

**INVESTIGATION OF A “PRE-EMERGENCE” APPLICATION OF GRANULAR
IMIDACLOPRID TO MANAGE ROSE MIDGE, *DASINUERA RHODOPHAGA*
[DIPTERA: CECIDOMYIIDAE].**

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PROJECT OBJECTIVES:

The objective of this project is to evaluate the use of a “pre-emergent” application timing to reduce overwintering populations of the rose midge.

METHODS AND MATERIALS:

A field trial was conducted at the International Rose Test Garden (IRTG) in Portland, Oregon in 2006 to evaluate management of rose midge. Three treatments were applied to plots. The treatments were: untreated control; imidacloprid granular insecticide (Merit) applied at 1.8 lbs/1000 ft² (80 lbs/acre) prior to midge emergence on Feb. 24 and Feb. 27 (two separate days were required to complete application across entire Merit plots); and foliar cyfluthrin (Tempo 2) at a rate of 45 ml/100 gal applied April 8 and every two weeks throughout the growing season (4/28; 5/15; 5/29; 6/16; 7/14; 8/14). Miticides were also applied to the entire garden on 8/14 (Avid) and 8/25 (Floramite/Hexygon tank mix). Plots were sampled every week by evaluating rose branches from treated and non-treated plots from beginning June 1 and continued through the mid-October (10/16). A quantitative assessment of percentage tip damage was obtained by counting new growing tips and noting the percentage of those tips damaged. All damaged tips were examined under a microscope to further determine cause of damage.

RESULTS;

The onset of midge activity was delayed due to a late spring frost occurring during adult emergence which reduced midge survival. Most of the damage to shoots in early sampling was an abiotic disorder called blind shoots. The first signs of rose midge damage were detected June 20, 2006 (Figure 1.) and larvae were found shortly thereafter on June 27, 2006. By July 18, blind shoots were only a minor factor in the percent of damaged shoots, replaced by midge damage. Midge pressure was significantly less in the untreated control in 2006 (peak damage of 16%) compared to the untreated control in 2005 where rose midge damage peaked at 54%. Percent damaged shoots was greater in 2006 than 2005, for Merit a peak of 2% in 2005, 9% in 2006; for Tempo, a peak of 3.5% in 2005, 13% in 2006). Even so, the two chemical management programs kept percent damage below the untreated control. Further analysis of data to separate blind shoot damage from midge damage is planned.

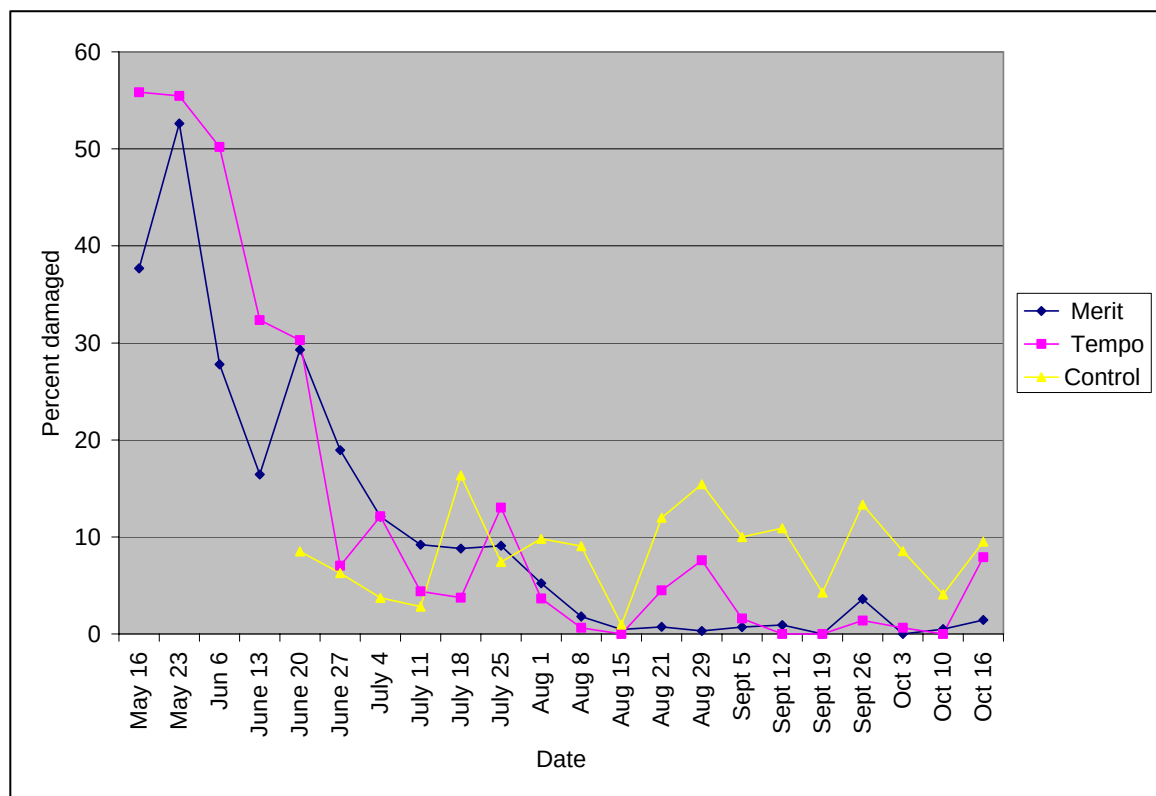


Figure 1. Percent of damaged rose shoots at the International Rose Test Garden in 2006 following applications of imidacloprid, cyfluthrin, and or a nontreated control.