PEST AND DISEASE CONTROL

GIANT WILLOW APHID RESEARCH KICKS OFF

Barry Foster, Project Chairman

The giant willow aphid (GWA) control team had its first meeting at Scion in Rotorua on 21 November 2016. The team comprises representatives from Scion, Plant & Food Research, The New Zealand Poplar & Willow Research Trust, Zespri, Apiculture New Zealand and the Regional Councils River Managers group.

This meeting marked the start of the project in that all contracts have now been completed and signed. It is an ambitious project that presents many unknowns and will run until 2019.

The scope of the project is broad to ensure that it progresses its three most important elements: 1) biological control, 2) willow resistance and 3) short-term mitigation strategies.

Funding

The budget for funding this programme is tight and we are grateful to receive co-funding from a wide range of sources including various ApiNZ Hubs and beekeeping businesses, as well as co-funding from MPI's Sustainable Farming Fund. As always, we could do more with more co-funding and any future co-funding will be gratefully received.

Progress to date

Scion and Plant & Food Research have undertaken some initial work to find a potential candidate parasitoid wasp. They also are evaluating willow cultivars to determine those most resistant to GWA and to quantify the impact of GWA infestations on willow health and survival. Short-term mitigation is being looked at as well for the continued health of horticulture and amenity willows.

Several steps will need to fall into place in order to successfully import a new organism for testing as a biological control agent. The organism needs to be located, correctly identified by a taxonomic expert, approved for import by both the Environmental Protection Authority (EPA) and MPI and successfully transported to New Zealand. Finally, the right conditions must be met in order to develop a perpetuating colony here in containment.

Last August and October, scientists from Scion travelled to Japan and California to locate a specific known parasitoid of giant willow aphid known as *Pauesia salignae*, as shown in the photo above.

Left to right: Dr John McLean and Barry Foster, Dr Stephanie Sopow (Scion) and Dr Trevor Jones (Plant & Food Research), taken at Scion's laboratory in November 2016. Stephanie is holding a box containing samples of Pauesia salignae *and a hyperparasitoid that were collected in Japan in August. Photo provided by Scion.*

Pauesia salignae, a GWA parasitoid. Photo: Barry Foster.

An application to the EPA to import this parasitoid in containment will be made this year. If successful, the first imports into containment could be made by October. Prior to that time, we will attempt to match the candidate parasitoid with the genetics of our aphids to best match parasitoid and host and, if possible, to find out where our GWA came from.

Following an importation of a parasitoid in containment, there will be approximately two years of evaluation with regard to its efficacy against GWA, any impacts on the local ecology, and consultation with stakeholders including iwi.

We will provide further updates as this project progresses. A website is planned, as well as presentations and consultations at forthcoming ApiNZ conferences.