

Navel Orangeworm Program 2025 – Weekly Report

Week Ending – July 4, 2025

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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 – 2023-2025

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 to increase the integrity of the field data being collected. Strategic planning and industry communication with NOWAC remains with Matthew Aubuchon, the USDA National Policy Coordinator, in partnership with CDFA.

Navel Orangeworm Sterile Insect Technique

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

Releases of sterile NOW moths began on March 26 with one magazine of approximately 750,000 sterile moths being released daily over select sites in West Fresno County. CDFA conducted ground releases every day between March 26 and May 27 at select sites until aerial releases were available. Ground releases occurred at Zones 3 and 9 between March 26 and May 11. The remaining almond release sites were added to the release schedule starting on May 12, bringing the total to 8 almond release sites, which include Zones 3, 9, 12, 14, 16, 18, 19, and 21.

Beginning on May 28, releases will be conducted six days per week via aircraft.

Currently, releases are being conducted exclusively over almond sites and will change to being conducted exclusively over pistachio sites later in the year to prioritize periods of crop specific vulnerability to NOW damage.

Listed below are circumstances which prevented regular releases in 2025:

- March 29 – March 30: No releases conducted due to staffing issues
- April 26: No releases conducted due to rain and muddy conditions preventing access to the release sites; magazine from April 26 held overnight for release on April 27
- April 27: Ground release conducted for both magazines from April 26 and April 27
- April 28 – April 29: Aerial releases were conducted in place of ground releases for testing purposes

- May 6: No releases conducted due to change from same-day to next-day releases
- June 30: No releases conducted due to issues with release equipment
- July 1: Double aerial release conducted for both magazines from June 30 and July 1

Navel Orangeworm Trapping

The Phase 2 Area Wide Project Site for 2025 currently includes nineteen orchards: three pistachio and sixteen almond, located in the San Joaquin Valley. In 2024, the program had nine orchards with each orchard ranging in area from 600 to 640 acres. Many of these locations are currently enrolled in the 2025 field season; however, this year the Program is planning to expand enrollment to 32 orchards with the total area for each location being approximately 160-acres. Trapping is being conducted weekly year-round in all zones.

Listed below are any circumstances which prevented regular trap servicing in 2025:

- Week of January 3: No traps were serviced in Zones 2, 6, and 9 due to excessive rain and muddy conditions preventing access to trap sites
- Week of January 31: No traps were serviced in Zone 9 due to excessive rain and muddy conditions preventing access to trap sites; Zone 3, trap numbers 26 – 36 not serviced due to pesticide applications on site
- Week of February 7: No traps were serviced in Zones 3 and 7 due to pesticide applications on site; Zone 4, trap numbers 8 – 36 not serviced due to pesticide applications on site; No traps were serviced in Zone 6 due to rain and muddy conditions preventing access to trap sites
- Week of February 14: No traps were serviced in Zones 3 and 7 due to pesticide applications on site
- Week of February 21: No traps were serviced in Zones 3 and 7 due to pesticide applications on site; No traps were serviced in Zone 6 due to staffing issues
- Week of March 7: No traps were serviced in Zones 2, 3, 4, and 7 due to pesticide applications on site; No traps were serviced in Zone 5 due to excessive rain and muddy conditions preventing access to trap sites
- Week of March 21: No traps were serviced in Zones 4 and 6 due to excessive rain and muddy conditions preventing access to trap sites
- Week of March 28: No traps were serviced in Zones 2 and 9 due to pesticide applications on site; No traps were serviced in Zone 6 due to staffing issues
- Week of April 4: No traps were serviced in Zone 8 due to pesticide applications on site; No traps were serviced in Zone 4 due to staffing issues
- Week of April 11: No traps were serviced in Zones 3 and 8 due to pesticide applications on site
- Week of April 18: No traps were serviced in Zone 7 due to pesticide applications on site
- Week of April 25: No traps were serviced in Zone 6 due to staffing issues
- Week of May 9: No traps were serviced in Zones 3, 5, 7, and 8 due to pesticide applications on site
- Week of June 20: No traps were serviced in Zones 6, 20, and 21 due to pesticide applications on site
- Week of June 27: No traps were serviced in Zones 2 and 5 due to pesticide applications on site

II. Project Design

The Area Wide Project Site was restructured in 2023 in preparation for Phase 2 of the Program. Phase 2 aims to 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).

The 2025 Area Wide Project Site currently includes 19 orchards located in Fresno and Kings counties, identified in the table below. Additional acreage is currently being investigated and will be added to the Project Site as they are established. Listed below is information related to each orchard within the Program's Phase 2 project site for 2025:

Zone #	Crop Type	Acres	Release/Non-release Site	Date Added to Area Wide Project
<u>Zone 2</u>	Pistachio	160	TBD	February 2023
<u>Zone 3</u>	Almond	160	Release	February 2023
<u>Zone 5</u>	Pistachio	160	TBD	March 2023
<u>Zone 6</u>	Pistachio	160	TBD	March 2023
<u>Zone 7</u>	Almond	160	Non-release	April 2023
<u>Zone 8</u>	Almond	160	Non-release	April 2023
<u>Zone 9</u>	Almond	160	Release	May 2024
<u>Zone 10</u>	Almond	160	Non-release	May 2025
<u>Zone 11</u>	Almond	160	Non-release	May 2025
<u>Zone 12</u>	Almond	160	Release	May 2025
<u>Zone 13</u>	Almond	160	Non-release	May 2025
<u>Zone 14</u>	Almond	160	Release	May 2025
<u>Zone 15</u>	Almond	160	Non-release	May 2025
<u>Zone 16</u>	Almond	150	Release	May 2025
<u>Zone 17</u>	Almond	173	Non-release	May 2025
<u>Zone 18</u>	Almond	150	Release	May 2025
<u>Zone 19</u>	Almond	183	Release	May 2025
<u>Zone 20</u>	Almond	150	Non-release	May 2025
<u>Zone 21</u>	Almond	155	Release	May 2025

Each zone has a trap site ratio of approximately one trap site per 18 acres for a total of 9 trap sites for each 160-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 them 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.

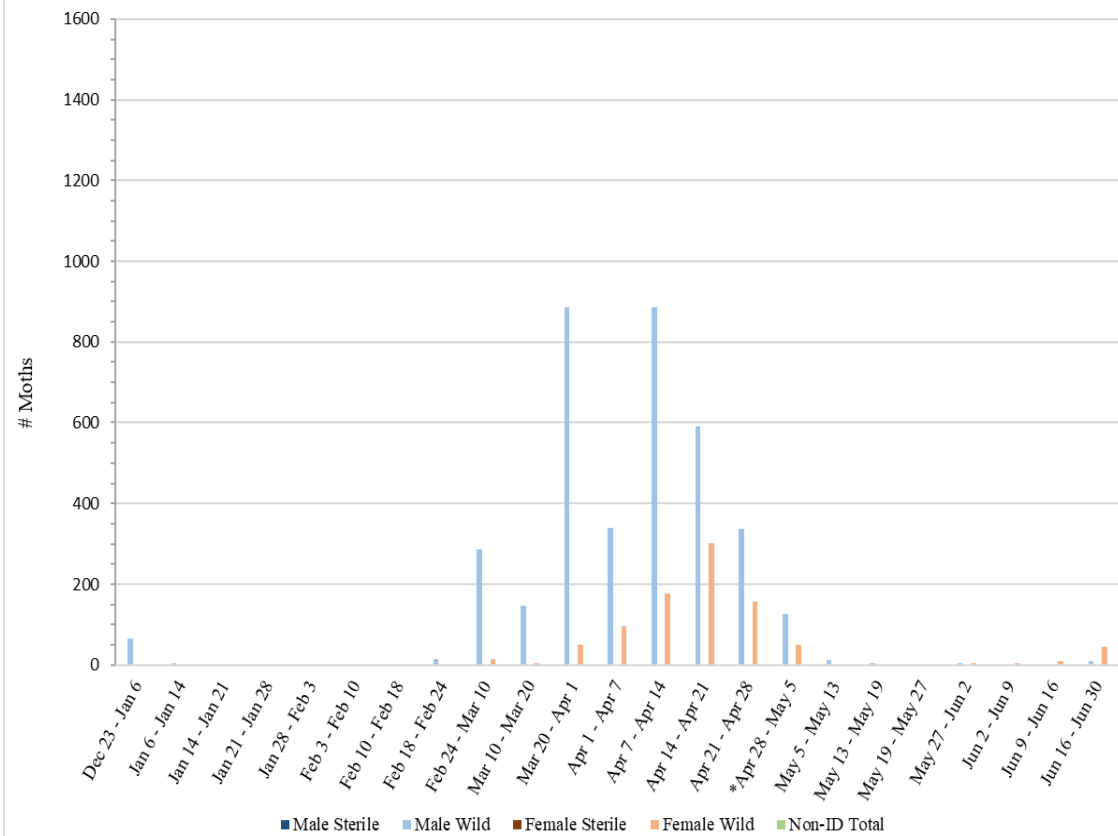
III. Trap Results for Week Ending on July 4, 2025

Zone 2 – Pistachio Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 2 on Monday, June 30.

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
¹ Dec 23 – Jan 6	0	0	65	65	0	0	0	0
Jan 6 – Jan 14	0	0	5	5	0	0	0	0
Jan 14 – Jan 21	0	0	0	0	0	0	0	0
Jan 21 – Jan 28	0	0	0	0	0	0	0	0
Jan 28 – Feb 3	0	0	0	0	0	0	0	0
Feb 3 – Feb 10	0	0	0	0	0	0	0	0
Feb 10 – Feb 18	0	0	2	2	0	0	0	0
Feb 18 – Feb 24	0	0	14	14	0	1	1	0
² Feb 24 – Mar 10	0	0	287	287	0	15	15	0
Mar 10 – Mar 20	0	0	146	146	0	4	4	0
³ Mar 20 – Apr 1	0	0	887	887	0	51	51	0
Apr 1 – Apr 7	0	0	340	340	0	95	95	0
Apr 7 – Apr 14	0	0	885	885	0	178	178	0
Apr 14 – Apr 21	0	0	590	590	0	301	301	1
Apr 21 – Apr 28	0	0	337	337	0	157	157	0
*Apr 28 – May 5	0	0	126	126	0	51	51	0
May 5 – May 13	0	0	12	12	0	0	0	0
May 13 – May 19	0	0	4	4	0	2	2	0
May 19 – May 27	0	0	3	3	0	1	1	0
May 27 – Jun 2	0	0	4	4	0	4	4	0
Jun 2 – Jun 9	0	0	3	3	0	5	5	0
Jun 9 – Jun 16	0	0	2	2	0	9	9	0
⁴ Jun 16 – Jun 30	0	0	9	9	0	46	46	0
¹ No traps were serviced in Zone 2 during the week of January 3 due to excessive rain and muddy conditions preventing access								
² No traps were serviced in Zone 2 during the week of March 7 due to pesticide applications on site								
³ No traps were serviced in Zone 2 during the week of March 28 due to pesticide applications on site								
*Zone 2 area decreased from 640 to 160 acres on May 5. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								
⁴ No traps were serviced in Zone 2 during the week of June 27 due to pesticide applications on site								

