



BrettYoung™

SEED PRODUCTION

SEED PRODUCTION GUIDE



ALFALFA | CLOVER | FESCUE | RYEGRASS | TIMOTHY | NATIVE GRASS



At BrettYoung, we strive to be a company like no other. We are proud of our strategic partnerships with world-class organizations through which we source leading technologies and genetics.

We are passionate about bringing choice through distinct and leading products that help keep your business profitable while backing them with knowledge and experience.

The ag industry has undergone significant change as consolidation continues and the number of choices declines. Yet BrettYoung remains a family-owned company. We have strong connections to local markets where, along with investment in innovation and infrastructure, we continue to grow our presence.

We succeed in our markets by bringing **distinct** choices that deliver performance and value. By **design**, our success is deeply rooted within your success; the two are intertwined and grow together. We are **Distinct By Design** and we wouldn't have it any other way.

Let's Grow Together

For over 85 years, we have remained passionate about bringing choice through distinct and leading forage and turf seed production opportunities. This breadth of experience and market knowledge has led BrettYoung to become one of the largest forage and turf seed contractors in Canada.

Today, we continue to invest in infrastructure that supports delivery, handling and processing of seed products. We also create long-lasting seed grower relationships and profitable contracting opportunities as your steadfast partner in the field.

When you partner with BrettYoung in seed production, you'll be assigned your very own Seed Production Specialist (SPS) to guide you through the entire production cycle. From scouting and selection of production fields, fertility programs, pest management and growth regulator recommendations to swathing, harvest timing and cover crop management, a dedicated SPS is with you every step of the way to help maximize returns.

See page 2 to find the SPS in your area to learn more about contract production opportunities.

Lastly, we're proud to announce BrettYoung has been recognized with the "**Canada's Best Managed Companies**" designation for the second consecutive year. The award is especially gratifying because it recognizes overall business performance and the efforts of an entire organization. In turn, we want to thank all our customers for trusting in BrettYoung and the products we represent.



SEED PRODUCTION

Producing Seed for BrettYoung

Benefits of Seed Production

Forage and turf seed production is an excellent way to get a head start on next year's seeding, diversify your risk and add some profitable cropping options to your rotation. Forage and turf seed markets have been stable with consistent demand and good prices.

In addition to being some of the more consistently profitable cropping options available to Western Canadian growers, turf and forage seed production also provides agronomic benefits for your farm.

Agronomic Benefits

Turf Seed Production

- Early harvest splits up fall workload
- Increases organic matter, helps improve less productive or marginal soils
- Some species have tolerance to salinity, alkalinity and acidity
- Some perennials have multiple crop years reducing planting season workload

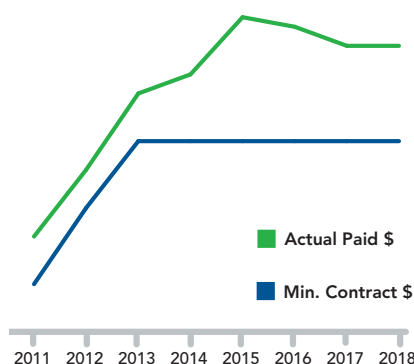
Legume Seed Production

- Improves soil tilth
- Low-input user
- Nitrogen fixation
- Break-crop effect of legumes will benefit following annual crops
- Multiple crop years reduce planting season workload

Economic Benefits

Compared to other commodity crops, forage and turf seed production has an excellent profitability track record. It has consistently pencilled out as a lucrative option for Western Canadian growers. Furthermore, prices for turf seed crops such as perennial ryegrass, annual ryegrass, creeping red fescue and tall fescue have remained strong. Many of BrettYoung's seed production contracts allow growers to lock in these high price levels and do not limit upside, which can really help add to a farm's bottom line.

Perennial Ryegrass Minimum Contract Price and Actual Grower Payments



Grow Seed and Save

Seed Grower Partnership Program

Contract forage and turf seed production with BrettYoung and save with significant cash rebates on purchases of BrettYoung canola, forages and Elite soybeans.

