



**Canadian
Seed Trade Association**

**L'Association Canadienne
du Commerce
des Semences**



Canadian Seed. Ready to do business with the world.



Canada is an international leader in agriculture and agri-food. In tandem with our global expertise in agriculture, Canada continues to be a leading producer of high-quality seed that is in strong demand in the international marketplace.

Canada covers a wide variety of climatic zones and encompasses an incredibly fertile land base, enabling producers to grow many of the major field crops produced around the world.

Canada has also implemented an aggressive private and public plant breeding strategy. As a result, Canadian plant breeders have developed cultivars adapted for a broad range of climatic zones and soil conditions. They have also incorporated innovative agronomic, processing and nutritional traits into germplasm. This puts Canada in the enviable position of having a wide selection of seed varieties and hybrids that are sought after all over the world.

Canadian seed companies and plant breeders are involved in many aspects of the international seed trade, including:

- variety and germplasm exchange agreements;
- multi-national research and development efforts;
- contractual agreements for production of seed for export and import;
- marketing new varieties imported into Canada; and,
- marketing new varieties abroad.

We continue to develop strong expertise in forages, and have cultivated canola as a Canadian success story. We also lay claim to developing many new and internationally competitive varieties of corn, soybeans, cereals, oilseeds and pulse crops.

Canada is known for its adoption of leading-edge technologies. Whether it be biotechnology, genomics, molecular toxicology, or other plant-breeding advances such as marker-assisted plant breeding, or doubled haploid techniques, Canada continues to be at the forefront in research and development initiatives.

What is also important is that Canada boasts modern seed regulations, quality and purity standards and intellectual property protection – helping enhance our competitiveness as we keep pace with the needs of a changing world.

Welcome to Canadian seed – meeting a world of opportunities.

CSTA: The Voice of the Canadian Seed Industry

Who We Are & What We Do

Members of the Canadian Seed Trade Association (CSTA) develop, produce and market high-quality seed for field crops and home gardens.

CSTA represents its members with stakeholders at the government and industry level. In addition, CSTA fosters the development of international markets, and works with industry and affiliated organizations in Canada and abroad to address issues of mutual concern.

CSTA Mission Statement

Through the collective efforts of our membership, the CSTA is committed to fostering an environment conducive to researching, developing, distributing and trading seed and associated technologies, with the goal of bettering the choices and successes of our customers.

The world comes to Canada
for our forage seed.



Forages & Turf

Forages

The world comes to Canada for our forage seed. Canada offers millions of acres of fertile soil and the right climate for the highest quality forage production. Forage seed producers make optimum use of this production potential by processing their seed in world-class facilities, operated with a commitment to quality.

Canada is a leader in the breeding of forages for a wide variety of markets and climates, with private and public varietal development programs focused on species such as alfalfa, clovers, timothy and others. Canadian forages are produced for a complete range of forage uses, including pasture, hay and haylage harvesting, soil conservation cover crops and for aesthetic and turf purposes.

Canada offers wide flexibility in production and marketing opportunities for forage seed. CSTA members produce seed for domestic and export markets. Large volumes of seed are also grown under contract to out-of-country clients.

Turf

Canadian turf seed is setting the international standard for seed quality. To document this, CSTA has established the Professional Quality Seed program, which CSTA members can use to identify seed that meets rigorous purity and performance standards. These standards are even more exacting than Canada's already high federal seed standards.

CSTA members market a variety of turf species for a wide range of uses from golf courses to lawn seed.

Forage seed produced in Canada includes:

Legumes

Alfalfa

(Medicago spp.)

Alsike clover

(Trifolium hybridum)

Birdsfoot trefoil

(Lotus corniculatus)

Cicer milkvetch

(Astragalus cicer)

Red clover

(Trifolium pratense)

Sainfoin

(Onobrychis viciifolia)

Sweet clover

(Melilotus spp.)

Grasses

Bluegrass

(Poa spp.)

Bromegrass

(Bromus spp.)

Creeping red fescue

(Festuca rubra)

Fescue

(Festuca spp.)

Orchard grass

(Dactylis glomerata)

Reed canary grass

(Phalaris arundinacea)

Ryegrass

(Lolium spp.)

Timothy

(Phleum spp.)

Wheatgrass

(Agropyron spp.)

Canada's turf seed production includes:

Creeping red fescue

(Festuca rubra)

Kentucky bluegrass

(Poa pratensis)

Perennial ryegrass

(Lolium perenne)

Turf-type tall fescue

(Festuca arundinacea)



Canola (*Brassica napus* – *Brassica rapa*)

Canola is a great Canadian success story. Now, canola is creating more successes all around the world, thanks to the superb nutritional profile of its vegetable oil.

