Chastagner, G.A.; DeBauw, A.; Riley, K.; and Dart, N.L. 2009. Residual effectiveness of fungicides in protecting rhododendron leaves from *Phytophthora ramorum.* Phytopathology 99:S180.

Over 20 fungicides have been tested in the last 3 years to determine their residual effectiveness in protecting Rhododendron × 'Nova Zembla' foliage from *P. ramorum*. Following application, leaves were periodically collected from fungicide-treated and untreated container-grown rhododendron plants for up to 16 weeks. Detached leaves were inoculated with suspensions of zoospores from an NA1 lineage rhododendron isolate by pipetting three 10-µl drops of zoospore suspension onto the lower leaf surface on each side of the leaf midrib. The leaf tissue was injured beneath 3 drops on one side of the leaf midrib using an insect pin. The tissue beneath the drops on the other side of the leaf was left unwounded. Checks included inoculated and non-inoculated leaves from untreated plants that had been sprayed with water. Leaves were then incubated for 7 days at 19°C. Fungicide efficacy was quantified by measuring the areas of the resulting leaf spots using ASSESS. No disease developed on any of the non-inoculated checks. The size of the leaf spots on fungicide-treated leaves was compared to the size of leaf spots that developed on the inoculated check leaves after each inoculation test. Results indicate that residues of some fungicides, such as captan, had very limited residual activity. On the other hand, residues of other fungicides such as cyazofamid significantly reduced disease development up to 12 weeks after application. Overall, the residual effectiveness of fungicides was greater on unwounded leaves.