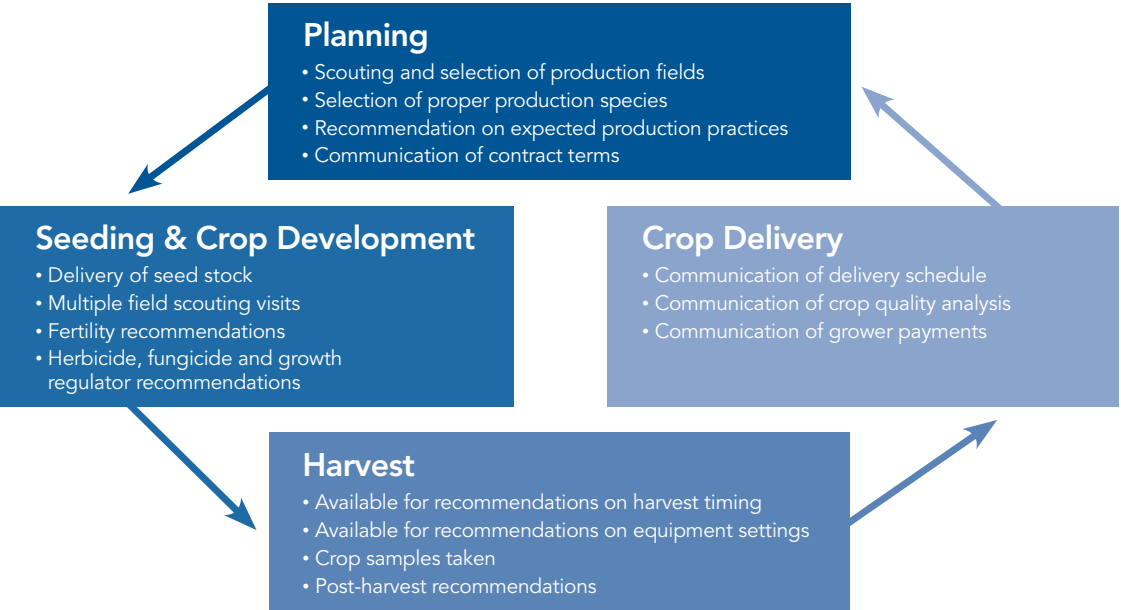
Spring plant a minimum of 150 acres and purchase at least 320 acres of qualifying crop inputs to earn the biggest rebates.



SEED PRODUCTION SPECIALIST SERVICES

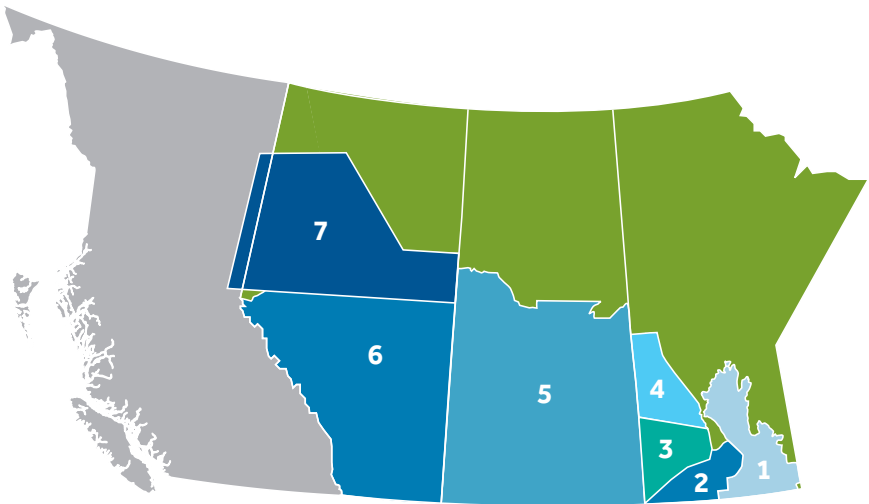
BrettYoung's dedicated team of Seed Production Specialists, with expertise in forage and turf seed production, spans Western Canada. From scouting and selection of production fields, fertility programs, pesticide and growth regulator recommendations, to swathing, harvest timing and cover crop management,

Seed Production Specialists are there every step of the way to help growers maximize returns. Forage and turf grass species have shown strong seed yield increases in Western Canada, and efforts continue to improve agronomics, seed yield and quality.



Contact a BrettYoung Seed Production Specialist in your area to learn more about contract production opportunities.

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ALFALFA

Alfalfa is a long-lived, cool season, perennial legume. It is the most commonly grown forage legume used for livestock production in Western Canada.

Alfalfa seed production occurs throughout the prairies and is exported all over the world. It requires the use of leafcutter bees for adequate pollination.