Developed by Canadian breeders in the 1970s, the low-erucic and low-glucosinolate relative of oilseed rape has become Canada's number one oilseed for domestic and export markets. Its low saturated fatty acid content makes it the preferred choice for more and more nutritionists and food processors.



Canadian canola varieties are favourites with farmers too. Intensive breeding programs are continuously producing varieties adapted to the wide range of climatic and soil conditions across the Prairies and Eastern Canada. This makes them broadly adapted for production around the world. Varieties have strong pest and disease resistance and stress tolerance for consistent, excellent yields.

New specialty canola varieties are bred to produce a fatty acid profile that makes them superior for specific nutritional and industrial uses. In this respect, one could say that canola is a Canadian success story that is still unfolding.

Canola is a great Canadian success story.



Hybrid Corn *(Zea mays)*

Canadian hybrid seed corn is an excellent choice for the world's fastest expanding corn regions. Southern Ontario reaches southward into the heart of the North American corn belt. As a result, Canada provides a unique range of opportunities for seed corn production, ranging from the 'midwest' to the earliest limits of corn adaptation.

Surrounded by the Great Lakes – the largest fresh water system in the world – the climate in Southwestern Ontario is mild and consistent. Canada's growers are specialized, experienced seed corn producers. It all adds up to dependable yields of excellent quality seed corn for hybrids rated at FAO 500 (110 -115 days) maturity or less.



The Canadian seed corn industry is also an excellent source for filling contract seed production needs.

Canadian hybrid seed corn is an excellent choice for the world's fastest expanding corn regions.



Cereals

Canada is favoured with some of the world's best soils and climates for cereal production. It takes more than natural resources, however, to explain our international reputation for the highest quality wheat, barley and oats. It also takes top varieties, top seed processing facilities and top quality seed production standards.

Private and public breeding programs produce wheat varieties that have excellent milling and processing characteristics, while also providing the yield and the pest and disease resistance traits needed by growers.



Canada is also a leading producer of malting barley, based on varieties bred specifically for the quality needs of this market. In addition to malting, a significant amount of Canadian barley is used for feed grain. New varieties offer enhanced stress tolerance and pest resistance, coupled with higher genetic yield potential for stronger, more dependable harvests.

Canada's production of oats demonstrates the value of ongoing genetic development. Breeders have enhanced their varieties of milling quality oats and also produce varieties for specific feed and food markets.

Cereal seed produced in Canada includes:

Barley (*Hordeum vulgare*)

Oats (*Avena sativa*)

Rye (*Secale cereale*)

Triticale (*X Triticosecale Wittmack*)

Wheat (*Triticum spp.*)

Canada is favoured with some of the world's best soils and climates for cereal production.



Quality seed is the foundation
of Canada's global reputation for
soybeans and flax.



Soybeans & Flax

Soybeans

(Glycine max)

Quality seed is the foundation of Canada's global reputation for identity-preserved soybeans. High performance seed that meets exacting purity standards is the essential first step for identity preservation, and it's a particular strength of Canadian soybean seed producers.

Varieties for the food-quality sector succeed by delivering excellent processing results for processors while supplying quality agronomics to farmers.

Canadian breeders lead the world in incorporating state-of-the-art genetics in early and mid-season varieties. Pest and disease resistance, herbicide tolerance, improved standability and excellent yields are available in a wide range of maturities. End-use traits such as high protein are available too, along with varieties specifically bred for natto and tofu processors.



Flax

(Linum usitatissimum)

World-wide markets for flax are growing, thanks in large part to Canada's successes in flax genetics. Developing new ways to produce new food and non-food uses of this ancient crop has resulted in increased demand.

The primary reason for the high quality of Canadian flax seed is the active involvement of plant breeders in maintaining and increasing quality standards. Continual improvements in the iodine value, oil content and protein content of the domestic commercial crop over the past 60 years are a direct result of the excellent work of flax breeding institutions in Canada.

Presently in Canada, all flax varieties registered are brown-seeded and all solin varieties registered are yellow-seeded. Solin varieties, by definition, have oil with less than 5 per cent linolenic fatty acid and must be yellow-seeded. All registered flax and solin varieties are resistant to rust and Fusarium wilt.

Canada has incredibly diverse agriculture that makes it a winner in international markets.



Pulses & Other Crops



Kidney beans
(*Phaseolus coccineus*)

Lentils
(*Lens culinaris*)

Peas
(*Pisum sativum*)

White beans
(*Phaseolus vulgaris*)



Pulses

Canada offers some of the world's best soil and growing conditions for pulse crops. Ontario has a long tradition as a producer and exporter of quality navy and coloured beans. More recently, Western Canada has emerged as a global-scale producer of pulses including dry peas, edible beans, lentils and chickpeas, due to the excellent growing conditions in the region.

Public and private plant breeding programs produce varieties adapted to Canadian production zones and for food and feed markets, whether those markets be domestic or export. As a result, these varieties can also be well-suited for other pulse growing regions of the world.

