

Biological control of invasive European blackberries — research continues despite COVID-19 related challenges

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In this article, we learn more about the progress being made by Australian scientists to investigate the potential of a new biocontrol agent against weedy blackberry species in Australia. In the Spring 2021 edition, we outlined how researchers from Agriculture Victoria and CSIRO's European laboratories are working together to ensure that rigorous scientific approaches are being utilised to assess the suitability of this new agent, a cane-boring sawfly.

The first stage of the project involved close liaison with the berry industry to prioritise a list of *Rubus* cultivars to include in "host specificity testing studies". These studies assess the ability of the sawfly to lay eggs and survive on plant species that are closely related to weedy blackberry (*Rubus fruticosus* aggregate). These include commercially important blackberry and raspberry cultivars, as well as Australian native species such as native raspberries. With so many commercial varieties currently available, not to mention ones that may become important into the future we used a decision support tool to help prioritise the list.

To accommodate the large number of plant species to be tested over the life of the project, we have grouped them into three categories: Group A (commercial blackberry and raspberry cultivars), Group B (native raspberries) and Group C (commercial species within the order Rosales).

Where are we now?

In Stage 2 of the project, many of the Group A plants have already been provided by growers and are being grown at Agriculture Victoria's AgriBio Centre in Melbourne where the host specificity testing studies will be conducted within the dedicated biocontrol quarantine facility. We have been trialling several techniques to develop a system for containing the rapid and expansive growth of the berry plants within the AgriBio glasshouses (Figure 2). Our methods contain canes within a wire mesh cage inserted within the pot (Figure 2a), which allows individual plants to be

transported into quarantine for host specificity testing. Canes are trained upwards onto a wire trellis, which enables mass propagation of plants within a limited space (Figure 2b). When these plants have developed sufficiently sized crowns, they will be cut back over winter and set up with individual wire cages in preparation for testing.

As with many other projects, COVID-19 restrictions impacted travel and access to research facilities, especially in France where CSIRO are rearing a colony of sawflies. This limited the researchers' abilities to undertake biology, behaviour and ecology studies required to successfully rear the sawfly under laboratory conditions. These challenges meant that it was not possible to import the sawfly in December 2021 as originally planned. With the easing of COVID-19 related restrictions and lessons learned from last year's sawfly rearing trials, researchers from CSIRO are confident they can rear and export sufficient numbers of sawflies to Australia by December 2022, with a subsequent shipment in early 2023.

Exciting times ahead

Over the next six months, the sawfly will be imported from France into quarantine where we will commence the host specificity testing studies on the Group A plants. Stay tuned for further articles as we keep you updated as the project progresses.

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Stages involved in assessing the risk of a *NEW* biocontrol agent for blackberry

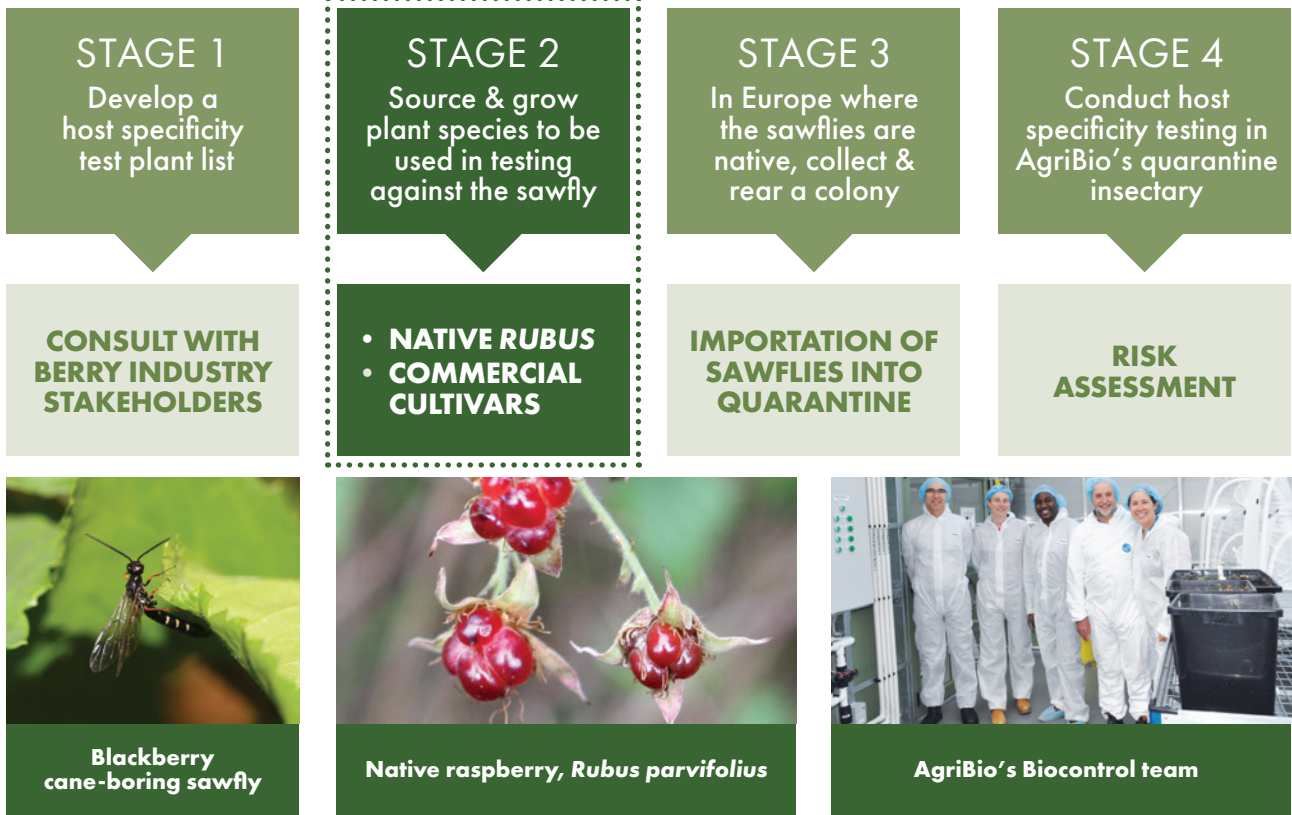


Figure 1. Progress to date on the blackberry biological control project.



Figure 2. Methods for propagating blackberry and raspberry plants using (a) a wire cage around each pot, and (b) a wire trellis to support upright cane growth. Photo credit: Agriculture Victoria