Field Selection

Alfalfa is adapted to a wide range of soil conditions, but yields best in well drained soils. Starting with a clean field free of perennial weeds is very important. Glyphosate applications in the years preceding alfalfa will help eliminate perennial weeds. Shelter from the wind should be considered as this will benefit the bees during pollination.

Weed Control

Alfalfa's low seeding rate and wide row spacing offer little competition to weeds. However, there are herbicides registered for use in alfalfa. Our Seed Production Specialists can help identify weed control options based on field conditions.

Seeding

Treat the alfalfa seed with a quality inoculant just prior to seeding. Seed alfalfa between 1 and 2 lbs/acre in 10-inch to 24-inch rows. It can be seeded alone or with a cover crop. Flax or cereal crops are recommended as cover crops. Seed alfalfa no deeper than ½ inch into a firm, fine seedbed.

Alfalfa Overview

Seeding Rate	1 - 2 lbs/acre
Row Spacing	10 - 24"
Seed Value (Est.)	\$1.20 - \$1.75 per lb
Seed Yield (Average)	250 - 600 (350) lbs/acre
Seed Production Life	3+ years
Companion Crop	Wheat, flax, canola
Fertility	Legume crop
Harvest Timing	September
Cost of Production	Similar to canola

Disease Control

Alfalfa can be susceptible to leaf and stem diseases. Scout fields regularly to identify diseases and apply appropriate fungicide.

Pollination

Leafcutter bees are necessary for optimum seed set in alfalfa. Management of bees is very labour intensive and requires a substantial initial capital investment. Many seed growers use contract beekeeping services to pollinate the crop.

Harvesting

After pollination, alfalfa seed takes about five to six weeks to mature. Swathing can occur when most of the seed pods are black or brown in colour. Straight combining is a popular option that helps reduce seed losses. In order to straight cut, the crop must be desiccated with an approved pesticide or by a hard frost. Ideal seed moisture is 10.5%.

Seed Yield

Alfalfa seed yields in Western Canada average 350 lbs/acre and can yield up to 600+ lbs/acre. Geographic location and weather conditions during pollination have a significant impact on seed yield.

ANNUAL RYEGRASS

ANNUAL RYEGRASS

Annual ryegrass is planted in the spring and harvested in the fall with many of the same management practices as wheat. It grows well in most areas of Western Canada and can tolerate excess moisture. Annual ryegrass should be one of the first crops planted, preferably into a firm seedbed at about ½ inch deep.

Annual ryegrass is mainly used for annual hay or grazing applications, but it is also used for quick ground cover in some turf mixtures.

Annual Ryegrass Overview	
Seeding Rate	15 - 18 lbs/acre
Row Spacing	6 - 12"
Seed Value (Est.)	\$0.30 - \$0.35 per lb
Seed Yield (Average)	800 - 1800+ (1,200) lbs/acre
Seed Production Life	1 year
Companion Crop	Annual crop
Fertility	Similar to spring wheat
Harvest Timing	Early - mid August
Cost of Production	Similar to oats

Field Selection

Annual ryegrass responds well to moisture and nitrogen. It is adapted to different soil types, ranging from light-textured sandy soils to heavy clay soils. It is important to select a clean field that is free of residual herbicides such as Treflan™ or Edge™.

Weed Control

Wild oats and quackgrass are the worst weed problems. Wild oats and other broadleaf weeds can be controlled with herbicides. There is no in-crop control for quackgrass. Markets demand seed free of wild oats and quackgrass.

Seeding

Conventional seeding equipment can be used. Air drills, air seeders, press drills and hoe drills all work well.

Harvesting

Annual ryegrass must be swathed. Days to maturity is comparable to barley.

Annual ryegrass is usually harvested 7 to 10 days after cutting. Either conventional or rotary combines can be used. Annual ryegrass is considered dry at 11% moisture, but can be harvested at 14% and dried in an aeration bin. Heat cannot be used as it can affect germination.

Seed Yield

Annual ryegrass yields an average 1,200 lbs/acre and can yield up to 1,800+ lbs/acre.

Residue

Straw residue can be an added bonus for cattle producers. It can be removed for livestock feed or bedding. Depending on fall moisture, regrowth can be used for fall grazing or hay.

