



B.C. researches biofuel from infested pines

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Vancouver, British Columbia - Two new research projects in British Columbia are focusing on the possibility of turning pine trees ruined by beetle infestations into renewable biofuels such as ethanol.

BC Bioenergy Strategy is calling for greatly increased production of renewable biofuels from biomass grown in the province, but as ethanol produced from corn, sugar and other food products raises concerns about global food prices and availability, trees are being hailed as a source of next-generation renewable fuels.

The unprecedented devastation caused by the mountain pine beetle infestation in the province has created large amounts of unmarketable lodgepole pine that has the potential to supply the biofuel industry for the next 20 years and beyond, researchers said.

The first project, a \$1.1 million undertaking, will use genomics to determine the most efficient methods of liberating fermentable sugars from the dead pine that can be broken down with enzymes and fermented into alcohol. "Trees are a huge store of chemical energy that can be converted into liquid biofuel, but we need to identify the ideal method to produce these sugars economically," said Dr. Jack Saddler, Dean of Forestry at the University of British Columbia and head of the project. "What makes wood so difficult to break down when compared to corn or other starch-based biofuel is that the cellulose, unlike starch, is designed by nature to not be broken down easily."

Saddler said he is confident that the solution the team finds for coniferous trees will be transferable to deciduous varieties as well, so that when the dead lodgepole pine runs out in about 20 years, biofuel companies can use poplar, the fastest-growing tree in North America, and one of the only species that will be ready for harvest by the time the beetle-killed conifers run out.

A \$7.7 million project, also headed by researchers at the University, will use genomics to optimize breeding and selection of poplars to improve their potential as a biofuel resource. In addition to their quick growth, poplars produce wood that is easier to convert to fermentable sugars for ethanol production. The trees are native to B.C. and many other regions.

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