Plant Power

CAMELINA

DEVELOPING CANADA'S NEXT OILSEED

The Project

The Camelina Project was developed to help Canada realize the potential of the tremendously hardy and efficient plant, camelina.

Camelina's key ingredient is oil. Oil that is rich in nutrients, and shows great potential for everything from fish and animal feeds to jet fuel. But, in order for camelina to become a profitable and sustainable crop, we must find commercial uses for its *meal*, which is also high in nutrients.

To unlock the potential, this project is looking at camelina's complete genetic information, or its *genome*.

Through the power of genomics technology, we're revealing the secrets of camelina to determine how it produces oil and nutrients, and how it grows in Canada's adverse and varied conditions. With that information, the opportunities for Canada to benefit from camelina are almost limitless.

Connecting science and industry for a burgeoning new crop

The Potential

Feeding the World

The aquaculture industry is facing a tremendous challenge: triple production by 2030 to keep up with the growing global demand for protein.

But the health and growth of many species of farmed fish relies on fishmeal and fish oil, which have cost and sustainability issues. The Camelina Project is examining the impact of camelina-containing diets on several aquaculture species with the hope of providing a sustainable alternative to fish-based feeds.

Involvement in the growing fish feed market could create high value revenue potential for Canadian camelina producers.

Building an Industry

Canada's agriculture sector is one of the best in the world. To stay competitive, it needs innovative crops that are sustainable, profitable and easily incorporated into proven growing systems.

Camelina's unusual ability to thrive in adverse growing conditions, and the potential for so many commercial applications of its oil will make it a valuable cash crop for Canada's farming sector. This project will help make camelina even more profitable by improving the marketability of the non-oil portion of the seed, the meal.

Saving the Planet

One of society's biggest problems is our dependence on fossil fuels. Finding alternatives to fuel our cars, trucks and aircraft is crucial. Camelina oil is being developed as an alternate jet fuel, and test flights have already shown it to be a solid prospect for this fuel-consuming sector. Camelina is also finding a significant role as a "green" alternative to petrochemicals in many aspects of manufacturing. The Camelina Project will provide the genomic information necessary to explore camelina's potential in a variety of "green" applications, including bio jet fuel.

The Partners

The Camelina Project is a testament to Canadian collaboration and teamwork. It connects funds, scientific expertise and management from across the country to create a project that can truly make Camelina *Canada's Next Oilseed*.

Please see the back cover for a full list of the partners who are making this project possible.

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Key Project Activities and Locations

Saskatchewan Camelina Genetics and Genomics Activities,
Agriculture Agri-Food Canada, Dr. Isobel Parkin and Dr. Dwayne Hegedus

Nova Scotia Agronomy, Nova Scotia Agricultural College, Dr. Claude Caldwell
Finfish Nutrition (Aquaculture), Nova Scotia Agricultural College, Dr. Derek Anderson

Newfoundland and Labrador
Finfish Functional Genomics, Memorial University of Newfoundland, Dr. Matt Rise
Lipid Biochemistry, Memorial University of Newfoundland, Dr. Chris Parrish

The Camelina Project Support

Atlantic Canada Opportunities Agency – Atlantic Innovation Fund;
Agriculture and Agri-Food Canada – Agricultural Bioproducts Innovation Program;
Atlantic Oilseeds; Colorado State University; Giessen University; Genome Atlantic;
Genome Prairie; Memorial University of Newfoundland – Ocean Sciences Centre;
Minas Seed; Nova Scotia Agricultural College; Province of Nova Scotia - Department
of Agriculture/Department of Fisheries and Aquaculture;
Province of New Brunswick – Department of Agriculture and Aquaculture;
Province of Saskatchewan – Ministry of Agriculture;
Saskatchewan Canola Development Commission;
The Research and Development Corporation of Newfoundland and Labrador

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