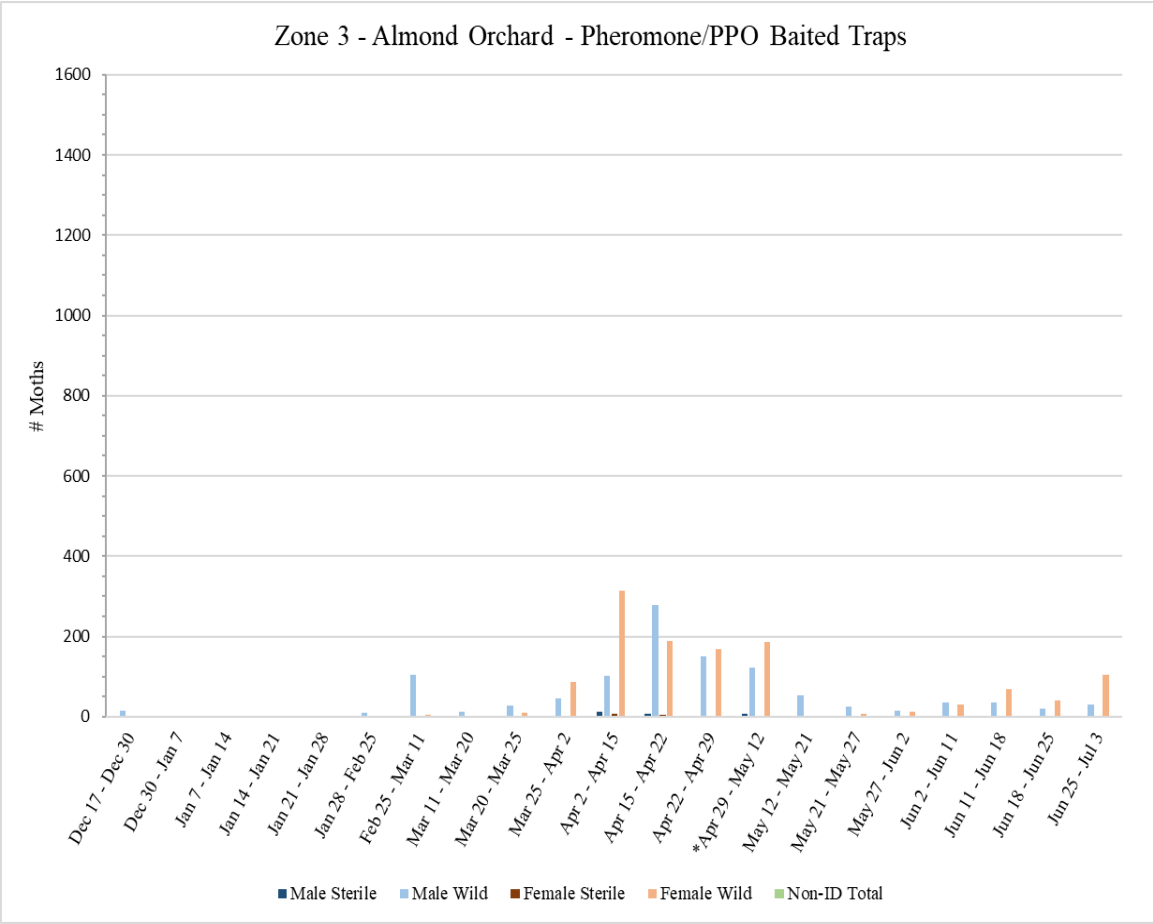
Zone 2 - Pistachio Orchard - Pheromone/PPO Baited Traps



Zone 3 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 3 on Thursday, July 3.

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
Dec 17 – Dec 30	0	0	15	15	0	0	0	0
Dec 30 – Jan 7	0	0	0	0	0	0	0	0
Jan 7 – Jan 14	0	0	1	1	0	0	0	0
Jan 14 – Jan 21	0	0	0	0	0	0	0	0
¹ Jan 21 – Jan 28	0	0	0	0	0	0	0	0
² Jan 28 – Feb 25	0	0	9	9	0	0	0	0
³ Feb 25 – Mar 11	0	0	105	105	0	5	5	0
Mar 11 – Mar 20	0	0	11	11	0	0	0	0
Mar 20 – Mar 25	0	0	27	27	0	10	10	0
Mar 25 – Apr 2	3	2	46	48	1	86	87	0
⁴ Apr 2 – Apr 15	7	12	102	114	6	315	321	0
Apr 15 – Apr 22	4	8	279	287	4	188	192	0
Apr 22 – Apr 29	5	1	149	150	0	168	168	0
^{5*} Apr 29 – May 12	7	7	122	129	3	186	189	0
May 12 – May 21	3	0	52	52	0	1	1	0
May 21 – May 27	2	0	24	24	0	7	7	0
May 27 – Jun 2	5	0	15	15	0	12	12	0
Jun 2 – Jun 11	9	2	34	36	0	31	31	0
Jun 11 – Jun 18	7	1	36	37	0	69	69	0
Jun 18 – Jun 25	7	0	21	21	0	41	41	0
Jun 25 – Jul 3	8	0	30	30	0	103	103	0
¹ Trap numbers 26 - 36 not serviced in Zone 3 during the week of January 31 due to pesticide applications on site								
² No traps were serviced in Zone 3 during the weeks of February 7, February 14, and February 21 due to pesticide applications on site								
³ No traps were serviced in Zone 3 during the week of March 7 due to pesticide applications on site								
⁴ No traps were serviced in Zone 3 during the week of Apr 11 due to pesticide applications on site								
⁵ No traps were serviced in Zone 3 during the week of May 9 due to pesticide applications on site								
*Zone 3 area decreased from 640 to 160 acres on May 12. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								

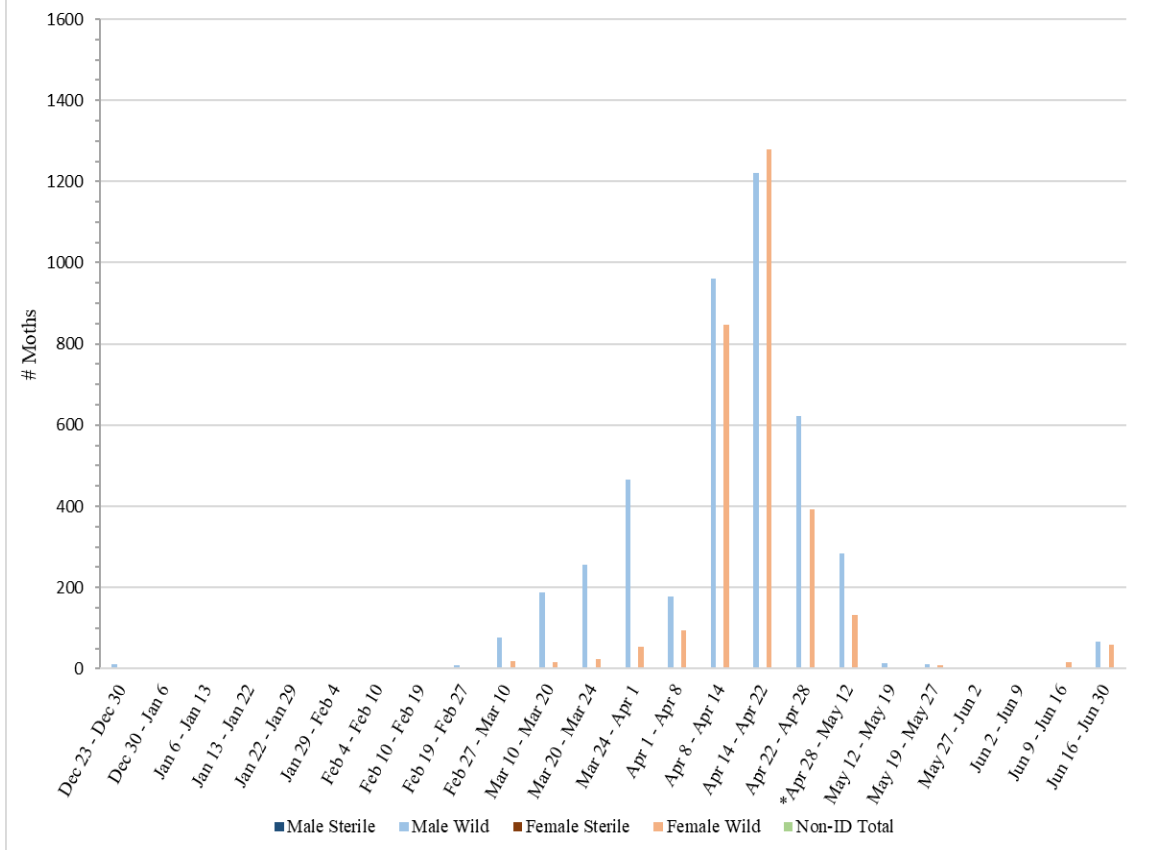


Zone 5 – Pistachio Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 5 on Monday, June 30.

Zone 5 - 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
Dec 23 – Dec 30	0	0	12	12	0	0	0	0
Dec 30 – Jan 6	0	0	1	1	0	0	0	0
Jan 6 – Jan 13	0	0	0	0	0	0	0	0
Jan 13 – Jan 22	0	0	0	0	0	0	0	0
Jan 22 – Jan 29	0	0	0	0	0	0	0	0
Jan 29 – Feb 4	0	0	0	0	0	0	0	0
Feb 4 – Feb 10	0	0	0	0	0	0	0	0
Feb 10 – Feb 19	0	0	0	0	0	0	0	0
Feb 19 – Feb 27	0	0	8	8	0	4	4	0
¹ Feb 27 – Mar 10	0	0	77	77	0	19	19	0
Mar 10 – Mar 20	0	0	188	188	0	15	15	0
Mar 20 – Mar 24	0	0	257	257	0	23	23	0
Mar 24 – Apr 1	0	0	465	465	0	54	54	0
Apr 1 – Apr 8	0	0	178	178	0	95	95	0
Apr 8 – Apr 14	0	0	961	961	0	846	846	0
Apr 14 – Apr 22	0	0	1221	1221	0	1279	1279	0
Apr 22 – Apr 28	0	0	623	623	0	393	393	0
² *Apr 28 - May 12	0	0	284	284	0	132	132	0
May 12 – May 19	0	0	14	14	0	4	4	0
May 19 – May 27	0	0	10	10	0	8	8	0
May 27 – Jun 2	0	0	3	3	0	1	1	0
Jun 2 – Jun 9	0	0	0	0	0	2	2	0
Jun 9 – Jun 16	0	0	4	4	0	17	17	0
³ Jun 16 – Jun 30	0	0	66	66	0	60	60	0
¹ No traps were serviced in Zone 5 during the week of March 7 due to excessive rain and muddy conditions preventing access								
² No traps were serviced in Zone 5 during the week of May 9 due to pesticide applications on site								
*Zone 5 area decreased from 640 to 160 acres on May 12. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								
³ No traps were serviced in Zone 5 during the week of June 27 due to pesticide applications on site								

