

## **DEMONSTRATION: SPRAYING HOLLIES FOR CONTROL AND PREVENTION OF FLORIDA WAX SCALE**

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Florida wax scales have become a major landscape pest problem in the eastern half of Texas and throughout the southeastern United States. Insecticidal management involves monitoring holly shrubs for infestation. Once light infestations are detected, insecticidal treatments may be needed to prevent further infestation. Control of scale on heavily-infested plants using insecticides is difficult. Severe pruning can improve coverage by both soil-applied systemic and foliar spray treatments and eliminate unsightly scale-infested and honey dew covered foliage that will not be eliminated by insecticide treatments. Foliar spray treatments are best applied soon after eggs hatch into crawler stages that infest new plant growth. When crawlers settle and begin secreting wax, they become visible and treatment should be initiated. One foliar spray treatment with both contact and systemic insecticidal activity contains acephate. This demonstration was conducted to assess the impact of a single foliar treatment using a leaf-marking method for evaluation.



**Figures 1, 2 and 3.** Early instar wax scale on holly, leaves marked with scale numbers prior to treatment.

### **Materials and Methods**

Florida wax scale infested holly shrubs were selected for treatment, May 22, 2004. On two shrubs designated to receive treatment, the number of early instar larvae were counted on 14 and 18 leaves, respectively. The numbers of scales were marked onto each leaf using a Sharpie® Permanent Marker pen. Another shrub was designated as the “untreated control” and received no treatment, 39 leaves were examined and scale numbers marked on each leaf. On June 2, 11 days following application, the number of scales remaining on marked leaves were counted to determine the difference in their numbers following treatment.

The treatment was applied before noon, May 22, 2004, using acephate (Orthene® Turf, Tree and Ornamental Spray, 75% wettable powder) applied using 1/8 tsp./2 pints water with about 1/8 teaspoon Palmolive dishsoap added as a surfactant.

### **Results and Discussion**

Foliar spray, using acephate (Orthene® Turf, Tree and Ornamental Spray, 75% wettable powder) plus surfactant significantly reduced the number of early instar wax scales per leaf (**Table 1**). Although scales did not disappear immediately, and no rain events were experienced between pre- and post- treatment assessments, numbers were reduced by 83% by the treatment. On untreated plants, scale numbers also declined by 53%, possibly due to sprinkler irrigation or other mortality factors affecting young, developing scales. However, mean or average scale numbers on the post-treatment evaluation were significantly different. Directions suggest making a second application 14 days after initial treatment to compensate of a longer period of crawler hatch.

**Table 1.** Mean number ( $\pm$  Standard Deviation) of early instar wax scale nymphs per leaf on holly shrubs following treatment with acephate 75% WP (Orthene® Turf, Tree and Ornamental Spray), Brazos Co., Texas.

	Untreated	Treated
Pre-treatment (May 22, 2004)	2.53 $\pm$ 1.59 S. D. (n = 39)	3.00 $\pm$ 1.44 S. D. (n = 32)
Post-treatment (June 2)	1.18* $\pm$ 1.47 (n = 39)	0.50* $\pm$ 1.16 (n = 32)
Percent change	53%	83%

\* Post-Treatment means significantly different using Student's t-test ( $t = -2.127$ ;  $P = 0.037$ ; d. f. = 69).