Production Benefits

- Early seeding – Seeded very early in the spring
- Soil builder – Dense yet shallow root system is concentrated in the top 18 to 24 inches improving water infiltration and enhancing soil tilth
- Forage regrowth quality – High feed value and palatable regrowth lasting into the fall
- Straw residue – After the seed crop is harvested mid-summer, straw residue can be used for feed and bedding. Annual ryegrass straw has shown higher protein than cereal crops

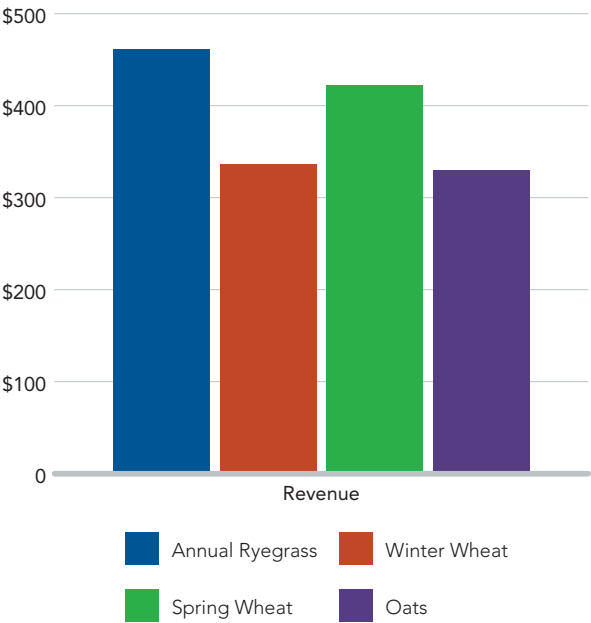
Benefits of Baled Straw after Seed Harvest

The straw residue (after seed crop harvest) has shown 8-10% crude protein and can make up to 75% or more of a wintering cow's diet. The amount of dry matter feed a cow will eat can be predicted based on feed quality. Cows eating good quality feed will ingest between 2.0 to 2.25% of their body weight daily. Poor quality feed will be consumed at the rate of around 1.25% of body weight daily.

Benefits of Regrowth after Seed Harvest

After the seed crop is harvested early in mid summer, the aggressive regrowth is suitable for grazing or baling. Grazing or haying regrowth provides late-season feed that can exceed 65% digestible dry matter and 20% crude protein delivering outstanding animal performance.

Revenue Comparison to Cereal Crops



Only Annual Ryegrass seed price is used in this calculation. Does not include straw or hay/grazing regrowth value.



PERENNIAL RYEGRASS

Perennial ryegrass is a short-lived perennial grass with a shallow fibrous root system. It is a low-growing, bunch-type grass with short leafless stems. Perennial ryegrass is readily used in turf applications around the world.

Managed as a biennial crop, it is seeded one year and harvested the next, resulting in one year of seed production. It is typically underseeded with wheat, oats or canola.

Perennial Ryegrass Overview	
Seeding Rate	8 lbs/acre
Row Spacing	7 - 15"
Seed Value (Est.)	\$0.55 - \$0.65 per lb
Seed Yield (Average)	500 - 1,500+ (850) lbs/acre
Seed Production Life	1 year
Companion Crop	Wheat, oats, canola
Fertility	High nitrogen user
Harvest Timing	Late July - early August
Cost of Production	Similar to spring wheat

Field Selection

Perennial ryegrass responds well to moisture and nitrogen. It is adapted to different soil types, ranging from light-textured sandy soils to heavy clay soils. The field must be free of residual herbicides such as Edge™, Treflan™ and others. It is important to review the herbicide history of the field before planting. As well, a field that has had glyphosate applications and is clean of quackgrass is essential.

Weed Control

Wild oats, cleavers and quackgrass are the worst weed problems. Wild oats, cleavers and other broadleaf weeds can be controlled with herbicides; however, there is no in-crop control for quackgrass.

Seeding

Conventional seeding equipment can be used. Seeded at 8 lbs/acre, air drills, air seeders and hoe drills work well.

Harvesting

Perennial ryegrass must be swathed, usually in late July to early August. It is earlier than most crops so it can help split up harvest. Harvesting usually takes place about 5 to 7 days after cutting, depending on weather. Perennial ryegrass is considered dry at 11% moisture, but can be harvested at 14% or 15% when dried in an aeration bin. Heat cannot be used as it can affect germination.

Seed Yield

Perennial ryegrass produces an average yield of 850 lbs/acre net clean seed. Perennial ryegrass can yield up to 1,500+ lbs/acre with proactive growing plans and ideal conditions.

