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Genomics-Based Forest Health Diagnostics and Monitoring

Status	Approved
Competition	2010 Large-Scale Applied Research Project Competition
Sector	Forestry/ Environment
Genome Centre	Genome British Columbia
Project Leaders	Richard Hamelin, University of British Columbia

Project Description

Keeping our forests healthy. Canada's forests are increasingly under threat by pests and pathogens, resulting in annual losses of about $2 billion. While identifying infectious agents and their origins is critical to preventing damage to forests, current methods rely on visual inspections - an approach that misses the many pathogens transmitted without visible symptoms. Genome Canada is funding research that is developing DNA-based diagnostic tests to identify and monitor pathogens. This will generate a number of important benefits, including preventing invasive pathogens from harming our forests, assisting the forest and nursery industries with plant and product certification and creating a competitive advantage for Canadian companies in international markets. It will also produce annual economic benefits in the tens of millions of dollars by reducing losses from disease. There are significant commercialization opportunities through the sale of these diagnostic tools on world markets. The project will undertake the largest forest pathogen sequencing effort in the world, helping to fill in gaps in our understanding of these threats.
An integrated GE3LS component will generate insights into the commercialization of these tools and examine the public policy issues and social acceptance of using genomics technologies in the current forestry management framework.