

## MPI/FOA WORKSHOP

“Are we prepared for the bio-invaders?” This was the question that was put to industry, government and researchers at the 14th Annual Forest Biosecurity Workshop held in Rotorua on 23 and 24 February 2016.

New Zealand’s past invasion history, and recent incursions such as the 2015 Queensland fruit fly in Auckland, have taught us that preparedness is paramount. Now that the New Zealand plantation forestry sector has signed the Government Industry Agreement (GIA) with the Ministry for Primary Industries (MPI) establishing a formal partnership between government and industry for biosecurity readiness, what has to be done next? At the workshop the point rapidly became clear that just because you are a GIA partner that doesn’t mean you’ll necessarily see eye-to-eye when a response occurs. Examples from Australia, which has a similar arrangement to GIA, showed the forest industry there has experienced a few surprises when it came to the crunch, having to make decisions on operations and sharing the costs of incursion responses.

Key answers from the workshop were that any response to a bio-invader must be rapid and effective. To do so, the greater industry must be better coordinated to increase awareness and prepare for incursions. The sector, Scion and other researchers are working closely with MPI to redesign the Forest Biosecurity Surveillance system in conjunction with the MPI-operated High Risk Site Surveillance system. This is a step in the right direction, but there is a great deal more that can be done to ensure we have a better biosecurity system. Crown Research Institutes and the Better Border Biosecurity collaboration (B3) can assist by ensuring up-to-date knowledge of the key biosecurity threats to New Zealand plantation forests is available. That includes state-of-the-art competency to detect and identify threats, and also the capability to respond in time to ensure eradication, or at least control.

The workshop highlighted there is a need for better technology in forest surveillance. Diagnostic services have been greatly improved in recent years, with molecular technology playing a key role in making rapid identification of potentially new organisms, especially pathogens. MPI, with its cross-sector brief, may also play an important role in keeping industry partners informed about new technologies as they become available.

One concluding remark was that MPI needs to ensure the country has the correct chemicals, either on hand, or at least have the licence to use the chemicals, in the event of an incursion. Raising general public awareness of the importance of biosecurity is an important concern here, and we feel that the government, through MPI, can do a lot more with social media to develop a “biosecurity culture” in New Zealand. The media has certainly raised the issue of the Zika virus, and there are probably few citizens that would oppose aerial spraying to eradicate Zika-carrying mosquitoes. Something similar needs to happen in biosecurity where an efficient response system would require the government to have social licence to operate with insecticides in urban environments. There is no reason for people to be totally freaked out. In most situations insecticides sprayed to target insect pests are biocontrol agents that are proven to be safe to human health.

*Bill Dyck (Forest Owners Association) and Katrin Webb*

## GALL-FORMING MIDGES IN EUROPE AFFECTING DOUGLAS-FIR NEEDLES

Gall-forming midges (Diptera: Cecidomyiidae) have been reported for the first time in Europe damaging *Pseudotsuga menziesii* (Douglas-fir) needles. Although the species has not been identified with certainty – only larvae were found, the shape of the galls suggests it is *Contarinia pseudotsugae*, the most widespread and aggressive of North American species of Douglas-fir needle midges.

The findings are from Belgium and the Netherlands, and were triggered by surveys targeting needle infections by the fungal invaders Swiss needle cast (*Phaeocryptopus gaeumannii*) and Sirococcus shoot blight (*Sirococcus conigenus*).

Finds at several widely dispersed locations across the two countries were totally unexpected, and indicate that the pest is well established and has been present for several years. Since importation of *Pseudotsuga* plants from

non-European countries has been prohibited in the EU for more than 20 years, it is unclear how the pest was introduced. Potential pathways for introduction are plants for planting, cut branches (including Christmas trees), as well as soil from countries where *C. pseudotsugae* occurs.



Legless larvae hatch from eggs laid into partially opened buds, then bore directly into the needle. Full-grown larvae overwinter in the ground. Adult midges are tiny, approximately 5 mm long, orange-coloured flies, of which females can be distinguished by a very long ovipositor. Pictures, Gilles San Martin, CRA-W (larva), Oregon Department of Agriculture (adult).

In its native area in the Eastern part of North-America, populations of *C. pseudotsugae* fluctuate widely. When infestations build up over several consecutive years, up to 100% of the current year needles can be affected, reducing aesthetic and market value of the host. Trees mortality has however not been reported, even in the case of severe defoliation. The future impacts of *C. pseudotsugae* in invaded areas are difficult to predict. In Europe, Douglas-fir is now considered an important exotic tree species, and the midge could present a risk in forests, nurseries, parks and gardens. Impacts to date appears limited though, to minor wilting symptoms on less than 10% of the needles of the current year, with occasionally higher infestation levels in the young plantations (up to  $\pm$  50%).



Attacked needles are swollen and frequently bent. Initially, the damaged area is pale in colour, but as the season progresses, it darkens and eventually turns into a reddish to brownish colour. Picture, Gilles San Martin, CRA-W.

New Zealand now has strict plant import standards that reduce the chance of this pest and other shoot and foliage borers invading and establishing. However, there are a number of long-established exotic insect pests and native insects that damage Douglas-fir. In the next issue of Forest Health News we will discuss some of those.

Reference: EPPO 2016. *Contarinia pseudotsugae* (Diptera: Cecidomyiidae) Douglas-fir needle midge. [https://www.eppo.int/QUARANTINE/Alert\\_List/insects/Contarinia\\_pseudotsugae.htm](https://www.eppo.int/QUARANTINE/Alert_List/insects/Contarinia_pseudotsugae.htm)

Nicolas Meurisse

### RED NEEDLE CAST APPEARING

We received our first report of red needle cast for 2016 in early April. It was from the East Cape and the forester who reported it suggested it may be a bad season.

Red needle cast has been more prevalent on the East Cape and central North Island than elsewhere, although occasional outbreaks have been noted in Nelson, Taranaki and Northland. A research programme is currently investigating the relationships between environmental factors and disease development. Its aim is to provide forest growers with information that will help them decide if and when to apply spray for disease control.



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