

departments will evaluate adapted varieties for seed production. These programs help determine which soil types and climatic zones are best suited for seed production of particular varieties.

The trials provide data on such key factors as seed yield, maturity and winter hardiness. Once it has been determined that production of a particular variety is feasible, the best locale for growing seed is pinpointed and a production contract is negotiated.

A review of the species being produced demonstrates that Canada can provide forage seeds for most needs. Forages are meeting a diversity of requirements around the world – from pasture and stored feed through soil conserving cover crops. Additionally, Canadian-grown Creeping Red fescue is used internationally for amenity and turf purposes.

Cereals

Wheat

Bread varieties are the cornerstone of Canada's modern wheat industry. This nation's cereal researchers have also developed a host of cultivars to match specific end-uses. Today's varieties incorporate good agronomic quality. Breeders have selected for important traits such as leaf rust resistance, quality protection through sprouting resistance, and numerous other factors that benefit both grower and miller.

Barley (*Hordeum* spp.)

Barley is Canada's number one feed grain. A large selection of two- and six-row varieties have been developed for both malting and feeding purposes. The nation's plant breeders incorporate resistance to new races of important diseases. Special-purpose cultivars such as hull-less barley have also been a focus of research.



Canada's national seed regulations are recognized worldwide.

Oats (*Avena* spp.)

Interest in milling quality oats has spurred development of varieties with less hull and resistance to rust. Canadian breeders have developed a number of special-purpose varieties, including naked oats, high protein, and day-length insensitive cultivars.

Other cereals

Canadian researchers have been world leaders in the creation of improved varieties of Triticale (*Triticum* x *Secale*). Rye (*Secale cereale*) is another important cereal, and is grown for grain, forage and as a cover crop.

Canadian cereal researchers led the world in the adoption of haploid breeding techniques. Anther culture promises to speed the variety improvement process even further. In total, Canadian cereal research, including state-of-the-art biotechnology, is geared to providing better varieties sooner.

Hybrid corn

Geographical positioning makes Canada an ideal locale for hybrid development and seed production. The climate ranges from 'midwest cornbelt' conditions in extreme Southwestern Ontario, to the earliest limits of corn (*Zea mays*) adaptation.

Inbred lines developed at Agriculture Canada, Ottawa and Morden, Manitoba have played a key role in expanding corn production in northern Europe and short season areas of the United States. Indeed, Canada's major advantage is in early maturity material.

Southwestern Ontario offers an excellent environment for seed production of hybrids rated at FAO 500 (110 to 115 days) maturity or less. The soils and unique climate (moderated by the proximity to the Great Lakes) make the production of early hybrids particularly attractive in this region. Consequently, Canadian firms produce seed of early varieties for their customers in the United States and Europe.