Zone 5 - Pistachio Orchard - Pheromone/PPO Baited Traps

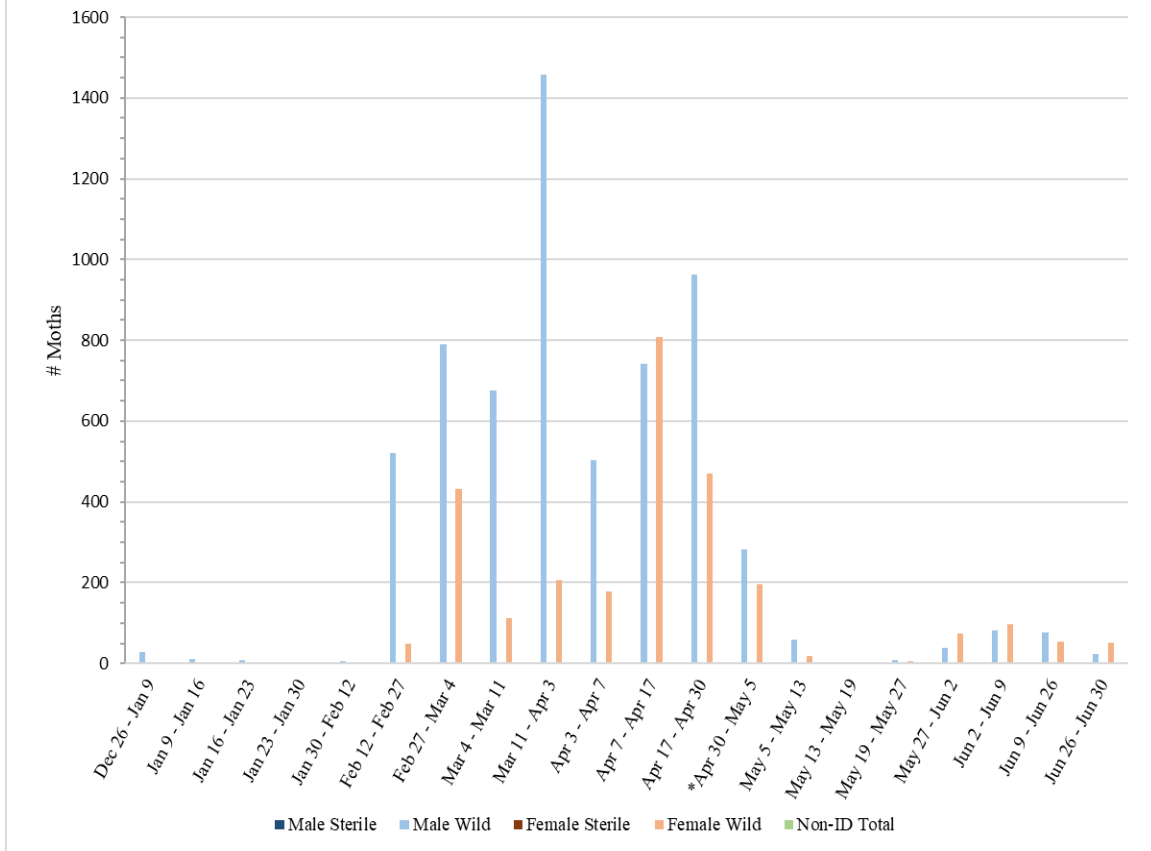


Zone 6 – Pistachio Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 6 on Monday, June 30.

Zone 6 - 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
¹ Dec 26 – Jan 9	0	0	28	28	0	0	0	0
Jan 9 – Jan 16	0	0	10	10	0	0	0	0
Jan 16 – Jan 23	0	0	9	9	0	0	0	0
Jan 23 – Jan 30	0	0	0	0	0	0	0	0
² Jan 30 – Feb 12	0	0	5	5	0	0	0	0
³ Feb 12 – Feb 27	0	0	522	522	0	48	48	0
Feb 27 – Mar 4	0	0	790	790	0	431	431	0
Mar 4 – Mar 11	0	0	677	677	0	111	111	1
⁴ Mar 11 – Apr 3	0	0	1459	1459	0	205	205	4
Apr 3 – Apr 7	0	0	504	504	0	179	179	0
Apr 7 – Apr 17	0	0	741	741	0	807	807	0
⁵ Apr 17 – Apr 30	0	0	964	964	0	471	471	1
*Apr 30 - May 5	0	0	282	282	0	195	195	0
May 5 – May 13	0	0	58	58	0	18	18	0
May 13 – May 19	0	0	2	2	0	0	0	0
May 19 – May 27	0	0	9	9	0	5	5	0
May 27 – Jun 2	0	0	39	39	0	74	74	0
Jun 2 – Jun 9	0	0	83	83	0	97	97	0
⁶ Jun 9 – Jun 26	0	0	77	77	0	54	54	0
Jun 26 – Jun 30	0	0	23	23	0	51	51	0
¹ No traps were serviced in Zone 6 during the week of January 3 due to excessive rain and muddy conditions preventing access								
² No traps were serviced in Zone 6 during the week of February 7 due to excessive rain and muddy conditions preventing access								
³ No traps were serviced in Zone 6 during the week of February 21 due to staffing issues								
⁴ No traps were serviced in Zone 6 during the week of March 21 due to excessive rain and muddy conditions preventing access; No traps were serviced in Zone 6 during the week of March 28 due to staffing issues								
⁵ No traps were serviced in Zone 6 during the week of April 25 due to staffing issues								
*Zone 6 area decreased from 640 to 160 acres on May 5. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								
⁶ No traps were serviced in Zone 6 during the week of June 20 due to pesticide applications on site								

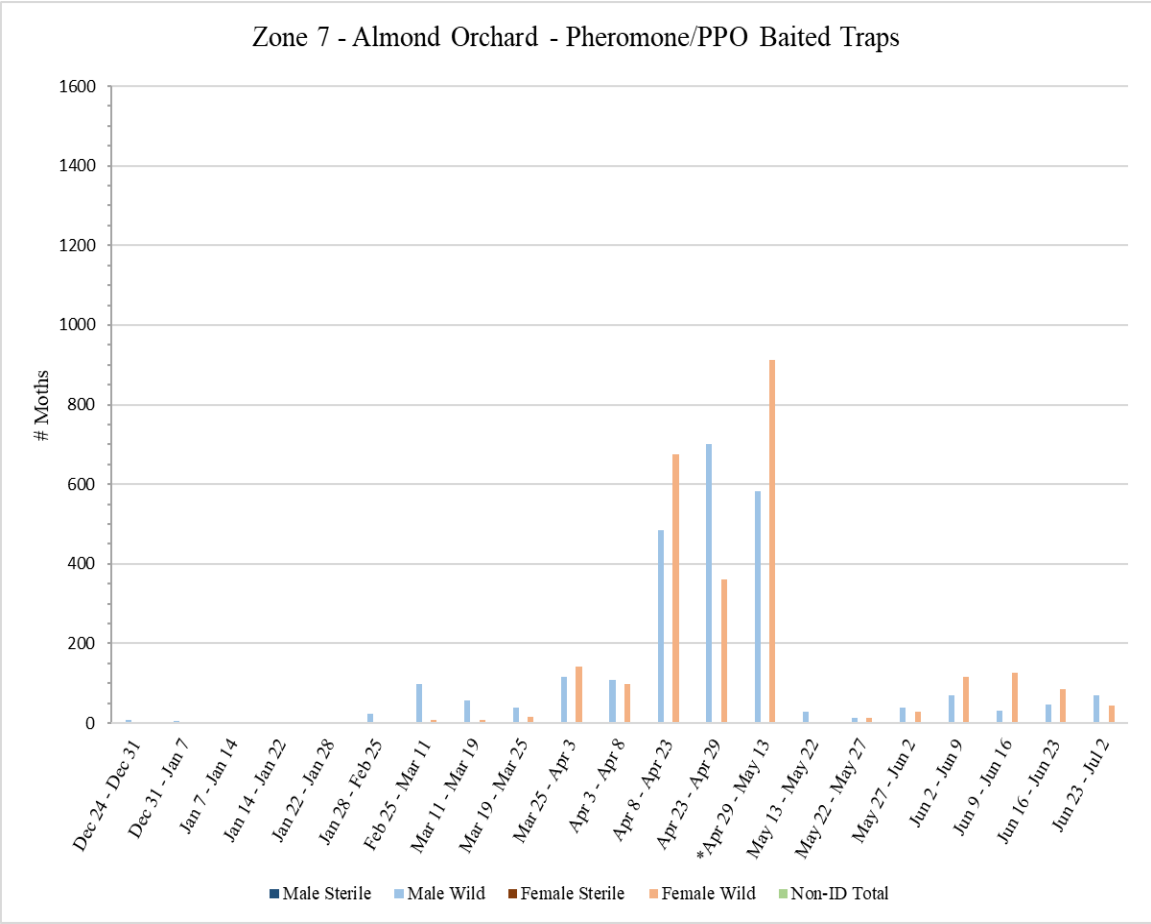
Zone 6 - Pistachio Orchard - Phoromone/PPO Baited Traps



Zone 7 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 7 on Wednesday, July 2.

