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GenomeCanada

SMarTForest: Spruce Marker Technologies for Sustainable Forestry

Status	Approved
Competition	2010 Large-Scale Applied Research Project Competition
Sector	Forestry
Genome Centre	Genome Quebec & Genome British Columbia
Project Leaders	John MacKay, Université de Laval and Jörg Bohlmann, University of British Columbia

Project Description

Sprucing up the forestry industry. Forestry products contribute approximately \$28 billion to Canada's GDP and spruce trees account for nearly 60% of all the seedlings planted annually. Building on a decade of groundbreaking research on spruce genomics, Genome Canada is funding the development of marker technologies to identify seedlings that have superior growth and wood properties, or superior insect resistance. Genetic marker systems and biomarkers will be developed and applied to Canadian forestry programs. It is estimated that by applying "Marker Aided Selection" (MAS) to just 20% of Canadian spruce plantations, wood yield could increase by 1.5 million cubic meters per year, boosting GDP by \$300 million. Using methods such as MAS also allows wood production to be concentrated on a smaller land area, allowing more forest to be set aside for conservation. Over the longer term, these methods will also enhance the competitiveness of the Canadian forestry by boosting yield and enhancing the value of its products. The project will conduct impact analyses of the economic, socio-economic as well as the legal and policy instruments that could affect the use of MAS in provincial jurisdictions and help develop high value jobs in rural communities by diversifying the "bioproduct" pipeline.