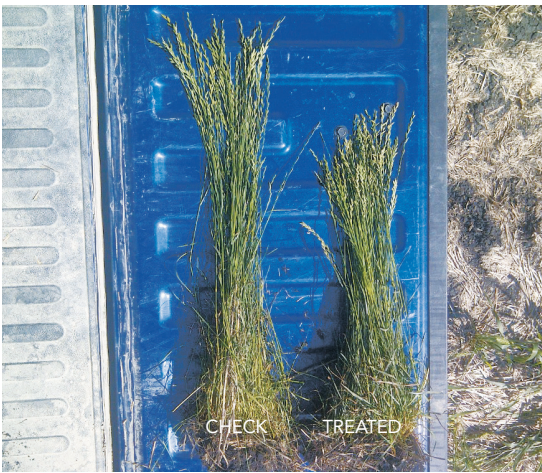


PLANT GROWTH REGULATOR

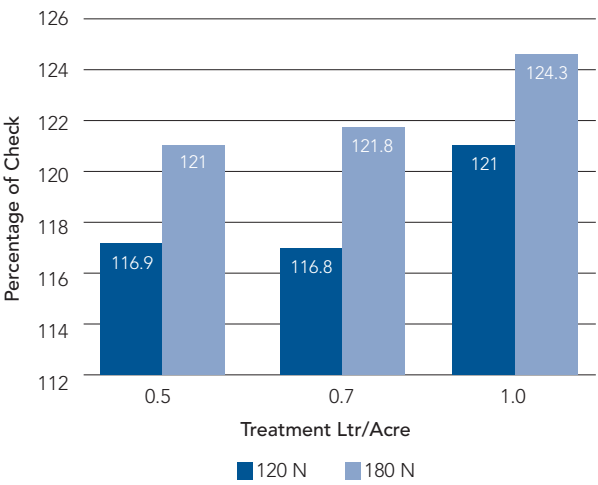
Take Your Profits to the Next Level

Plant growth regulators, when used in the appropriate conditions, have shown many benefits for perennial ryegrass seed production. Western Canadian seed growers have experienced a decrease in plant height, reduction in lodging and increased seed yield. Less plant biomass has allowed for faster swathing and harvesting speed, and generally improved management of the crop.

Consider using a qualified Plant Growth Regulator when moisture is conducive to average or better plant growth. Consult a Seed Production Specialist if you would like a recommendation on field suitability and application timing.



Parlay Plant Growth Regulator and Fertility Ramping Seed Yield Trial



Manitoba Forage Seed Association trials explored the effect of nitrogen ramping and Parlay® plant growth regulator application on lodging and seed yield in perennial ryegrass. The MFSA trial tested two fertility treatments: 120 lbs N and 180 lbs N, and 3 different Parlay treatments: 0.5L/ac, 0.7L/ac, and 1.0L/ac. Higher Parlay application rates resulted in greater seed yield and shorter plant height which significantly reduced lodging.

When using a Plant Growth Regulator in seed production, it is recommended that you always read and follow label instructions.

Source: Trial data collected from multiple test sites in Manitoba, courtesy of Manitoba Forage Seed Association.



TALL FESCUE

Tall fescue is a long-lived perennial grass with a deep root system. It is a cool-season bunch grass that is well adapted to poorly drained soils, as well as tolerance to salinity, alkalinity and acidity. Due in part to its versatile characteristics, tall fescue is readily used for professional turf and home lawn applications around the world.

Tall fescue needs one year to establish with no seed production in the year of planting. Expected seed production can range from 2 to 3 years. The crop is typically underseeded to wheat or planted without a cover crop.

Tall Fescue Overview	
Seeding Rate	4 - 6 lbs/acre
Row Spacing	7 - 15"
Seed Value (Est.)	\$0.55 - \$0.75 per lb
Seed Yield (Average)	500 - 1,500+ (700) lbs/acre
Seed Production Life	2 - 3 years
Companion Crop	None, flax, wheat, canola
Fertility	High nitrogen user
Harvest Timing	Mid - late July
Cost of Production	Similar to spring wheat

Field Selection

Tall fescue responds well to moisture and nitrogen. It is adapted to different soil types, ranging from light-textured sandy soils to heavy clay soils.

The field must be free of residual herbicides such as Edge™, Treflan™ and others. It is important to review the herbicide history of the field before planting. A field that has had glyphosate applications and is clean of quackgrass is essential.

Weed Control

Wild oats, cleavers and quackgrass are the worst weed problems. Most broadleaf weeds can be controlled with herbicides; however, there is no in-crop control for quackgrass.

