Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

SOUTHERN CROP PROTECTION AND FOOD RESEARCH CENTRE

Agricultural Research: Helping Canada and the World

Canada

Agriculture and Agri-Food Canada's (AAFC) Southern Crop Protection and Food Research Centre has a tradition of research excellence. It explores the science of field crops, bio-based products and processes, genomics and biotechnology, and integrated pest management. The Centre houses state-of-the-art laboratories and greenhouses, allowing for innovative research that helps Canada be more competitive in more agricultural markets.

The Centre is in London, Ontario, with a satellite site in the Niagara Peninsula region at Vineland, Ontario – one of seven field sites for AAFC's national Minor Use Pesticide Program.

How our Research Benefits Canadians

We:

- Develop high value crops such as soybeans, field beans and alfalfa that offer greater nutritional value.
- Help fruit stay fresher longer in storage with our technique for managing post-harvest diseases.
- Work with industry and academia to develop new bean varieties that can resist disease, improve human health and be used in innovative products.

How our Research Helps Farmers

We:

- Find innovative ways to control pests.
- Create new plant varieties that resist bacteria, fungi and viruses – common enemies of plants.
- Help farmers manage disease, weeds and insect problems that can threaten crops. The Minor Use Pesticide Program gives them access to new pest control products that are safer, more effective and more environmentally friendly.
- Find ecological ways to promote soil and plant health, reduce use of chemicals and improve produce quality.
- Work to develop biopesticides that can deal with Fire Blight, a serious threat to pears and apples.
- Develop DNA diagnostic tools to identify harmful pests and save food crops. Work is underway to fight the Brown Marmorated Stink Bug before it threatens crops like peach, pear and apple tree fruits.
- Protect canola crops from the cabbage seedpod weevil through biological control (destroying pests with the help of natural enemies).
- Study insect resistance to common pesticides to reduce farmers' costs and protect their crops (e.g. Colorado potato beetle and codling moth).

How our Research Supports Agri-Business and Industry

We:

- Developed six Fire Blight-resistant pear varieties, including the *Harovin Sundown*.
- Introduced the "Border Spray Program", which allows apple farmers to use less insecticide, saving the Ontario apple growing industry $1 million/year.

We also:

- Increase crop yields and minimize losses by developing plant resistance to viruses such as Plum pox virus and Soybean mosaic virus.
- Develop new bio-products (products made from a natural and renewable resource) such as plant-made pharmaceuticals and industrial enzymes, which will help create new markets for agricultural products.
- Study the health benefits of soybean seed to strengthen Canada's competitive advantage in international markets.
- Partner with industries in cluster groups to share knowledge, find solutions to problems and increase competitiveness.

How our Research Benefits the Environment

We:

- Improve the quality of surface and ground water, and enhance crop yields, by developing best practices for applying manure and tilling soil.
- Mine plants for valuable, environmentally friendly compounds that farmers can use in their fight against plant diseases and insect pests.
- Reduce farmers' reliance on chemical sprays by improving the crops' natural resistance to diseases.
- Assess the impacts on human health and the environment from microbial and chemical contaminants used in applying manure and bio-solids on farmland. In the process, we are helping to create regulatory guidelines across Ontario and refine national water quality standards.

Looking Forward

We:

- Invested in a state-of-the-art greenhouse facility that will contribute to the productivity, yield and sustainability of the agricultural sector for years to come.

Electronic version available at *www.agr.gc.ca/researchcentre/London*.

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For more information, reach us at www.agr.gc.ca or call us toll-free 1-855-773-0241.