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Genome Alberta using 21st Century biology to tackle the Mountain Pine Beetle

Fri Aug 1, 2008 12:05pm EDT

CALGARY, Aug. 1 /PRNewswire/ - It isn't much bigger than a grain of rice, but in the numbers that are invading Alberta, the Mountain Pine Beetle is making a meal of our vast forests. An estimated million and a half trees have been affected in the province so far and the infestation is a serious threat to 23 billion dollars worth of Alberta timber.

Current control efforts receiving wide attention mostly involve prescribed burns but Genome Alberta and its partners are looking much deeper into the underlying problem. The TRIA project is looking at the interaction between the tree, the beetle and the blue stain fungus (hence the name Tria which is Latin for three). The fungus is introduced into the tree by the beetle and ultimately does as much if not more damage to the tree than the beetle itself. The genome for the fungus has not been sequenced and the joint Alberta - BC team is at the forefront of this research.

Understanding the complex relationship between the 3 species can take us beyond burning as a control strategy. Once we have a complete picture of the interaction we can predict Mountain Pine Beetle growth, spread, and behavior so that industry and policy makers can develop stronger forest management strategies. It will also give us a more complete picture of why some trees can fight off the infection effectively and how it may be able to 'jump' species. The new sequence information can be used in the study of other insect-tree-fungus pests including the Southern Pine Beetle making its way into Ontario, and the Bark Beetle already prevalent in parts of the United States.

The Tria Project was highlighted by Genome Alberta at the BIO International Convention in San Diego recently and has received international recognition for its novel approach to the Mountain Pine Beetle epidemic. The work is helping Canada maintain its status as a leader in forest health research and is generating information that can be used by researchers around the world.

ABOUT THE MOUNTAIN PINE BEETLE

- The MBP is a small, black beetle about the size of a grain of rice. Over the past few years, mountain pine beetles have been expanding east into Alberta from British Columbia. Once a beetle has found a suitable tree in July or August it will live there for the remainder of its life and lay eggs. The new generation of beetles will not emerge from the tree for at least one year.
- The beetles attack and kill pine trees, usually mature one, aged 80 to 120 years. All species of pine including Lodgepole, Jack Pine, Scots pine, and Ponderosa Pine are vulnerable. Pine can be distinguished from other trees by their long needles attached to branches in clusters of 2-5.
- Trees successfully attacked by the Mountain Pine Beetle usually die

within a year.

For a selection of photos you can use in your stories please go to:
<http://picasaweb.google.com/MikesGene/MountainPineBeetleProject>

ABOUT GENOME ALBERTA

- Genome Alberta is a not-for-profit corporation funded at federal and provincial levels to focus on genomics research in Alberta.
- Genome Alberta supports internationally acclaimed researchers engaged in programs of investigation, exploration and discovery.
- Genomics refers to the study of all the genes and DNA in an organism.

SOURCE Genome Alberta

on the TRIA Project, please contact: Mike Spear, Director of Corporate Communications, Genome Alberta, (403) 503-5222, mspear@genomealberta.ca

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