Seeding

Tall fescue is seeded at 5 lbs/acre and conventional seeding equipment can be used.

Harvesting

Tall fescue must be swathed, usually in mid to late July. It is earlier than most crops, which can help split up the harvest. When swathing fescue, some shattering will occur, therefore, swathing at night or early in the morning is recommended.

Harvesting usually occurs about 5 to 7 days after cutting, depending on weather. Tall fescue is considered dry at 11% moisture, but can be harvested at 14% or 15% and dried in an aeration bin. Heat cannot be used as it can affect germination.

Seed Yield

Tall fescue yields an average 700 lbs/acre and can yield up to 1,500+ lbs/acre.

TALL FESCUE

While tall fescue can tolerate adverse soil conditions, it is recommended to plant on productive land for the best seed production results.

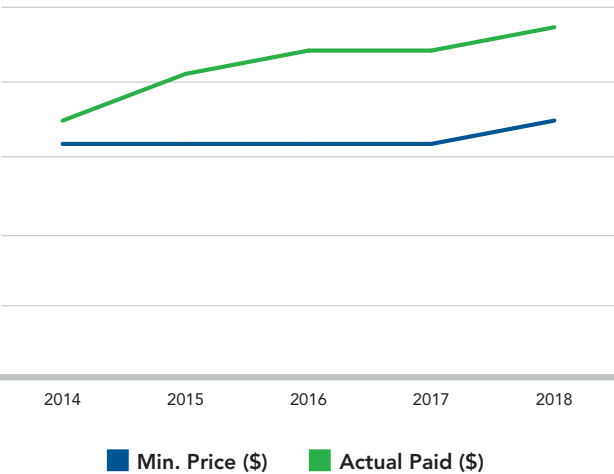
Production Benefits

- Multiple crop years reduce workload during planting season
- Early harvest splits up fall workload
- Ease of harvest – Easy to swath and combine
- Good standability for a grass species
- Increases organic matter
- Tolerance to salinity, alkalinity and acidity
- Break-crop effect of grasses has been shown to benefit annual crops

Contracting Seed Production

Compared to other commodity crops, turfgrass seed production has an excellent profitability track record. Many of our seed production contracts allow growers to lock in high price levels and do not limit upside, which can really help add to a farm's bottom line. Over the last five years, BrettYoung has consistently paid above the minimum contract price for tall fescue seed production.

Tall Fescue 5 Year History



CREEPING RED FESCUE

Creeping red fescue is a long-lived perennial but the seed production life of a stand is typically short, lasting one or two years. On rare occasions, a third year may be harvested.

Creeping red fescue seed is used for turf, forage and reclamation purposes. The largest end use market is low maintenance turf applications.

Creeping Red Fescue Overview	
Seeding Rate	2 - 3 lbs/acre
Row Spacing	7 - 15"
Seed Value (Est.)	\$0.65 - \$0.90 per lb
Seed Yield (Average)	400 - 1100+ (650) lbs/acre
Seed Production Life	2 years
Companion Crop	None, wheat
Fertility	Low requirements
Harvest Timing	Mid July
Cost of Production	Low

Field Selection

Creeping red fescue must be established in fields free of perennial weeds and other volunteer grass crops as possible. It can be grown on a wide range of soil types including clay, loam and sandy loam soils when moisture is adequate. It tolerates soil acidity well and is somewhat tolerant to soil salinity.

Creeping red fescue tends to perform best in areas that receive high levels of precipitation, especially when the precipitation is received in the fall or early spring. It is extremely important to review your past cropping history and herbicide use as creeping red fescue seedlings can be seriously injured by herbicide residues applied in previous years.

Weed Control

Wild oats, cleavers and quackgrass are the worst weed problems. Most broadleaf weeds can be controlled with herbicides; however, there is no in-crop control for quackgrass.

Seeding

Most conventional seeding equipment can be used. Seeding rates vary from 1 to 5 lbs/acre.

Harvesting

Swathing is typically the third or fourth week of July and is generally 20 to 30 days after pollination. Timing of swathing is field dependent and seed head stage should be monitored often to avoid swathing too early or too late. Seed moisture should be 12.5% or less before harvesting unless it is aerated without heat.

Seed Yield

Seed yields vary depending on the age of the field and moisture conditions. Creeping red fescue yields an average 500 lbs/acre and can yield up to 1,100+ lbs/acre.

