



Keeping an Eye Out for Exotic Forest Pests

Update of
Branching Out
No. 15

The spread of exotic forest pests, whether insects or diseases, is a growing threat to Canadian forests and an international trade issue. Since the late 19th century, more than 40 exotic pests capable of causing considerable damage to our forests have been introduced into Canada, including the emerald ash borer, which has destroyed millions of ash trees to this day. The detection and identification of exotic pests are key elements in combating this threat and protecting forest resources.

In Canada, several federal organizations are working jointly to protect the health of our forests. One of these, the Canadian Forest Service (CFS), works collaboratively with the Canadian Food Inspection Agency (CFIA) to prevent the introduction of new pest species and to limit the spread of those already present. Their collaborative relationship has resulted in:

- the development of pest detection, identification and monitoring tools;
- studies carried out to increase knowledge of the biology of pests;
- consulting services and active participation in expert committees.

The following are two examples of projects carried out by the CFS under the collaborative agreement with the CFIA.

Identification of new emerging exotic pests

Before the ISPM No. 15 – *Regulation of Wood Packaging Material in International Trade* standard came into effect in 2006, wood packing/crating materials for imported products were a major pathway for the introduction of exotic fungal pathogens. Nowadays, ornamental plants are the most worrisome cause of the spread of exotic forest diseases. A CFS research project is under way to compile a profile of exotic fungi present on urban trees and

to identify those with a potential to cause damage or become forest diseases. Indeed, because of their proximity to ports among other reasons, urban trees are at the centre of the battle against exotic diseases. If those diseases are not quickly detected and controlled, they may spread to trees in Canadian forests.

The new ISPM No. 36 – *Integrated Measures for Plants for Planting standard*, adopted in March 2012, is intended to more effectively regulate the production and distribution of plants for planting, such as ornamental plants. This measure will be helpful in identifying and more effectively managing the risks associated with this type of plant material.

Branching Out
from the Canadian Forest Service - Laurentian Forestry Centre



Photo: P. Bilodeau (CFIA)

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Photo: NRCan

Detection of invisible pests

Increasingly, identification laboratories are using DNA-based molecular diagnostic techniques to detect the presence of pests, even those that are not visible to the naked eye. This molecular technique can also be used to more accurately identify a pathogen, including its race and geographic origin. The CFS has developed a diagnostic kit for the detection of pathogens responsible for sudden oak death (*Phytophthora ramorum*). This kit is now in operative use at the CFIA and the United States Department of Agriculture. Currently, other detection tests are being developed for the brown spruce longhorn beetle, forest rusts, and several exotic pathogens currently absent from the Canadian landscape. Interception at borders and early detection of exotic pests are critically important elements in preventing the spread new pests and suppressing them.

In the long term, continued research work will increase our knowledge of the biology and entry pathways of exotic pests and serve as a guide in developing effective control methods. Acquiring this knowledge will also help the CFIA exercise its role in protecting Canada's forests.

Useful links

Canadian Food Inspection Agency:
www.inspection.gc.ca

ISPM No. 15 standard:
https://www.ippc.int/sites/default/files/documents//1323945454_ISPM_15_2009_En_2011-11-29_Refor.pdf

ISPM No. 36 standard:
https://www.ippc.int/sites/default/files/documents//1335957921_ISPM_36_2012_En_2012-05-02.pdf



Oak trees killed by sudden oak death in California.
Photo: S. Sela (CFIA)

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