Zone 7 - 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
Dec 24 – Dec 31	0	0	7	7	0	0	0	0
Dec 31 – Jan 7	0	0	6	6	0	0	0	0
Jan 7 – Jan 14	0	0	0	0	0	0	0	0
Jan 14 – Jan 22	0	0	1	1	0	0	0	0
Jan 22 – Jan 28	0	0	1	1	0	0	0	0
¹ Jan 28 – Feb 25	0	0	24	24	0	0	0	0
² Feb 25 – Mar 11	0	0	99	99	0	7	7	0
Mar 11 – Mar 19	0	0	57	57	0	9	9	0
Mar 19 – Mar 25	0	0	39	39	0	16	16	0
Mar 25 – Apr 3	0	0	116	116	0	142	142	0
Apr 3 – Apr 8	0	0	108	108	0	97	97	0
³ Apr 8 – Apr 23	0	0	484	484	0	674	674	0
Apr 23 – Apr 29	0	0	702	702	0	362	362	0
^{4*} Apr 29 – May 13	0	0	583	583	0	913	913	1
May 13 – May 22	0	0	29	29	0	3	3	0
May 22 – May 27	0	0	13	13	0	13	13	0
May 27 – Jun 2	0	0	38	38	0	29	29	0
Jun 2 – Jun 9	0	0	71	71	0	117	117	0
Jun 9 – Jun 16	0	0	32	32	0	127	127	0
Jun 16 – Jun 23	0	0	46	46	0	86	86	0
Jun 23 – Jul 2	0	0	70	70	0	45	45	0
¹ No traps were serviced in Zone 7 during the weeks of February 7, February 14, and February 21 due to pesticide applications on site								
² No traps were serviced in Zone 7 during the week of March 7 due to pesticide applications on site								
³ No traps were serviced in Zone 7 during the week of April 18 due to pesticide applications on site								
⁴ No traps were serviced in Zone 7 during the week of May 9 due to pesticide applications on site								
*Zone 7 area decreased from 640 to 160 acres on May 13. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								

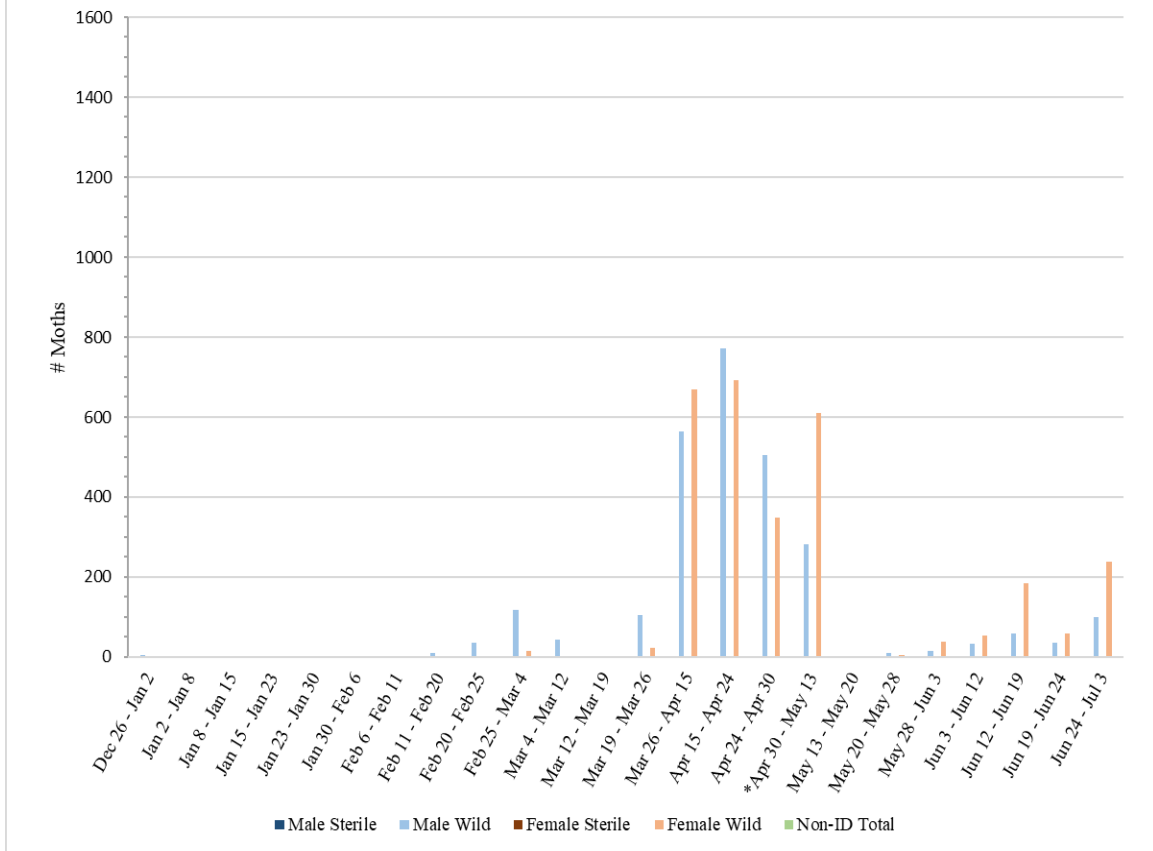


Zone 8 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 8 on Thursday, July 3.

Zone 8 - 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
Dec 26 – Jan 2	0	0	4	4	0	0	0	0
Jan 2 – Jan 8	0	0	1	1	0	0	0	0
Jan 8 – Jan 15	0	0	0	0	0	0	0	0
Jan 15 – Jan 23	0	0	0	0	0	0	0	0
Jan 23 – Jan 30	0	0	0	0	0	0	0	0
Jan 30 – Feb 6	0	0	1	1	0	0	0	0
Feb 6 – Feb 11	0	0	0	0	0	0	0	0
Feb 11 – Feb 20	0	0	10	10	0	0	0	0
Feb 20 – Feb 25	0	0	36	36	0	1	1	0
Feb 25 – Mar 4	0	0	118	118	0	16	16	0
Mar 4 – Mar 12	0	0	44	44	0	1	1	0
Mar 12 – Mar 19	0	0	3	3	0	1	1	0
Mar 19 – Mar 26	0	0	104	104	0	23	23	0
¹ Mar 26 – Apr 15	0	0	565	565	0	669	669	0
Apr 15 – Apr 24	0	0	772	772	0	693	693	1
Apr 24 – Apr 30	0	0	505	505	0	348	348	0
² *Apr 30 – May 13	0	0	281	281	0	610	610	0
May 13 – May 20	0	0	1	1	0	0	0	0
May 20 – May 28	0	0	9	9	0	6	6	0
May 28 – Jun 3	0	0	14	14	0	38	38	0
Jun 3 – Jun 12	0	0	34	34	0	54	54	0
Jun 12 – Jun 19	0	0	59	59	0	185	185	0
Jun 19 – Jun 24	0	0	35	35	0	59	59	0
Jun 24 – Jul 3	0	0	99	99	0	238	238	0
¹ No traps were serviced in Zone 8 during the weeks of April 4 and April 11 due to pesticide applications on site								
² No traps were serviced in Zone 8 during the week of May 9 due to pesticide applications on site								
*Zone 8 area decreased from 640 to 160 acres on May 13. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								

Zone 8 - Almond Orchard - Pheromone/PPO Baited Traps

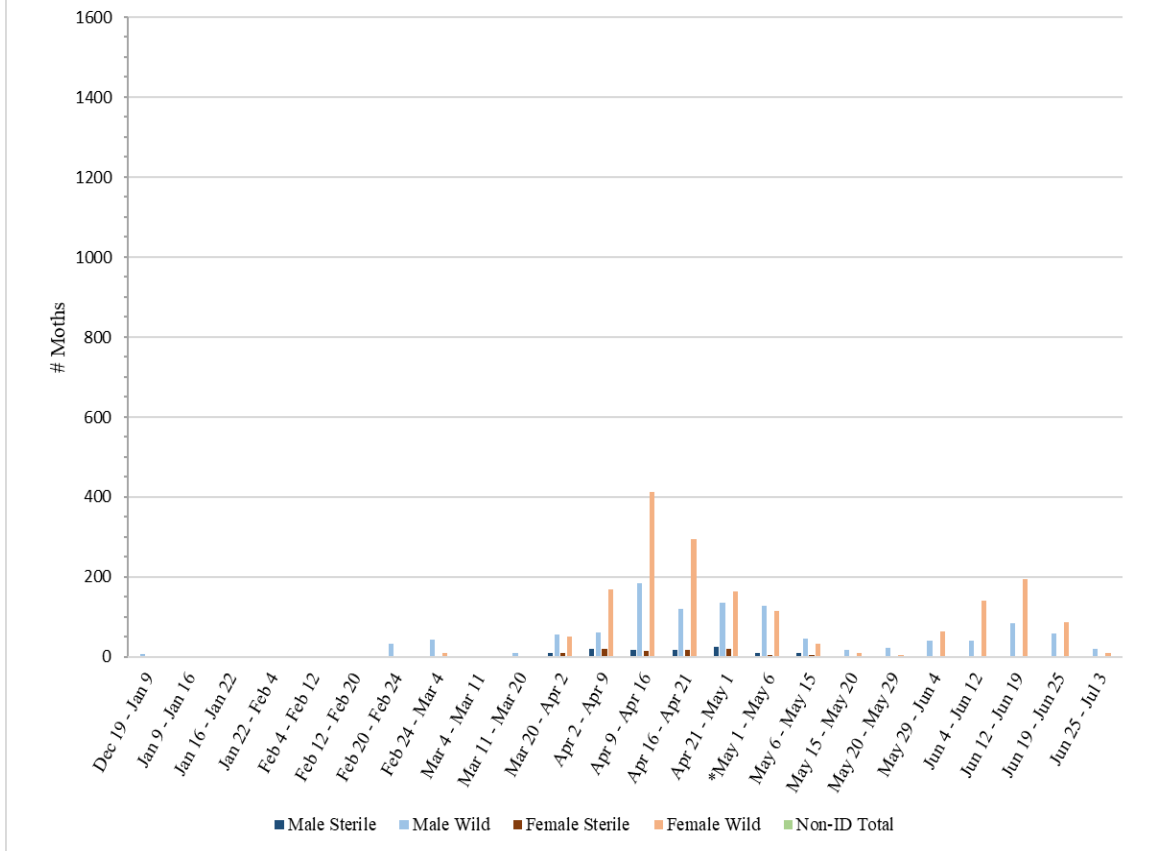


Zone 9 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 9 on Thursday, July 3.

Zone 9 - 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
¹ Dec 19 – Jan 9	0	0	7	7	0	0	0	0
Jan 9 – Jan 16	0	0	0	0	0	0	0	0
Jan 16 – Jan 22	0	0	1	1	0	0	0	0
² Jan 22 – Feb 4	0	0	1	1	0	0	0	0
Feb 4 – Feb 12	0	0	1	1	0	0	0	0
Feb 12 – Feb 20	0	0	3	3	0	0	0	0
Feb 20 – Feb 24	0	0	33	33	0	0	0	0
Feb 24 – Mar 4	0	0	44	44	0	9	9	0
Mar 4 – Mar 11	0	0	2	2	0	2	2	0
Mar 11 – Mar 20	0	0	11	11	0	1	1	0
³ Mar 20 – Apr 2	3	11	56	67	11	50	61	0
Apr 2 – Apr 9	4	20	62	82	21	169	190	0
Apr 9 – Apr 16	4	19	184	203	16	413	429	0
Apr 16 – Apr 21	3	17	121	138	18	295	313	0
Apr 21 – May 1	6	25	137	162	21	164	185	0
*May 1 – May 6	2	9	128	137	6	114	120	0
May 6 – May 15	3	10	45	55	4	33	37	0
May 15 – May 20	2	2	19	21	3	11	14	0
May 20 – May 29	4	2	23	25	0	6	6	0
May 29 – Jun 4	6	0	40	40	0	64	64	0
Jun 4 – Jun 12	8	3	42	45	1	140	141	0
Jun 12 – Jun 19	7	3	84	87	0	194	194	0
Jun 19 – Jun 25	6	0	60	60	0	88	88	0
Jun 25 – Jul 3	8	2	21	23	1	10	11	0
¹ No traps were serviced in Zone 9 during the week of January 3 due to excessive rain and muddy conditions preventing access								
² No traps were serviced in Zone 9 during the week of January 31 due to excessive rain and muddy conditions preventing access								
³ No traps were serviced in Zone 9 during the week of March 28 due to pesticide applications on site								
*Zone 9 area decreased from 640 to 160 acres on May 6. Trapping ratio is 1 trap:18 acres therefore total number of traps decreased from 36 to 9.								