CLOVER

Clover species are short-lived, perennial legumes that are grown across the prairies. They are generally quick to establish, producing high quality forage. Primary clover uses include hay, silage and soil improvement – due to an ability to grow in a wide range of soils, climates and fix nitrogen.

The primary species of clover grown for seed in Western Canada are red, sweet and alsike.

Field Selection

Clover should be established with a cover crop such as wheat, flax or oats. Canola is not a recommended cover crop as volunteer seeds may germinate in the year of production causing concern with export regulations.

Clover yields best in well drained soils. When selecting fields it is important to review the herbicide history as chemical residues can affect germination. Select a field that is clean and free of perennial weeds such as Canada thistle.

Weed Control

Herbicides are available to control broadleaf and grassy weeds; however, options are limited. Once established, clover offers significant weed competition.

Seeding

Clover seed must be treated with the proper inoculant. Conventional seeding equipment can be used. Clover must be seeded into a moist, firm seedbed. Recommended seeding rates range from 1 to 8 lbs/acre.

Pollination

Clover must be cross pollinated to produce seed. Consistent yields are obtained by introducing colonies of honeybees to the field. Native pollinators such as bumblebees also aid in seed production.

Harvesting

Clover can be either swathed or desiccated and straight combined. Seed can shatter easily, so proper harvest timing is critical. Seed can safely be stored at 11% moisture.

Seed Yield

Red Clover yields an average 275 lbs/acre and can yield up to 500+ lbs/acre.

Alsike Clover yields an average 400 lbs/acre and can yield up to 600+ lbs/acre.

Sweet Clover yields an average 300 lbs/acre and can yield up to 500+ lbs/acre.



TIMOTHY

Timothy is a medium-lived, cool-season perennial bunchgrass with a fibrous root system. The crop performs very well under cool, moist conditions.

Timothy is a commonly used forage ingredient in most hay and pasture mixes. It is also grown in pure stands producing high quality hay that is consumed domestically and exported globally.

Field Selection

Timothy is a low input crop that grows well on poorly drained, low producing soils. Timothy is fairly tolerant to flooding in the spring.

The field must be free of residual herbicides such as Edge™, Treflan™ and others. It is important to review the herbicide history of the field before planting. Glyphosate should be applied in the years prior to seeding to help eliminate perennial weeds.

Weed Control

Herbicides are available to control broadleaf weeds. However, there are few herbicide choices available for controlling wild oats and green foxtail. Once established, timothy provides significant crop competition.

Seeding

Timothy is a very small seed that must be sown shallow into a firm seedbed. Cover crops such as wheat, oats and flax may be used. Timothy is seeded at 2 lbs/acre.

Harvesting

Timothy must be swathed, usually in early August. It is earlier than most crops, which can help split up harvest.

Timothy Overview

Seeding Rate	2 lbs/acre
Row Spacing	7 - 15"
Seed Value (Est.)	\$0.65 - \$0.85 per lb
Seed Yield (Average)	200 - 600+ (400) lbs/acre
Seed Production Life	3+ years
Companion Crop	Flax, wheat, none
Fertility	Low requirements
Harvest Timing	Mid August
Cost of Production	Low

Harvest timing is 5 to 7 days after cutting, depending on weather. Timothy is considered dry at 10% moisture, but it can be harvested at 14% or 15% and dried in an aeration bin. Heat cannot be used as it can affect germination.

Seed Yield

Timothy yields an average 400 lbs/acre and can yield up to 600+ lbs/acre.

Residue

Timothy straw must be removed from the field at harvest. The straw has relatively good feed value for livestock.



NATIVE GRASS

At BrettYoung, our native seed experts know the business inside and out, and we have the quality control to ensure the best purities and germination. We start by being very particular — we grow and source only the cleanest seed that is third-party verified.

Our team of Seed Production Specialists partner with skilled Canadian growers to produce the highest quality native seeds. Western Canada is known for its pure and carefully-protected production region, so you can have confidence in our seed.

Our global reach extends well beyond our borders into the United States, Europe, China and other major markets providing assurance that native seeds are marketed quickly and at top dollar.

Reach out to your regional Seed Production Specialist if you are interested in growing or marketing native seeds with us.

List of species:

- Alkaligrass
- Bluegrass
- Bromegrass
- Clover
- Dryland
- Fescues
- Vetch
- Wetland
- Wheatgrass
- Wildrye
- Others



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