

Mating Disruption/SIR

Gravimetric and Residual Analysis of the Field Performance of Isomate C+ Dispensers

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Every year questions are directed to Pacific Biocontrol about the longevity of Isomate C+ dispensers. Release rates of Isomate C+ are a function of temperature, wind and, to some degree, time exposed in the field. To better understand the performance and longevity of Isomate C+ in the field under different climatic conditions, research trials were conducted in 4 areas.

Experimental trials were established in Phoenix, Arizona; Davis, California; and Yakima and Wenatchee, Washington. Every attempt was made to choose clean sites free from excessive dust or blowing soil. Dispensers were deployed in apple or pear trees if possible or in trees with suitable architecture. Trees were not treated with applications of any spray material. At each site 85 dispensers (100 dispensers in Phoenix) were weighed on an analytical balance to the nearest tenth of a milligram (X.0000) and their weights recorded. Each dispenser was then labeled with a numbered tag. Tagged dispensers were twisted onto metal paper clips and then randomly attached to a line strung between trees or to a line strung within a tree. Dispensers were positioned on the line so that they were situated within the canopy approximately 3 feet from the top of the trees. Dispensers were separated from each other on the line by 7 to 10 cm.

Twenty-five tagged dispensers were removed from trees and weighed every 7 days. Following each weighing, dispensers were randomly reattached to the line within the trees. Beginning with Day 0 and every 14 days thereafter, six dispensers were randomly removed from the line, weighed to the nearest tenth of a milligram, labeled (product name, # of dispensers and harvest date), wrapped in aluminum foil and then shipped to the lab for analysis.

A modified version of the codling moth degree model was used to predict the expected longevity of Isomate C+. The upper threshold was changed from 88°F (31°C) to 120°F (49°C). Maximum and minimum temperatures were taken from the closest weather station.