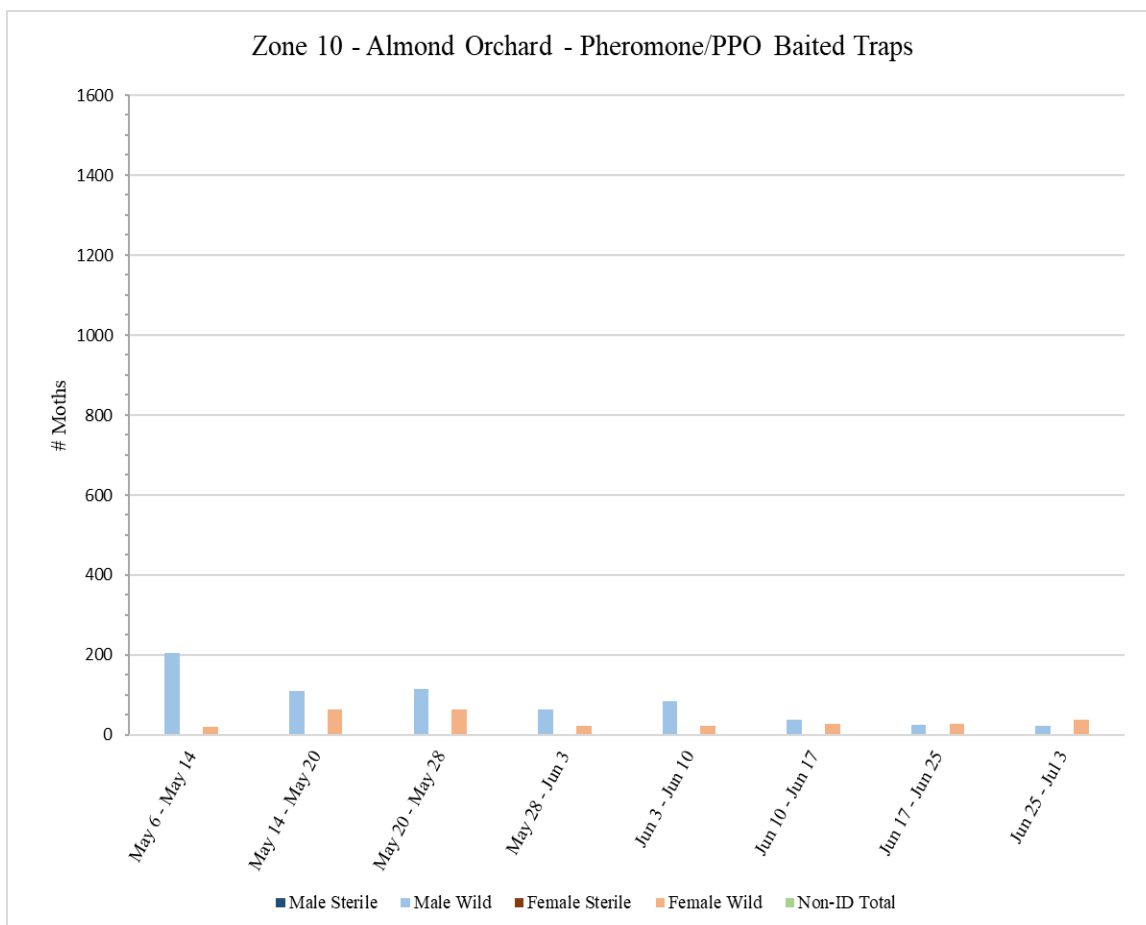
Zone 9 - Almond Orchard - Pheromone/PPO Baited Traps



Zone 10 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 10 on Thursday, July 3.

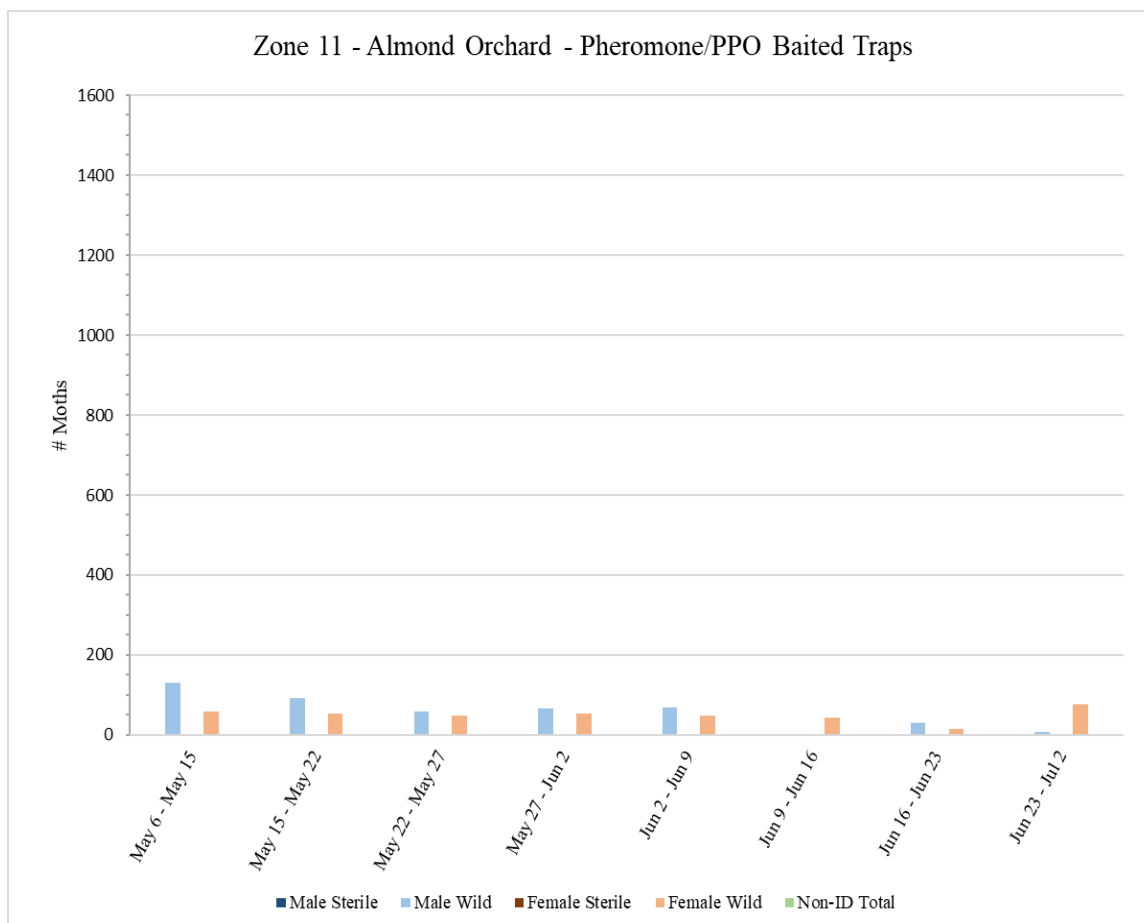
Zone 10 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 6 – May 14	0	0	206	206	0	21	21	0
May 14 – May 20	0	0	111	111	0	64	64	0
May 20 – May 28	0	0	114	114	0	65	65	0
May 28 – Jun 3	0	0	64	64	0	23	23	0
Jun 3 – Jun 10	0	0	85	85	0	23	23	0
Jun 10 – Jun 17	0	0	38	38	0	27	27	0
Jun 17 – Jun 25	0	0	25	25	0	28	28	0
Jun 25 – Jul 3	0	0	22	22	0	38	38	0



Zone 11 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 11 on Wednesday, July 2.

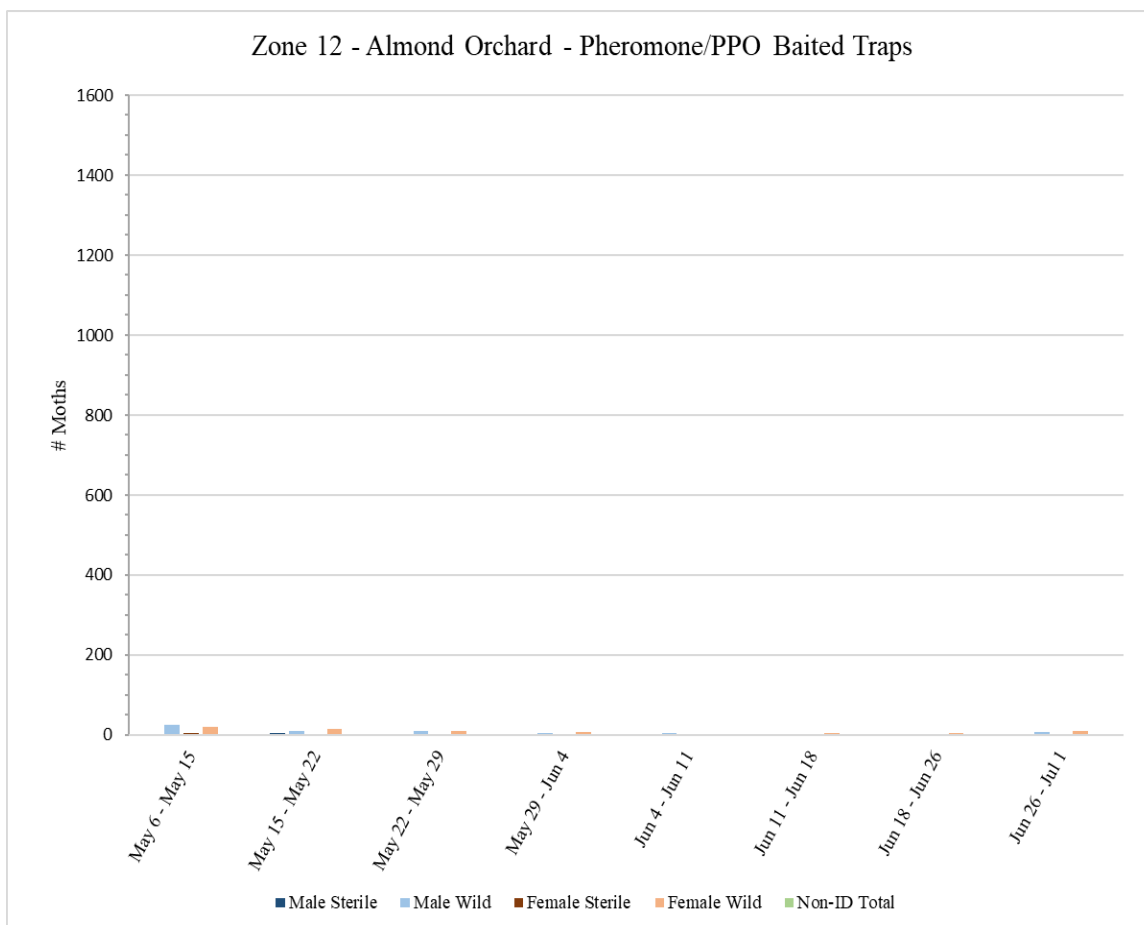
Zone 11 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 6 – May 15	0	0	130	130	0	58	58	0
May 15 – May 22	0	0	93	93	0	54	54	0
May 22 – May 27	0	0	59	59	0	48	48	0
May 27 – Jun 2	0	0	66	66	0	54	54	0
Jun 2 – Jun 9	0	0	69	69	0	49	49	0
Jun 9 – Jun 16	0	0	3	3	0	44	44	0
Jun 16 – Jun 23	0	0	31	31	0	15	15	0
Jun 23 – Jul 2	0	0	7	7	0	77	77	0



Zone 12 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 12 on Tuesday, July 1.

