat

- Common throughout North America on wet or dry sites
- One of the most abundant and widely distributed wildflowers across western North America

Other Notes

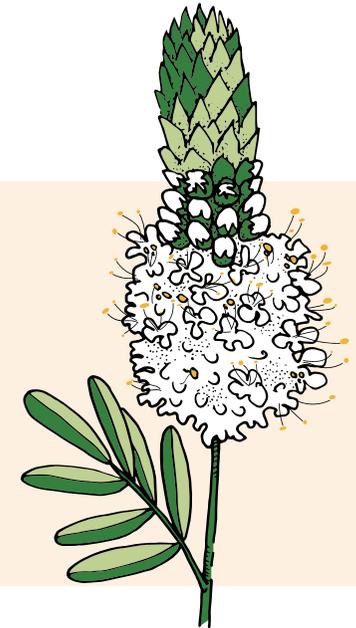
- Smaller and much less aggressive than the introduced white yarrow or common yarrow
- Often grown in association with western wheatgrass, bluebunch wheatgrass, junegrass and sandberg bluegrass

WHITE PRAIRIE CLOVER

Dalea candida, native

VARIETY KEY FEATURES

- Naturally fixes nitrogen in the soil
- Valuable species in reclamation
- Very popular species for pollinators
- Blooms early to midsummer
- Recovers well from wildfire
- Very palatable and high in protein
- White flowers



Growth Habit	Tap Root	Soil PH	Neutral
Flood Tolerance	Poor	Soil Type	Coarse to Medium
Drought Tolerance	Excellent	Approx. Seeds/lb	354,000
Salt Tolerance	Poor	Canopy Mature Height	30-75 cm

Natural Habitat

- Native to North America
- Native to the Canadian Prairies and can also be found in southern foothills and Parkland Regions
- Likes open prairie grasslands, open slopes and hillsides
- Found throughout Central Canada and the United States
- Loves full sun and dry conditions

Other Notes

- Not tolerant to heavy or continuous grazing and can be easily grazed out

COVER CROP SPECIES

Cover crops are frequently used by farmers and contractors as a way to protect their fields or sites from both weeds and erosion – and also as a way to build up soil organic matter in between their primary crops. They can also be quite useful for restoring disturbed areas, since they establish very easily and are a quick way to get that initial ground cover.

The four cover crop species that BrettYoung carries are barley, oats and two types of rye: diploid annual rye and fall rye. They are all annual plants that will typically be replaced by native species as they die off. They can be used for an assortment of soil stabilization land reclamation projects to suppress weeds and help prevent wind and water erosion.

The following illustrations may not be exactly to scale nor the colour of species in its natural environment.

DIPLOID ANNUAL RYEGRASS

Lolium multiflorum, introduced



VARIETY KEY FEATURES

- Cool season annual
- Excellent at soil building due to deep rooting
- Good weed suppression

Growth Habit	Bunchgrass	Approx. Seeds/lb	240,000
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Natural Habitat

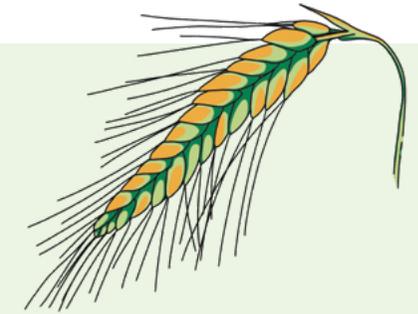
- Introduced to North America but widely adapted to all areas of crop production

Other Notes

- Cover crops can be added to custom blends to help reduce soil erosion by wind and water and to help suppress weed populations while the native species are establishing
- Cover crops can also aid in extending the grazing period
- Can be added to custom seed blends at 5-10% of total blend
- Can grow up to 24-36" tall or 60-90 cm tall
- Good drought tolerance

FALL RYE

Secale cereale, introduced



VARIETY KEY FEATURES

- If planted in early August, fall rye can be available as a fall forage and as a feed source again in spring
- Very cold tolerant
- Extensive fibrous root system

Growth Habit	Bunchgrass	Approx. Seeds/lb	190,000
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Natural Habitat

- Introduced to North America but widely adapted to all areas of crop production
- Favours lighter, low-pH soils

Other Notes

- Cover crops can be added to custom blends to help reduce soil erosion by wind and water and to help suppress weed populations while the native species are establishing
- Cover crops can also aid in extending the grazing period
- Can be added to custom seed blends at 5-10% of total blend
- Can grow up to 1m tall

OATS

Avena sativa, introduced



VARIETY KEY FEATURES

- Cool season annual
- Quick establishment for weed suppression and erosion control
- More water tolerant than Fall Rye

Growth Habit	Bunchgrass	Approx. Seeds/lb	15,000
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Natural Habitat

- Introduced to North America but widely adapted to all areas of crop production

Other Notes

- Cover crops can be added to custom blends to help reduce soil erosion by wind and water and to help suppress weed populations while the native species are establishing
- Cover crops can also aid in extending the grazing period
- Can be added to custom seed blends at 5-10% of total blend
- Can grow up to 1m tall



RECLAMATION BLENDS

In addition to our wide selection of specialty products, BrettYoung offers an exclusive line of seed blends designed to match up with the different natural eco regions that you'll find in Alberta, Saskatchewan and Manitoba. Within each blend is a mixture of perennial grasses best-suited to the specific climate, natural vegetation, soils and landforms in these areas, which include grassland, parkland, foothills, Rocky Mountain and boreal forest regions.

