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BUDDLEIA BIOLOGICAL CONTROL AGENT ON THE MOVE

As reported earlier (*FH News 169*, January 2007 & *181*, February 2008) the buddleia leaf weevil, *Cleopus japonicus*, was first released in New Zealand by Scion at five sites in North Island plantations between October 2006 and January 2007. These sites were in Whakarewarewa, Kinleith, Lake Taupo, Esk, and Rawhiti Forests. The sites have since been monitored closely for weevil establishment, dispersal, and feeding damage to buddleia.

Feeding damage increased rapidly from mid-February onwards and peaked in April and May. As observed in summer 2008, there were no larvae during January and early February in 2009 and 2010. No mating adults or eggs were seen during this time. This non-egg laying period, when the weevils are relatively inactive, results in a period with very little additional damage to buddleia.

This autumn, buddleia leaf weevils, larvae and their feeding have been found more than 10 km from the release plants at Kinleith and more than 4 km from the release at Esk Forest. Indications are that spread at Whakarewarewa Forest has also been considerable. The other sites have yet to be checked. It appears the weevil's rate of spread has increased greatly as they fly further away to undamaged buddleia. The feeding damage to buddleia has been impressive, with over 90% defoliation of buddleia plants within at least 500 m of the release sites at Kinleith and Esk. Damage at Whakarewarewa has also been high, but more patchily distributed. It has been observed that some adults remain on heavily defoliated plants, feeding and laying eggs on new growth from the nodes. This has resulted in repeated damage to plants, both within and between seasons, which is needed to reduce the vigorous growth

of buddleia. Previous work has shown that to effectively suppress buddleia, defoliation greater than 30% is needed and



this must occur for more than one season as buddleia compensates strongly when defoliated.

Despite such high defoliation, there has been no damage to other species at release sites with the exception of feeding on the closely related weed species *Scrophularia auriculata*, which was predicted from pre-release testing.

Scion is currently conducting research which will assist in developing an integrated pest management program for buddleia in forestry. Weed biological control may offer advantages to forestry as there is an increasing emphasis on reducing chemical use, particularly during the early establishment phase. For the buddleia leaf weevil to be successful in a forestry context, it must quickly re-invade newly established stands and reduce the growth of buddleia throughout the area. The rate of spread of the weevil into newly planted areas and subsequent damage is being determined at two sites in Kinleith and Kaingaroa Forests. This information will be combined with other potential management practices such as over-sowing with grasses, spot spraying and alternative chemical rates and timing to develop better ways to manage buddleia in forests.

The buddleia leaf weevil has been released at over thirty sites throughout New Zealand and it has established at all of them.

Michelle Watson

Below: Feeding damage on buddleia.

Below left: *Cleopus* weevils on buddleia shoot.



FOREST PHYTOPHTHORA RESEARCHERS GATHER IN NEW ZEALAND

The 5th meeting of IUFRO Working Party 7-2-09, *Phytophthora* in Forests and Natural Ecosystems, was held in New Zealand from 7-12 March 2010. Over 90 delegates from 14 countries attended the meeting which began with a field trip near Auckland on Monday and then continued at the Blue Baths in Rotorua from Tuesday to Friday. During the field trip, delegates were taken to the Waitakere Ranges Regional Park where they were introduced to kauri and kauri dieback, caused by *Phytophthora* taxon Agathis, by Cr. Sandra Coney and Dr. Nick Waipara, respectively. They were also welcomed by the local Kaumatua, Eru Thompson of Te Kawerau A Maki, whose touching welcome brought home the reality of the kauri dieback disease and its impact on Maori. Auckland Regional Council prepared a fantastic field excursion on the Auckland City track where kauri and kauri dieback were observed and stringent foot washing was experienced.

The scientific programme in Rotorua included regional roundups on the current state of diseases caused by *Phytophthora* spp., research and management in Australasia, South America, the Americas and Europe. The sessions focussed on biology, evolution, speciation, management and control in forests and natural ecosystems, systematics, diagnostics and host-pathogen interactions of *Phytophthora* spp.

Highlights included: *Phytophthora pinifolia*, which caused a widespread needle disease of *Pinus radiata* in Chile although the area affected by the disease is now shrinking; hybridisation of *Phytophthora* spp. in Australia; disease caused by *P. ramorum* on *Larix* in the UK; discovering the putative origin of *P. lateralis* in Taiwan; ornamental nurseries as distributors of *P. ramorum*; how to best engage with communities to

prevent spread of *P. cinnamomi* in Australia; the spread of *Phytophthora* spp. in forests by pigs and slugs; stream baiting to assay for the presence of



Taking no chances: Delegates walk through foot bath to ensure clean footwear.



Phytophthora spp.; the mode of action of phosphite; and taxonomic issues.

At the close of the meeting on Friday, an hour long moderated discussion focussed on kauri dieback was conducted. The primary message from this discussion was that the fundamental science questions around kauri dieback and *Phytophthora* taxon Agathis need to be addressed. Suggestions on how Auckland Regional Council could improve the management of kauri dieback, such as improved multilingual signs in the parks, were also put forward.

The scientific content of the meeting was excellent; however, the real highlight of this meeting was the opportunity to interact with colleagues and discuss future collaborations. This is a very active IUFRO working party and the next meeting will be held somewhere in Europe in 2012.

Tod Ramsfield, Margaret Dick and Pam Taylor.

GUM LEAF SKELETONISER BIOLOGICAL CONTROL SUBMISSION OPEN

Scion has now submitted an application to the Environmental Risk Management Authority (ERMA New Zealand), on behalf of the Gum Leaf Skeletoniser Stakeholder Group, to release a new biological control agent for *Uraba lugens* (gum leaf skeletoniser).

The agent, a parasitoid wasp, *Cotesia urabae*, has been under investigation at Scion for the past three years as part of a Sustainable Farming Fund project.

ERMA is now inviting submissions on the application (until 27 May 2010), via the website www.ermanz.govt.nz, application number ERMA200281.

Lisa Berndt

NEW RECORDS

We are no longer publishing details of new records. For further information on results of MAFBNZ funded programmes see MAFBNZ's Biosecurity magazine (<http://www.biosecurity.govt.nz/publications/biosecurity-magazine/index.htm>) where information on new biosecurity identifications is regularly published.

John Bain