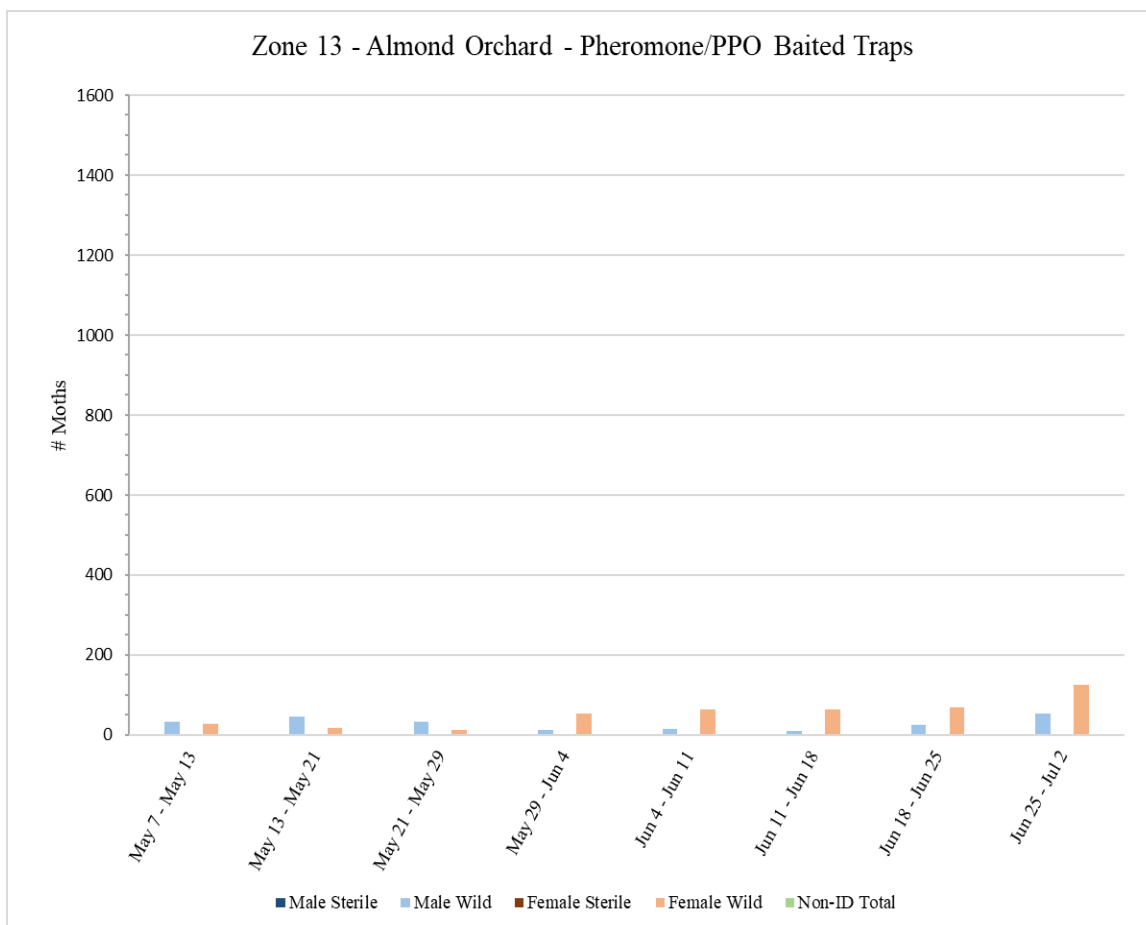
Zone 12 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 6 – May 15	1	1	25	26	6	21	27	0
May 15 – May 22	2	5	10	15	3	15	18	0
May 22 – May 29	3	3	11	14	3	10	13	0
May 29 – Jun 4	6	0	5	5	0	7	7	0
Jun 4 – Jun 11	7	0	6	6	0	2	2	0
Jun 11 – Jun 18	7	0	1	1	0	6	6	0
Jun 18 – Jun 26	8	0	1	1	1	4	5	0
Jun 26 – Jul 1	5	0	8	8	0	11	11	0



Zone 13 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 13 on Wednesday, July 2.

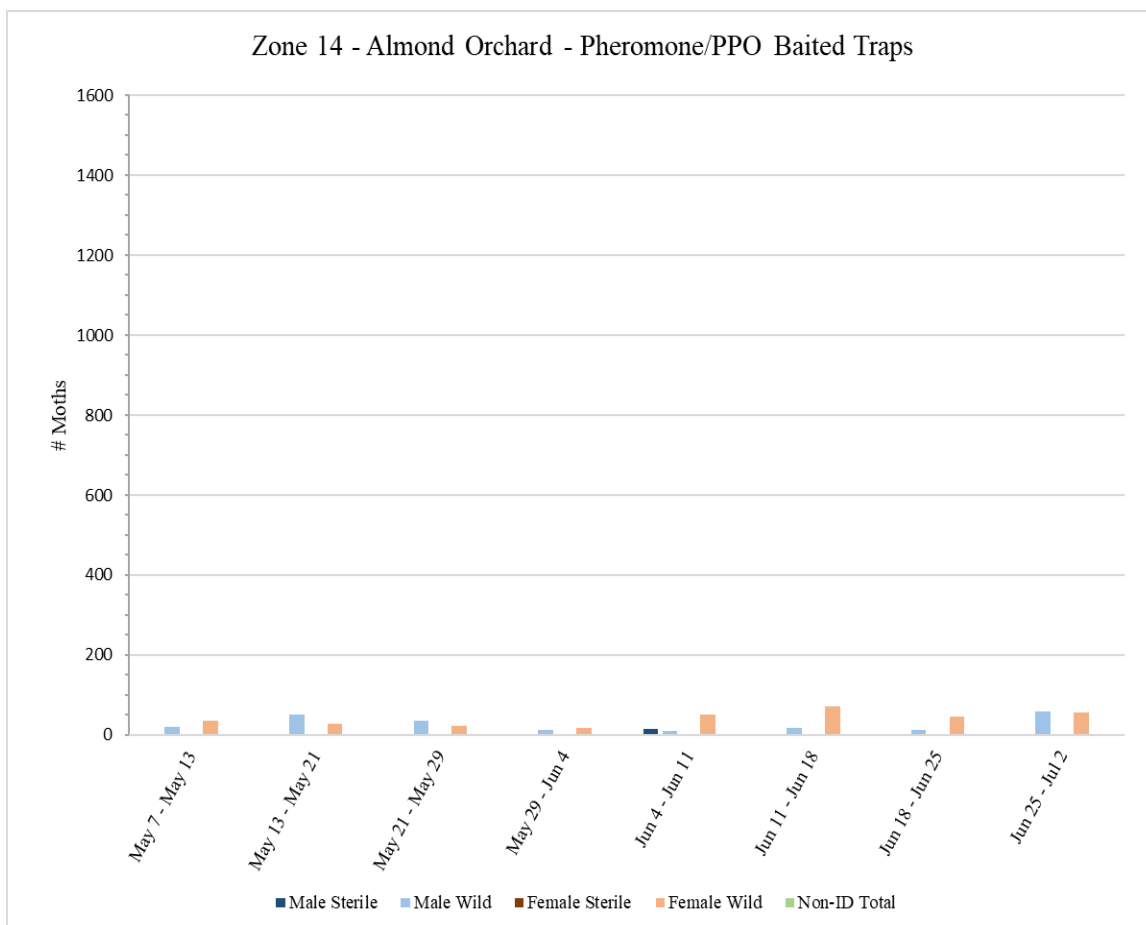
Zone 13 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 7 – May 13	0	0	33	33	0	27	27	0
May 13 – May 21	0	0	47	47	0	19	19	0
May 21 – May 29	0	0	34	34	0	12	12	0
May 29 – Jun 4	0	0	12	12	0	53	53	0
Jun 4 – Jun 11	0	0	16	16	0	65	65	0
Jun 11 – Jun 18	0	0	10	10	0	64	64	0
Jun 18 – Jun 25	0	0	26	26	0	68	68	0
Jun 25 – Jul 2	0	0	53	53	0	126	126	0



Zone 14 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 14 on Wednesday, July 2.

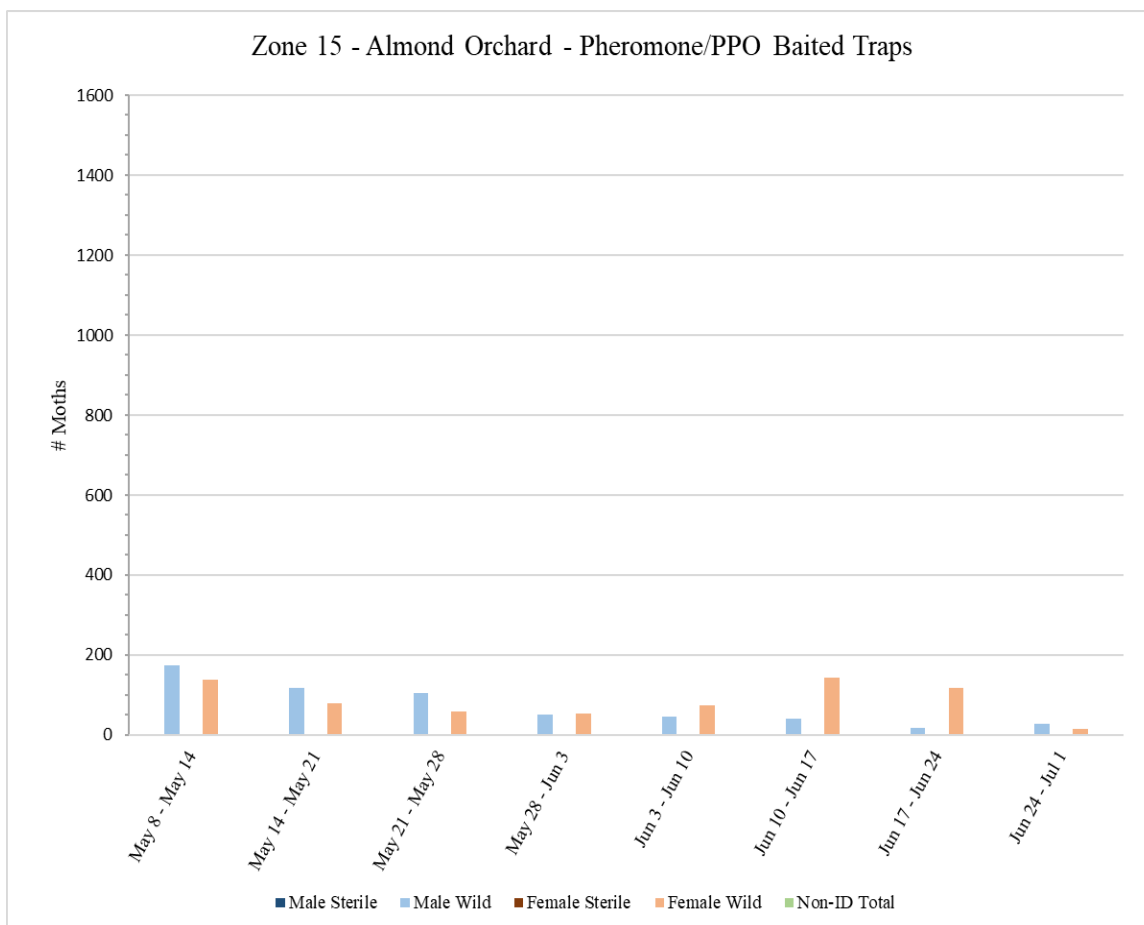
Zone 14 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 7 – May 13	1	0	20	20	0	35	35	0
May 13 – May 21	3	1	50	51	1	29	30	0
May 21 – May 29	4	0	36	36	0	24	24	0
May 29 – Jun 4	6	0	13	13	1	19	20	0
Jun 4 – Jun 11	7	15	11	26	1	51	52	2
Jun 11 – Jun 18	7	2	17	19	0	72	72	0
Jun 18 – Jun 25	7	0	13	13	0	45	45	0
Jun 25 – Jul 2	7	0	58	58	0	56	56	0