Canada's pulse seed production includes:

Chickpeas
(*Cicer arietinum*)

Fababeans
(*Vicia faba*)

Other Crops

From coast to coast, Canada offers an enormous range of soils and climates, plus a mosaic of domestic markets representing a world of ethnic and demographic profiles.

Together, they mean that Canada has incredibly diverse agriculture that makes it a winner in international markets. We have seed producers who bring their focus on quality to a long list of crops. Some of these include:

Buckwheat
(*Fagopyrum spp.*)

Canary seed
(*Phalaris canariensis L.*)

Mustard
(*Sinapis alba, Brassica spp.*)

Red and white millet
(*Setaria italica, Panicum miliaceum*)

Sunflowers
(*Helianthus annuus*)

Sweet corn
(*Zea mays*)

Vegetable seed

Canada: An Active Player in the Global Seed Industry

Canada's seed industry believes that it is as important to build a supportive regulatory and scientific platform for the seed industry as it is to possess the climate and soils for seed production. As a result, Canada is a leader in addressing many of the most challenging issues facing the seed industry worldwide.



Biotechnology

By combining the incredible potential of biotechnology with a commitment to responsible development, Canada has fostered growth and leadership in the genetic enhancement of many of the world's most important crops, including corn, canola and soybeans.

Research in both the public and private sectors and the development of traits is facilitated by a comprehensive regulatory framework. Active research programs are exploring an entire range of crop improvements, from traits that improve the nutritional or processing characteristics of a crop, to traits that enable farmers to produce their crops more efficiently.

Intellectual Property Protection

Based on Canada's Plant Breeders' Rights Act, intellectual property protection has created a growth environment for the breeding, production and marketing of seed for domestic and export sale.

Industry investment in research and development places Canada in the forefront of the world seed sector, with globally significant research programs in crops ranging from forages and oilseeds to cereals and pulse crops.

International Quality Standards

Ever since Canada's first Seed Control Act was passed in 1905, Canada has implemented competitive seed standards. Industry actively supports this effort, and today has the leading-edge expertise and technology to produce the highest quality seed. As a result, Canadian seed processors can produce seed to meet a complete range of customer specifications.

Canada supports science-based international biosafety standards governing trade in seed and other agricultural goods. The CSTA works with governments and other partners to sponsor research and to develop procedures to achieve and measure factors such as varietal purity.

Sustainable Agriculture

Canadians are proud of their healthy environment. Sustainable agriculture is recognized by industry and by governments as an essential contributor to living in harmony with nature. The many roles of the seed sector in environmental enhancement are therefore taken very seriously.

CSTA and its member companies are partners in environmental protection. Seed production and processing techniques are continuously evolving for greater environmental safety. CSTA members are also leaders in providing farmers with seeds that enable them to manage their farms for reduced soil erosion and superior sustainability.

Canada has fostered growth and leadership in the genetic enhancement of many of the world's most important crops.



International & Domestic Seed Industry Players



CSTA works with a number of organizations – international and domestic – in the pursuit of common interests.

International Affiliations

International Seed Federation (ISF) – born of the joint efforts of FIS (Federation internationale du commerce des semences) and ASSINSEL (International Association of Plant Breeders for the Protection of Plant Varieties). ISF is the global organization acting on behalf of the seed trade and plant breeders to provide a forum for international co-operation on seed trade and related issues.

American Seed Trade Association (ASTA) – has enjoyed a close working relationship with CSTA over a number of years, including a reciprocal agreement for board representation in both organizations. This recognizes mutual business interests and the long-standing friendship and co-operation between the two organizations and their members.

Organization for Economic Co-operation and Development (OECD) – is the international forum on economic and trade issues with representation from all the world's industrialized economies. OECD is important to the seed industry because its seed schemes are used for varietal certification and govern the international exchange of seed and seed technologies. Canada is a signator to the OECD seed schemes and Canada's Seeds Act and Seed Regulations comply with the OECD seed scheme requirements for varietal certification.

Domestic Affiliations

Canadian Food Inspection Agency (CFIA) – the Canadian government department responsible for the regulation of seed. Trained inspectors ensure compliance with federal seed regulations and provide field inspection service for Canada's seed certification program.

Canadian Seed Institute (CSI) – carries out authorized accreditations in accordance with the Canadian government's Seed Regulations.

Canadian Seed Growers' Association (CSGA) – Canada's official seed certifying agency for all agricultural seed crops except potatoes and tree seeds. The CSGA establishes regulations to uphold varietal purity standards and also represents the Canadian growers who multiply and produce pedigreed seed.

Commercial Seed Analysts Association of Canada (CSAAC) – the Canadian organization responsible for seed analysis and testing and upholding mechanical purity standards.



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