

PRESS RELEASE



FOR IMMEDIATE RELEASE

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Protecting Canada's Forests using Next Generation Biosurveillance

Vancouver, BC – A new \$2.43 million research project, funded in part by Genome BC, has been approved to develop state of the art DNA biosurveillance detection tools for operational deployment. Preventing the introduction and establishment of Invasive Alien Species (IAS) such as the Asian gypsy moth and other forest pests, will protect forests and trees and also maintain Canada's pest-free status to ensure market access for Canadian forest exports.

Canada's forests and urban trees cover more than 400 million hectares and provide a huge variety of economic, social and environmental benefits. IAS are an increasing threat that can cause irreversible damage to the environment impacting agriculture, forestry, urban and natural environments and are thereby responsible for losses of hundreds of millions of dollars to the Canadian economy. Given the unprecedented levels of international trade we are seeing as well as a changing climate, the Canadian Food Inspection Agency (CFIA) has the mandate to design and implement programs that protect Canada's forest and trees and the legislative authority to enforce regulations that require foreign trading partners to ensure their shipments are free of IAS.

Two IAS that represent urgent threats to Canada's forest and agricultural resources are the Asian gypsy moth (AGM) and *Phytophthora ramorum* (PR), a plant pathogen that causes Sudden Oak Death. The establishment of these two species in Canadian forests would represent a significant trade impact and could lead to trade disruption. Economists predict immediate trade and pest control impacts of up to \$90 million annually. Developing and implementing genomic tools to improve upon current diagnostic methods for these IAS, could assist in preventing pest establishment in Canada while protecting Canadian jobs through the uninterrupted trade flow of goods between Asia and Canada.

"Our Government is committed to protecting the health of Canada's forests through safe, innovative and scientifically proven approaches to controlling invasive pests," said the Honourable Greg Rickford, Canada's Minister of Natural Resources and Minister for the Federal Economic Development Initiative for Northern Ontario. "We are proud to partner with Genome BC in this project and will continue to support the leading-edge science that protects our forests while supporting jobs and growth across Canada."

"One of the most significant technical challenges in achieving the goal of curbing foreign species infestation is the ability to rapidly detect, identify, and recognize IAS in their various life stages whether it is in the form of spores, eggs or adults," says Cameron Duff, Executive Director, Plant Health Science, CFIA. "Traditional diagnostic techniques to make a definitive identification can take months and once an IAS is on Canadian soil the treatments are costly and disruptive: the key to avoid this is to identify their geographical origin and stop them before they are loaded in a container, or on a ship."

PRESS RELEASE

“The introduction of DNA based tools in standard monitoring protocols could accelerate the access of authoritative diagnostic information, aiding decision making for risk assessment and minimizing foreign threats to Canadian forests and trees,” says Dr. Richard Hamelin, project leader and professor in the Department of Forest Sciences at the University of British Columbia and senior research scientist at Natural Resources Canada (NRCan). “Establishing a link to origin is crucial to prove scientifically the source of pests and genomics can do that- this means that Canadian officials will have verifiable evidence when managing non-compliant exporters and trading partners.”

“Canada’s forest sector, representing 9.2% of manufacturing GDP, is dependent on a sustainable, high-quality fibre supply”, stated Pierre Lapointe, President and CEO of FPIInnovations. “The collaborative efforts of NRCan, CFIA, UBC, Genome BC and FPIInnovations will benefit all of the forests’ stakeholders and ensure the impact of invasive alien species is minimized or eliminated.”

“It is very exciting that genomic tools are making such an impact on this key economic sector,” says Dr. Alan Winter, President and CEO for Genome BC. “Protecting Canadian forests and urban landscapes from invasive alien species will benefit all Canadians for generations to come.”

This research project, valued at \$2.43 million, has been funded through the Genomic Applications Partnership Program (GAPP) as part of Genome Canada’s strategic plan to fund downstream research and development projects that address real world challenges and opportunities as identified by industry, government, not-for-profits and other “Users” of genomics research. In addition to Genome BC (\$661,000) and Genome Canada (\$810,000), investment into this research also comes from Natural Resources Canada (\$490,000), the Canadian Food Inspection Agency (\$320,000), and Genome Quebec (\$150,000).

-30-

About Genome British Columbia

Genome British Columbia is a catalyst for the life sciences cluster on Canada’s West Coast, and manages a cumulative portfolio of over \$660M in 211 research projects and science and technology platforms. Working with governments, academia and industry across sectors such as forestry, fisheries, agriculture, environment, bioenergy, mining and human health, the goal of the organization is to generate social and economic benefits for British Columbia and Canada. Genome BC is supported by the Province of British Columbia, the Government of Canada through Genome Canada and Western Economic Diversification Canada and more than 300 international public and private co-funding partners. www.genomebc.ca

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