Zone 15 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 15 on Tuesday, July 1.

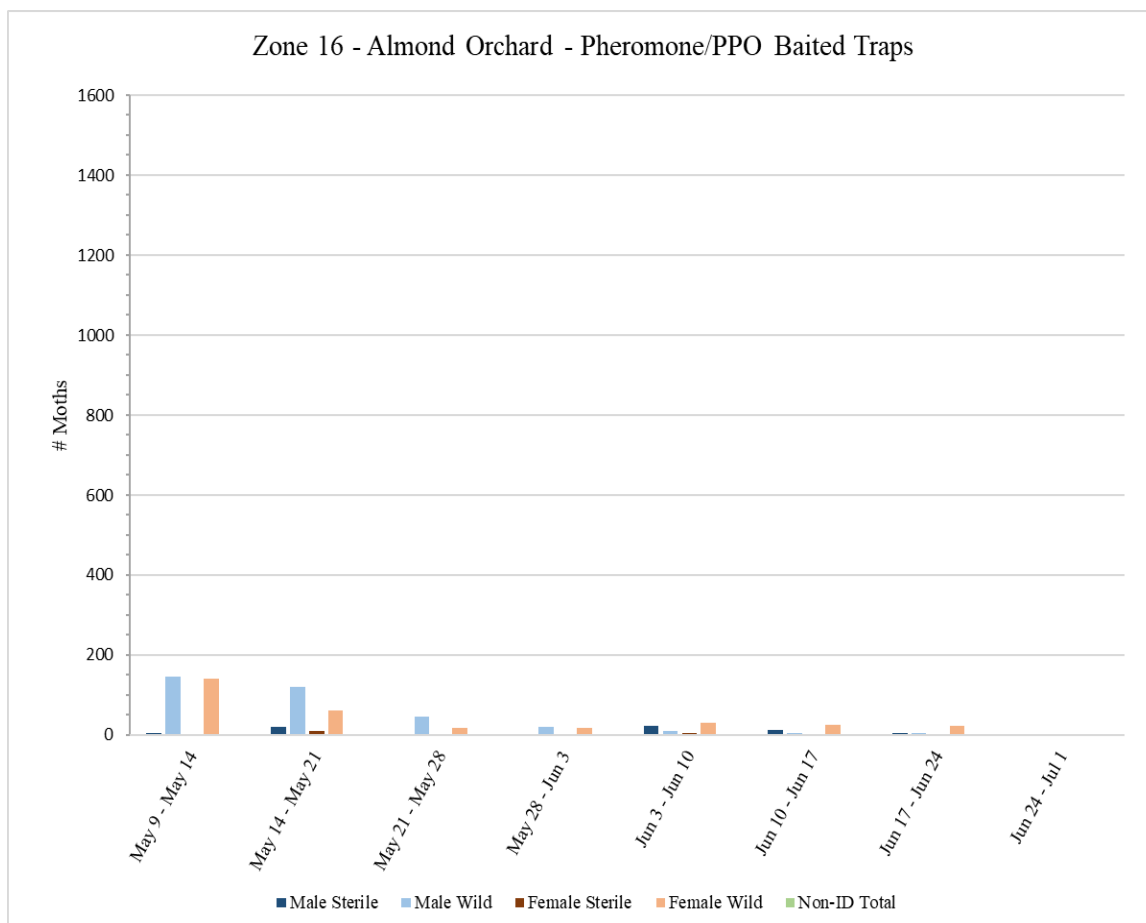
Zone 15 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 8 – May 14	0	0	174	174	0	138	138	0
May 14 – May 21	0	0	117	117	0	79	79	0
May 21 – May 28	0	0	105	105	0	59	59	0
May 28 – Jun 3	0	0	51	51	0	53	53	0
Jun 3 – Jun 10	0	0	46	46	0	74	74	0
Jun 10 – Jun 17	0	0	42	42	0	144	144	0
Jun 17 – Jun 24	0	0	19	19	0	119	119	0
Jun 24 – Jul 1	0	0	29	29	0	14	14	0



Zone 16 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 16 on Tuesday, July 1.

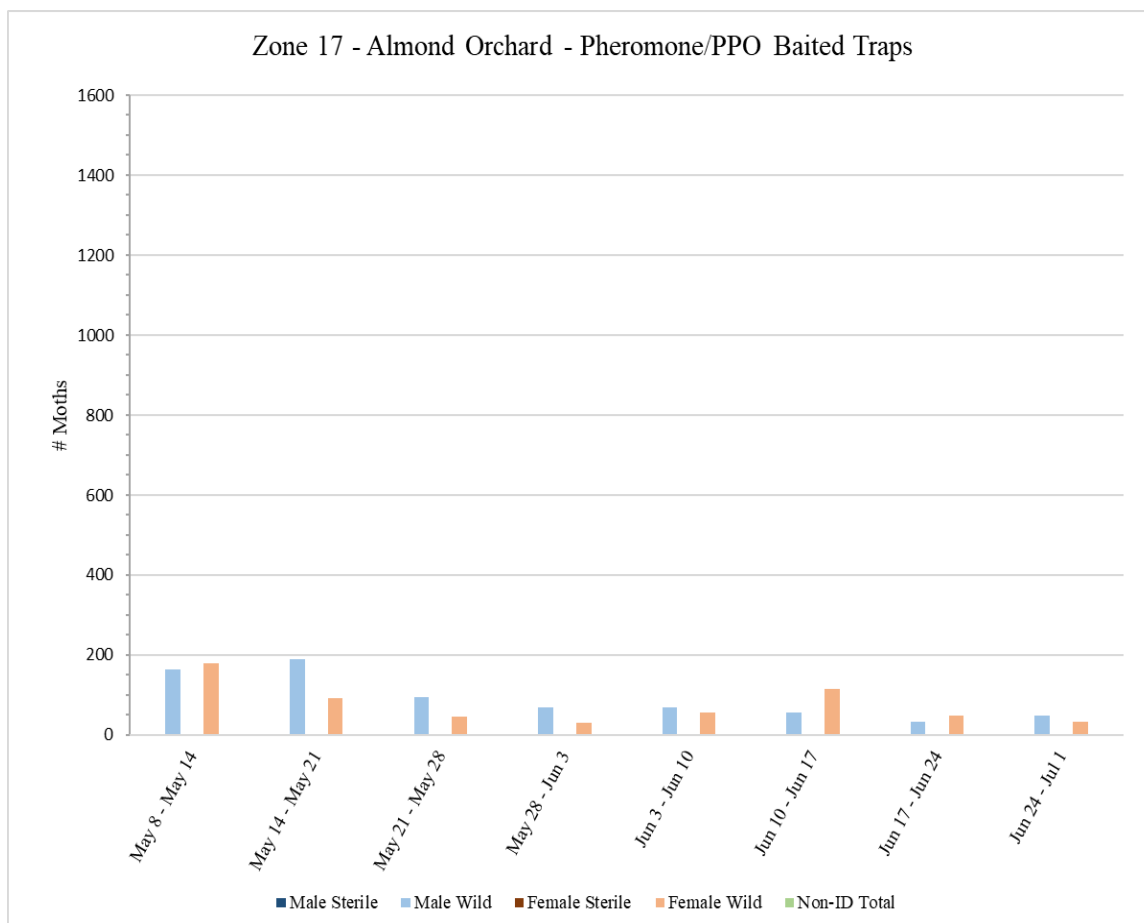
Zone 16 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 9 – May 14	1	4	146	150	3	140	143	0
May 14 – May 21	2	21	120	141	10	61	71	0
May 21 – May 28	3	3	45	48	2	18	20	0
May 28 – Jun 3	6	1	21	22	0	18	18	0
Jun 3 – Jun 10	7	23	10	33	4	30	34	0
Jun 10 – Jun 17	7	13	4	17	1	25	26	0
Jun 17 – Jun 24	7	4	4	8	2	23	25	0
Jun 24 – Jul 1	7	0	1	1	0	0	0	0



Zone 17 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 17 on Tuesday, July 1.

