

WINDOW on the WEST

A look at businesses serving farmers in the 21st Century

The Western Producer

CANTERRA SEEDS - quality, integrity, purity

By Barbara Loh

It's almost seeding time on the Prairies and CANTERRA SEEDS Ltd. plans as always to give producers the best possible seed varieties to suit their needs.

It can be a long way from the plant breeder's lab to the field, says Canterra's commercial development manager, Anastasia Kubinec.

Step one in the research process is selecting the parents of the new variety. Plant breeders cross two or more experimental lines. Each parent line has certain desired traits related to agronomics, disease and quality criteria. From that cross, progeny are selected and bred through eight to 10 generations of further selection to determine traits such as yield, maturity, lodging, disease resistance and quality. This part of the research can take three to five years.

For most crop types, variety development to commercialization may take 10 to 12 years says Kubinec.

"During this time, breeders extensively test thousands of experimental lines over different locations and years. They then select a limited number of experimental lines with superior agronomics, disease resistance and quality to advance to official registration trials."

These trials, also known as co-operative trials, involve two to four check varieties that serve as the benchmarks. The experimental lines are compared to these varieties and must meet or surpass the

desired agronomic characteristics, disease resistance and quality standards. Several experimental lines from various plant breeding institutions and companies are in trials over many sites and many years.

Length of testing and trials vary with crop type. Canola takes about two years. Wheat, rye and triticale require three years. Barley and oats need two years, other oilseeds take two or three years and special crops require a minimum of two years.

Trial data is reviewed annually at February registration meetings conducted by the Prairie Registration Recommending Committee for Grain and the Western Canada Canola/Rapeseed Recommending Committee. If the experimental lines are superior to the check varieties, they advance for further testing. Inferior lines are removed from the trials.

When the trial process is complete, the plant breeder or company can request support for registration from the crop committee for an experimental line. The committee votes to support or not support the line for registration.

The fun part comes after a line is supported, when the plant breeder or company choose a name for the new variety. CANTERRA SEEDS names its varieties after significant dates in Canadian history. For example, Canterra 1818 RR, a new Roundup Ready canola, is named after the Treaty of 1818 between the United States and the United Kingdom, which

defined the U.S.-Canada boundary at the 49th parallel.

Once the variety is named, the plant breeder or company submits a representative seed sample and a registration package including detailed information about the seed's distinguishing traits and pedigree. This is sent to the Variety Registration Office at the Canadian Food Inspection Agency.

"This registration system ensures that varieties are enhanced over time and can be distinguished from each other once they reach the market," says Kubinec.

When all criteria are met, the CFIA has the final say on approval for registration. The new variety is then ready to be produced and marketed. At this stage, Kubinec puts the seed variety through larger field scale testing in appropriate climates and regions.

The new variety's path to commercialization begins with a multiplication process that may start with a few kilograms of seed. It can take many years to produce enough volume to launch at the certified level, says Brent Derkatch, production manager at CANTERRA SEEDS.

"Canola can be produced in sufficient quantity to be commercially available in as little as two years, while crops such as cereals, pulses and some oilseeds generally go through four generations of multiplication."

Derkatch adds that the adoption of winter multiplication programs in New Zealand, Australia and Chile have been

used to fast track the quantity of seed produced so certified seed it is available sooner. Also known as contra-production, winter multiplication can bring a product to market faster but often at higher cost.

Breeder seed is provided to growers who have met the strict standards applied to select seed growers. Select seed plots are a maximum of 2.47 acres and are inspected by the CFIA to ensure varietal purity. Each plot is monitored and variety off-types are removed by hand.

Producers growing Foundation, Registered and Certified seed must meet strict standards set by the Canadian Seed Growers Association. The CSGA plays a pivotal role in pedigreed seed production. Field isolation, weeds and field history are just a few of the items considered before an official crop certificate is issued.

Once the seed has reached the Certified level, it is available to all growers and customers.

Each pedigree level must go through an inspection process, where seed is cleaned and tests are conducted to ensure quality. Most seed growers have their own seed cleaning plants and must follow Canadian Seed Institute standards. The CSI establishes a quality management system that governs the way pedigreed seed is stored, handled and labeled.

Why is pedigreed seed production so extensive, detailed and time consuming?

The rigorous system is necessary to

establish and maintain seed traceability and stringent standards, says Derkatch. It ensures that crops grown from Certified seed are among the highest quality in the world.

From a single variety less than a decade ago, to 75 varieties of canola, cereals, pulses and oilseeds, CANTERRA SEEDS continues to develop top performing Certified seed.

New products in the 2005 portfolio include: CANTERRA 1896 RR Hybrid canola, AC Furlong oats, AC Lovitt spring wheat, CDC Minto field beans and Oracle Creeping Red Fescue forage/turfseed.

Apollo RR, a high-yielding soybean, and CDC Togo, a glabrous canary seed variety, will be available at the Certified level in spring 2006. On the horizon for 2007 are a high-performing hard red spring wheat called AC Infinity and a high-yielding green field pea named Cooper.

Although it takes producers a short time to obtain Certified seed, those involved in bringing it to commercial production follow a long, meticulous process. In the end, is it worth the wait?

"This rigorous process gives the producer confidence that the Certified seed product is of the highest quality, integrity and varietal purity," says Derkatch. "The final product has given Canadian growers the valuable reputation of producing some of the highest quality crops in the world."






CANTERRA SEEDS
THE WAY TO GROW

WHAT YOU SEED IS WHAT YOU GET

	WHAT YOU SEED	WHAT YOU GET
HYBRID	CANTERRA 1841 RR Hybrid	High yielding hybrid canola, Rated R to blackleg, Excellent standability, Roundup Ready® technology
HYBRID NEW!	CANTERRA 1896 RR Hybrid	First year release, High yielding hybrid canola, Early maturity, Rated R to Blackleg, Rated R to Fusarium wilt
NEW!	CANTERRA 1818 RR	High-yielding, new generation Roundup Ready OP, adapted to the mid and long season zones, with shorter stature and good lodging resistance. Resistant to blackleg and Fusarium wilt.
	CANTERRA 1812 RR Synthetic	High yield similar to a hybrid canola, Rated MR to blackleg, Excellent standability, Strong stem/very upright Canola
	CANTERRA 1849 RR	High yielding canola, Open pollinated, Rated R to blackleg, Very good standability, Roundup Ready® technology
	CANTERRA 1862 RR	Roundup Ready™ early maturing canola, Compact plant structure with good standability, Rated MR to blackleg, Value priced, Open pollinated

201-1475 Chevrier Boulevard | Winnipeg, MB R3T 1Y7
1-877-439-7333 | www.canterra.com



A Growing Canadian Company

Roundup Ready® is a trademark of Monsanto Technology LLC. Monsanto Canada Inc., Winnipeg.