

# Pest Management

BY ROSE BUITENHUIS, MICHAEL BROWNBIDGE, GRAEME MURPHY, ANGELA BROMMIT & TARO SAITO

## Dipping Cuttings to Start Clean

Poinsettia growers will remember the 2012 growing season, when high numbers of *Bemisia* whiteflies came in on the cuttings and were very hard to control. Biocontrol programs, which had been very successful in previous years, were under pressure from the beginning with high whitefly populations, making it difficult to get control using parasitic wasps. In addition, these hitchhiking whiteflies had already been exposed to many different pesticides and couldn't be controlled with previously effective products, such as Forbid. Luckily, 2013 was a much better year and poinsettia cuttings arrived relatively clean. However, this experience has taught us that new tools are needed to disinfest cuttings, so that growers can be sure to start with a clean crop every year. Vineland researchers are working with Flowers Canada and the Ontario Ministry of Agriculture & Food and the Ministry of Rural Affairs to get cutting dips on labels.

### Why dips?

Reduced risk products such as soaps, oils or microbes are ideal for this purpose. They'll kill whiteflies fast and leave minimal residues so biocontrols can be used almost immediately after treatment. However, applying these products the regular way—by spraying—frequently doesn't provide the coverage that's needed for effective control, especially on the underside of the foliage, and is also quite labor intensive. Immersion treatments, or dips, will cover the whole cutting and are easy to integrate into the workflow before the cuttings are stuck.

### Dipping project at Vineland

Based on previous research at the University of Guelph and preliminary trials using reduced risk pesticides, five products were tested as cutting dips, individually and as combinations. Experiments were designed to closely resemble commercial practices. Cuttings were taken from poinsettia stock plants that were infested with whiteflies. After counting the whiteflies on the cuttings, they were dipped, stuck into Oasis

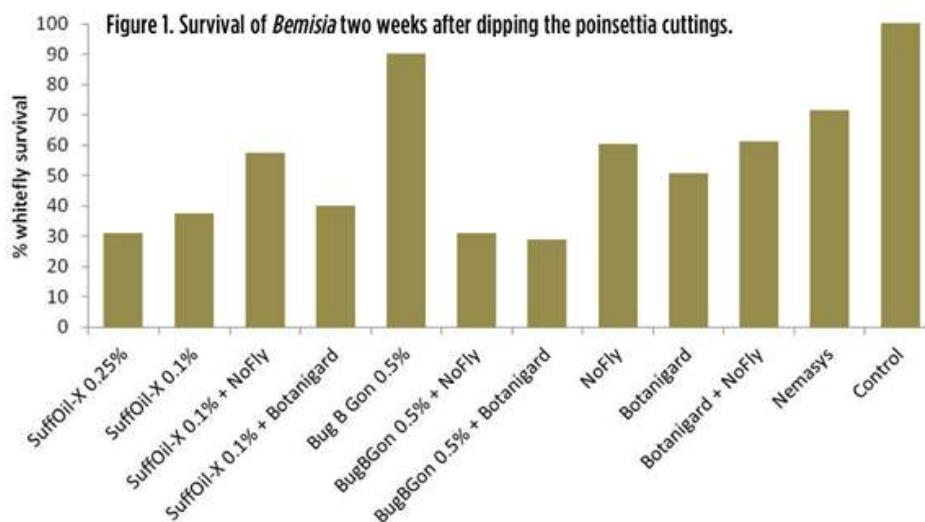


Photo courtesy of Paul Clec.

rooting wedges and placed in a greenhouse under misting. Two weeks later, the number of surviving whiteflies on the cuttings was determined (see Figure 1). The cuttings were then grown on in the greenhouse for an additional eight weeks to see how whitefly populations developed over time. Further experiments determined the phytotoxicity of various concentrations of dips and their compatibility with whitefly parasitoids.

>>>



Photo courtesy of Erin Vialle