



# GROWER/PCA EVALUATION OF THE NEW WALNUT HUSK FLY PHEROMONE

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**Project status in 2024: Year 1 of 1**

## PROJECT OBJECTIVES:

To have grower/PCA evaluation of the utility of the WHF aggregation pheromone ( $\delta$ -heptalactone) lure.

## BACKGROUND

Walnut husk fly (WHF) is a significant pest of walnuts and has increased in importance over the past 20 years. Control of WHF is based on repeated applications of insecticides to control the adults. Initiation of the spray program and monitoring of the efficacy of the spray program is based on captures in yellow panel traps baited with an ammonium carbonate (AC) feeding lure. An improvement in monitoring through increased fly catches would aid in determining the proper time to initiate an insecticide control program and in determining the efficacy of the control program. Sarles et al. 2019 discovered a male produced WHF aggregation pheromone ( $\delta$  (delta)-heptalactone). Research conducted last year determined that 1) lures containing  $\delta$ -heptalactone were more effective than the lures with AC and 2)  $\delta$ -heptalactone captured WHF earlier in the season than AC lures. To assess the potential utility of the  $\delta$ -heptalactone lure, 17 growers/PCAs in 4 walnut growing regions of California recorded WHF catch in the new WHF lure alone, the WHF lure combined with a standard AC lure, and the standard AC lure alone.

## KEY FINDINGS

The  $\delta$ -heptalactone lure is more effective than AC and combination lures in orchards with low WHF population densities. As WHF population density increases, the efficacy of the  $\delta$ -heptalactone lure decreases relative to that of the AC and combination lures, both of which are more effective at high population densities. For optimal monitoring of WHF populations, growers/PCAs should take the WHF population densities of their orchards into account when selecting which lures to use. Growers/PCAs could also deploy both  $\delta$ -heptalactone and AC lures to ensure efficient catch as population densities fluctuate throughout the season. The  $\delta$ -heptalactone lure also provides early in the season catch of WHF which provides growers more lead time for their insecticide application. The lure will be commercially available for use this coming season.