

Navel Orangeworm Program 2023 – Weekly Report

Week Ending – February 24, 2023

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I. Program Updates

Navel Orangeworm Area Wide Program – Multi-Phase Approach

Phase 1 – 2018-2022

Phase 1 was the Initial Phase of the Navel Orangeworm (NOW) Program (Program) with a focus on developing NOW sterile insect technique (SIT) moths, determining their viability during cold storage transfer, performing quality control (QC) on mating propensity and survivability of the sterile moths, developing a trap monitoring program, and collecting preliminary damage data from the orchards participating in the Program's project site.

Phase 2 – 2023

Phase 2 is the Data Phase of the NOW Program. The focus of this phase is controlling variables within the orchards participating in the Program's project site in order to increase the integrity of the field data being collected. During this phase a University of California Cooperative Extension (UCCE) coordinator will take over as a grower point of contact. They will be responsible for coordinating with growers and establishing orchards for the Phase 2 Program project site.

Navel Orangeworm Sterile Insect Technique

The Navel Orangeworm Program utilizes NOW SIT moths obtained from the United States Department of Agriculture (USDA) Phoenix, Arizona Rearing Facility. QC tests are performed on every shipment of NOW SIT moths used for aerial releases.

Aerial releases for 2023 are anticipated to begin in early March 2023, with one magazine of approximately 750,000 moths being released daily over two 640-acre orchards in Fresno County, designated as Zones 1 and 3. A second magazine of approximately 750,000 moths will also be released daily over a second set of two 640-acre orchards beginning later in the year. The start date of the second magazine is yet to be determined.

Navel Orangeworm Trapping

During Phase 1 of the NOW Program, trap monitoring operations began May 5, 2020, with an area wide project site that included a total of four orchards in Fresno County: two 640-acre almond orchards and two 640-acre pistachio orchards. On May 17, 2021, the Area Wide Project site expanded to include four additional orchards in Fresno County: one 640-acre almond orchard, one 640-acre pistachio orchard, one 160-acre almond orchard, and one 160-acre pistachio orchard. All eight orchards, designated as Zones 1 through 8, were serviced on a weekly basis.

For Phase 2 of the NOW Program, the area wide project site will include eight 640-acre orchards; four pistachio and four almond. Currently, the project site includes four orchards in Fresno County: two 640-acre pistachio orchards and two 640-acre almond orchards. All four orchards, designated as Zones 1, 2, 3, and 4 are being serviced on a weekly basis. More acreage will be added to the Project site before being finalized. As more acreage is added, it will be included in this weekly report.

II. Project Design

The 2023 Area Wide Project site is being restructured in preparation for Phase 2 of the Program, which will establish more standardized and consistent approaches to mating disruption, sanitation, pesticide usage, and other cultural practices for more comparable data between each orchard set (release site/control site).

Listed below is information related to each orchard within the Program’s Phase 2 project site for 2023, thus far:

Zone #	Crop Type	Acres	Release/Non-release Site	Date Added to Area Wide Project
Zone 1	Pistachio	640	Release	February 2023
Zone 2	Pistachio	640	Non-release	February 2023
Zone 3	Almond	640	Release	February 2023
Zone 4	Almond	640	Non-release	February 2023

Each zone has a trap site ratio of approximately 1 trap site per 18 acres for a total of 36 trap sites for each 640-acre zone. Each trap site has one trap baited with NOW pheromone/PPO lures. All traps are serviced on a weekly basis. Servicing includes collecting trap bottoms and replacing with new trap bottoms. Bait/lure changes occur once a month, and trap tops are replaced as needed. Counts are performed on each trap collected to determine number of wild versus sterile captures and male versus female captures.

III. Trap Results for Week Ending on February 24, 2023

Zone 1 – Pistachio Orchard

A total of **36** pheromone/PPO lure-baited traps were collected from Zone 1 on Tuesday, February 21.

Zone 1 - Pistachio								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	*Non-ID Total
Feb 7 - Feb 13	0	0	0	0	0	0	0	0
Feb 13 – Feb 21	0	0	0	0	0	0	0	0

Zone 2 – Pistachio Orchard

A total of **36** pheromone/PPO lure-baited traps were collected from Zone 2 on Tuesday, February 21.

Zone 2 - Pistachio								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	*Non-ID Total
Feb 9 - Feb 16	0	0	0	0	0	0	0	0
Feb 16 – Feb 21	0	0	0	0	0	0	0	0

Zone 3 – Almond Orchard

A total of **36** pheromone/PPO lure-baited traps were collected from Zone 3 on Wednesday, February 22.

Zone 3 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	*Non-ID Total
Feb 15 - Feb 22	0	0	0	0	0	0	0	0