Our blends are sometimes used for native pasture since they can be a good forage source for both livestock and wildlife. However, they're mostly used for general reclamation purposes. Because each bag contains six to eight different grass species, it provides an extra measure of biodiversity that is not only visually appealing, but enables areas seeded with these special blends to stay green longer.

Ask your BrettYoung rep about available reclamation blends to suit your reclamation needs.

Species are subject to change per product availability.

BRETTYOUNG CUSTOM SEED MIXES

Can't find what you need in this Guide?
We've got you covered! Our custom
blending services cater to all our
customers' preferences.

Order through your BrettYoung representative and choose the specific seed lots and percentage of each species in your seed mix (custom blends can contain any combination of native, introduced, or forage species). Our custom blends are packaged in 50-pound bags, with a customizable bag tag for your project name or land location.

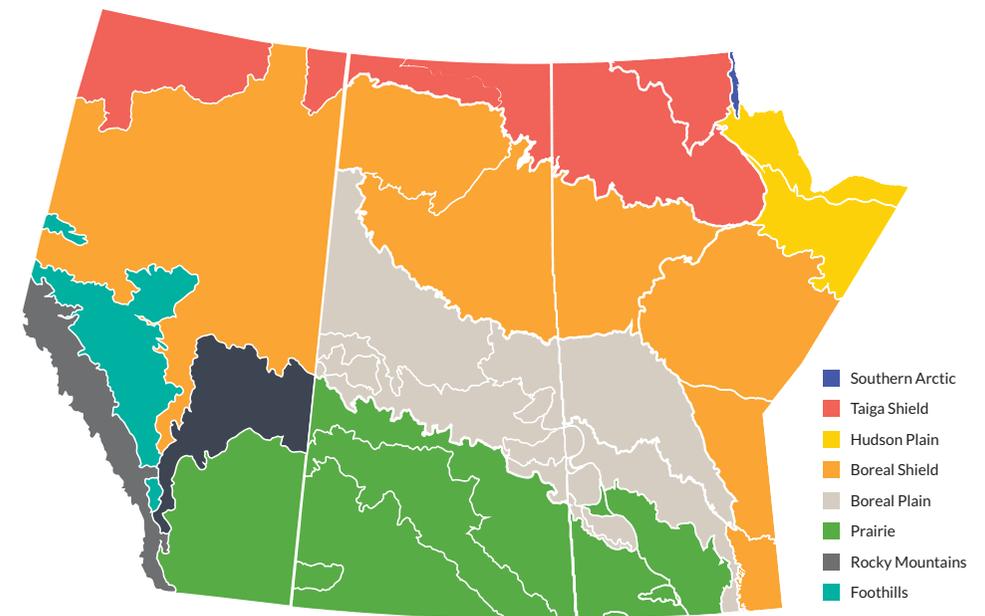
Note, due to high demand, custom blends may require more time to put together in spring and fall — ask your BrettYoung representative about blending requirements and possible fees.



CANADIAN PRAIRIE NATURAL REGION MIXES

In addition to our wide selection of individual seed species, BrettYoung offers an exclusive line of seed blends designed for natural regions across Alberta, Saskatchewan and Manitoba, focusing on the boreal forest, foothills, grassland, parkland and rocky mountain regions. Within each mix is a variety of perennial native grasses best suited to the specific climate, natural vegetation, soils and landforms of these areas.

Our Natural Region Mixes are primarily used for general reclamation purposes but are also a good forage source for both livestock and wildlife and can be used for native pasture. Each bag contains 6 to 8 different native grass species, which provides an extra measure of biodiversity that is not only visually appealing but enables revegetated areas to stay greener longer.



*** Species included in mixes are subject to change based on availability. ***

CANADIAN PRAIRIE NATURAL REGION MIXES

Blends	Alpine Bluegrass	Sandberg Bluegrass	Fringed Brome	Mountain Brome	Green Needlegrass	Needle & Thread Grass	Prairie Junegrass		Idaho Fescue	Rocky Mountain Fescue	Rough Fescue	Blue Grama	Sloughgrass	Tufted Hairgrass	Awmed Wheatgrass	Northern Wheatgrass	Slender Wheatgrass	Western Wheatgrass
Boreal Forest Natural Region Mix			✓				✓			✓			✓	✓	✓	✓		
Foothills Natural Region Mix				✓			✓			✓	✓		✓	✓	✓	✓		
Grassland Natural Region Mix		✓	✓		✓	✓	✓		✓			✓				✓	✓	✓
Parkland Natural Region Mix							✓			✓					✓	✓		✓
Rocky Mountain Natural Region Mix	✓			✓			✓		✓		✓				✓	✓		





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