

# Variable Rate Mating Disruption

**Semios** offers a new, proven generation of mating disruption technology for integrated pest management solutions for tree fruit and tree nut crops.

The use of pheromones in mating disruption is a highly effective pest management strategy.

## BENEFITS

- Safe for bees and other beneficials
- No demonstrated resistance in over 30 years of use.

## CHALLENGE

- Effective deployment difficult
- High cost of active ingredients

In mating disruption, pheromone is released at a high rate from dispensers disorienting the male and making him unable to detect the plume of the female



### ACTIVE RELEASE FAVORING LATE FLIGHTS

Insect pressure

Active Release Pheromones

JAN APR JUL OCT

### ACTIVE RELEASE FAVORING EARLY FLIGHTS

Insect pressure

Active Release Pheromones

JAN APR JUL OCT

Historically, pheromones were applied via passive release systems, which were less effective due to poor dispersion when pests were most active.

Today, active release is the predominant choice as it requires less labor to deploy and delivers constant treatment throughout the application period. However, given the variability between seasons and number of flights, growers generally need to make concessions in terms of preference in covering the early or later part of the season. This is where variable rate mating disruption offers a distinct advantage.



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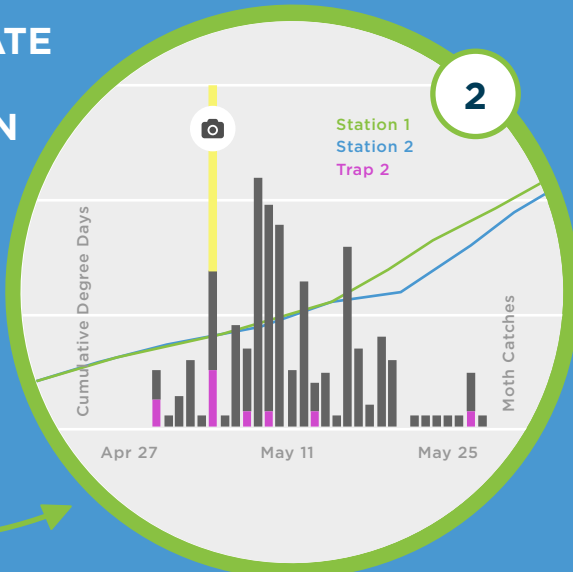
The effective deployment of Variable Rate Mating Disruption requires using a combination of 3 critical inputs to determine optimal scheduling:

- 1 Automated trap counts within the block
- 2 Accurate degree days determined by in-canopy temperature measurement
- 3 Remotely programmable pheromone dispensers

## VARIABLE RATE MATING DISRUPTION



3



2

At Semios, we include these important components as part of our precision farming service, enabling Variable Rate Mating Disruption. We work with growers and their consultants on the timing of applications to enhance the efficacy of sprays and pheromone application.

We install in-canopy sensors on every acre to accurately measure degree days for every block. Our automated insect traps include daily reports and photos delivered straight to your phone.

**Variable Rate Mating Disruption remotely manages the amount of pheromone dispersed in response to growing moth populations. As flight strength increases, so does our rate of application of pheromones to disrupt mating and help suppress the population.**

In doing so, the pheromones can be stretched to cover up to 365 days/year, with maximum application during the peak of every moth flight. It's important to note that Variable Rate Mating Disruption uses the same amount of pheromone per acre/year as other Active release technologies; it's simply used in a more targeted fashion.

### VARIABLE RATE TARGETING FLIGHT PEAKS