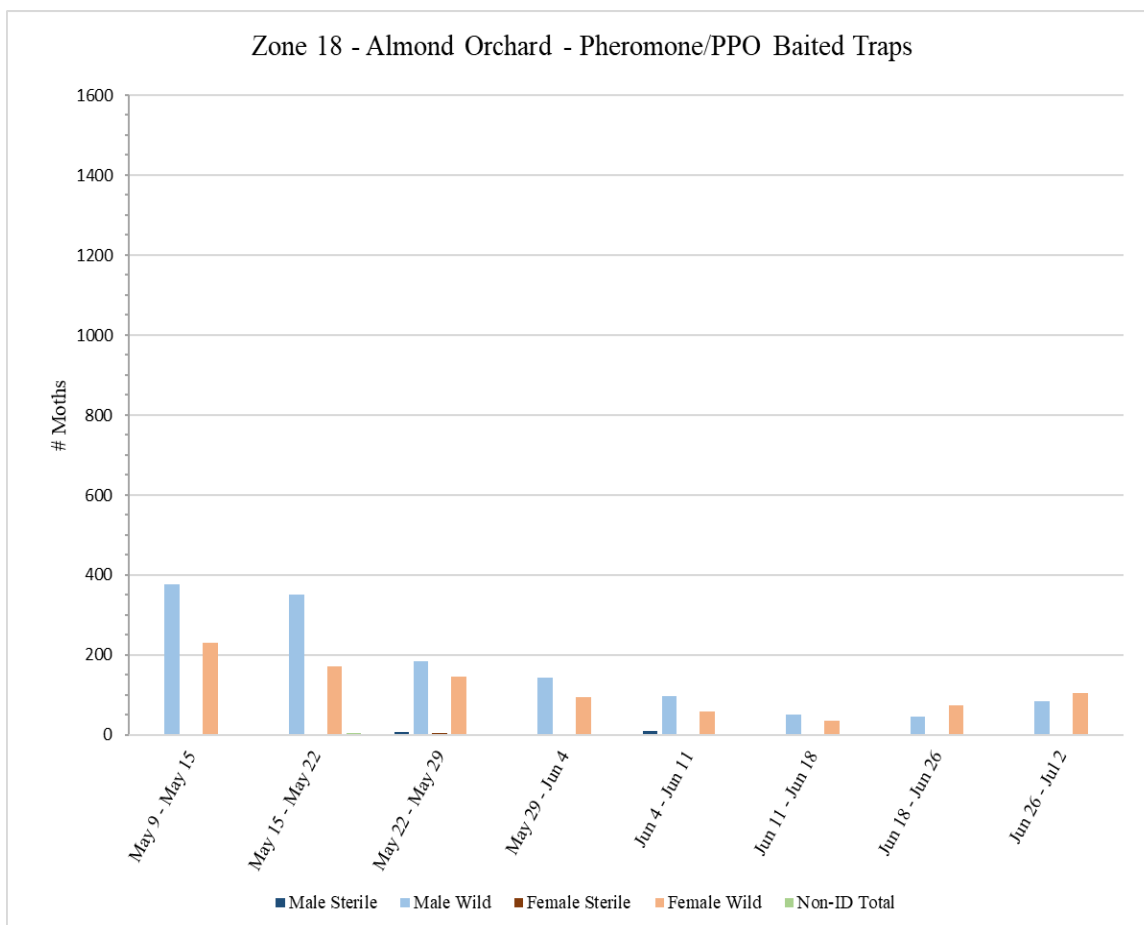
Zone 17 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 8 – May 14	0	0	163	163	0	180	180	3
May 14 – May 21	0	0	189	189	0	91	91	0
May 21 – May 28	0	0	95	95	0	45	45	0
May 28 – Jun 3	0	0	68	68	0	31	31	0
Jun 3 – Jun 10	0	0	69	69	0	56	56	0
Jun 10 – Jun 17	0	0	55	55	0	115	115	0
Jun 17 – Jun 24	0	0	33	33	0	49	49	0
Jun 24 – Jul 1	0	0	48	48	0	32	32	0



Zone 18 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 18 on Wednesday, July 2.

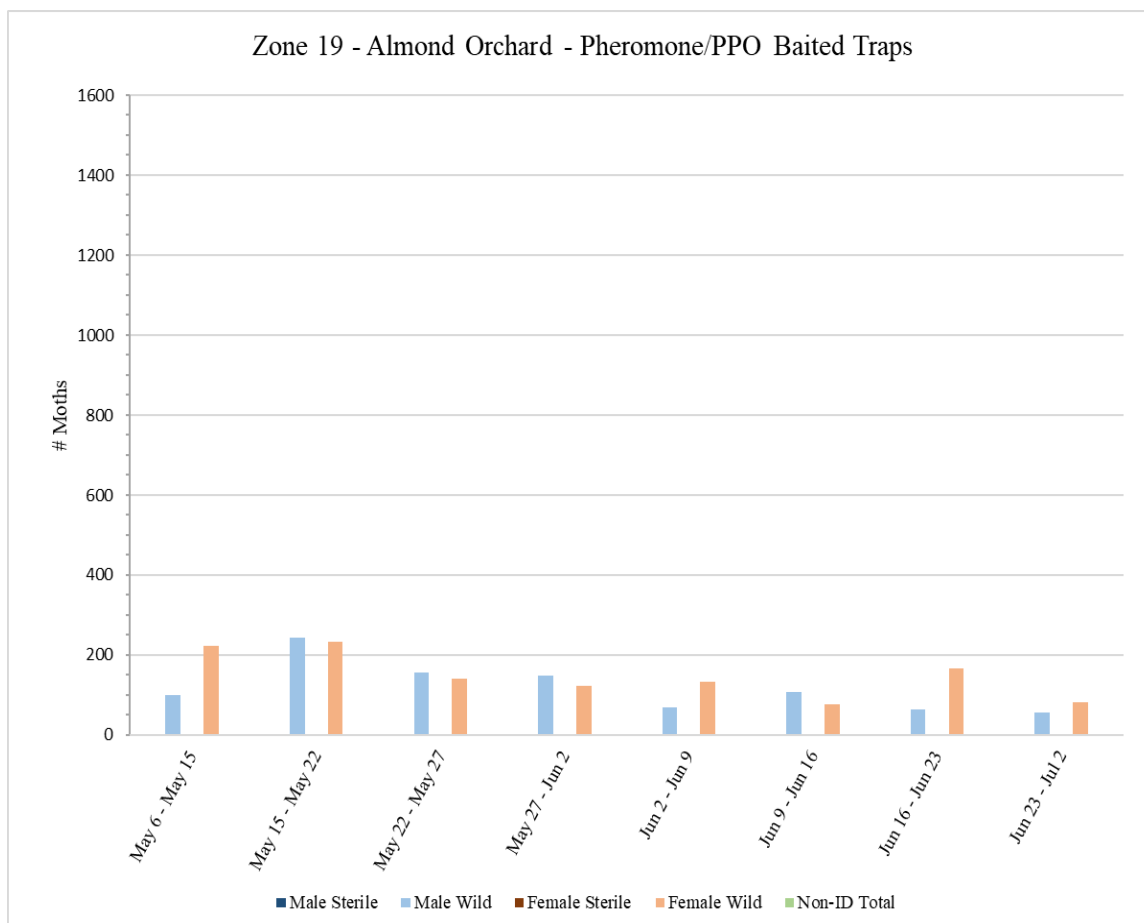
Zone 18 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 9 – May 15	1	0	377	377	0	230	230	0
May 15 – May 22	2	0	351	351	1	172	173	5
May 22 – May 29	4	8	185	193	4	146	150	0
May 29 – Jun 4	6	1	143	144	0	94	94	0
Jun 4 – Jun 11	7	9	96	105	0	58	58	0
Jun 11 – Jun 18	7	0	50	50	0	35	35	0
Jun 18 – Jun 26	8	2	45	47	0	74	74	0
Jun 26 – Jul 2	6	2	84	86	0	104	104	0



Zone 19 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 19 on Wednesday, July 2.

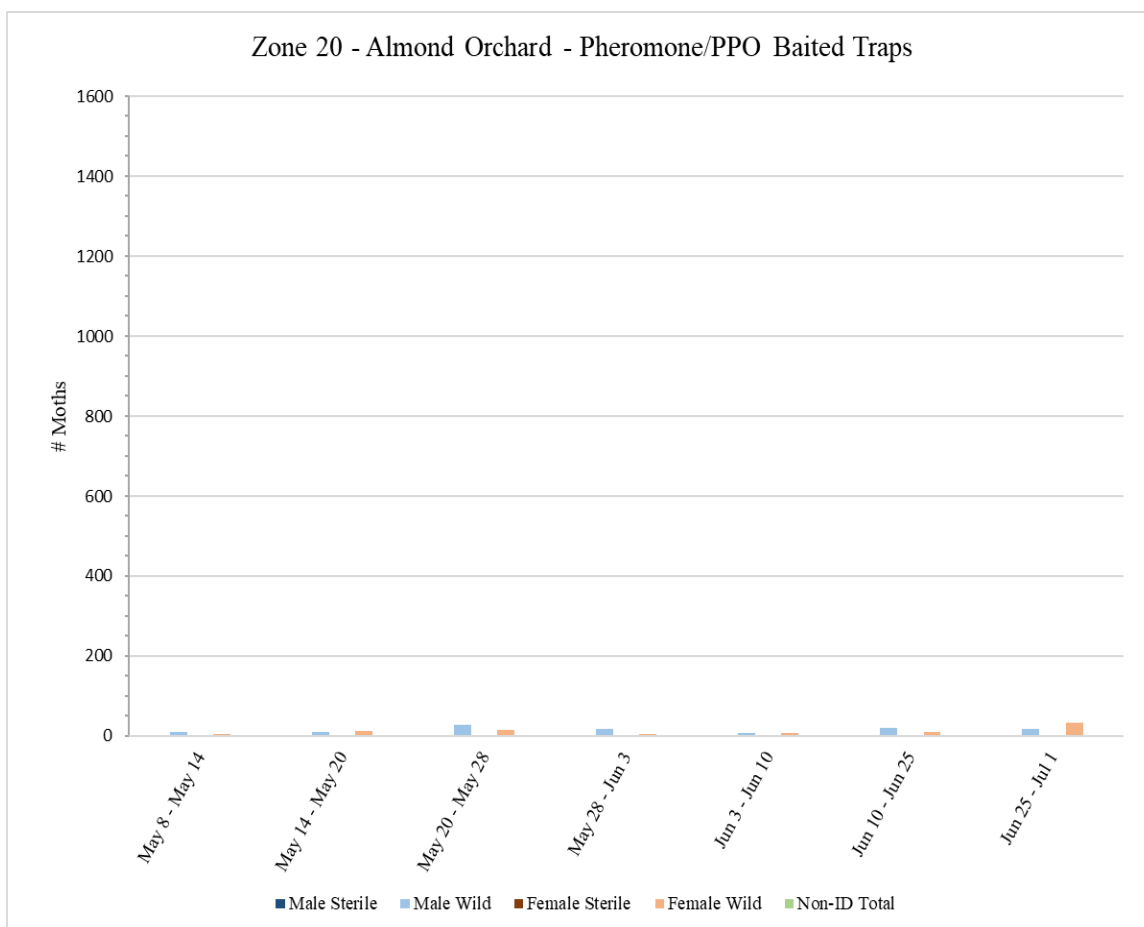
Zone 19 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 6 – May 15	1	1	100	101	1	223	224	0
May 15 – May 22	2	2	243	245	2	232	234	3
May 22 – May 27	2	3	157	160	2	140	142	0
May 27 – Jun 2	5	0	148	148	0	124	124	0
Jun 2 – Jun 9	7	0	68	68	0	132	132	0
Jun 9 – Jun 16	7	3	107	110	1	78	79	0
Jun 16 – Jun 23	7	1	63	64	0	166	166	0
Jun 23 – Jul 2	9	0	57	57	0	83	83	0



Zone 20 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 20 on Tuesday, July 1.

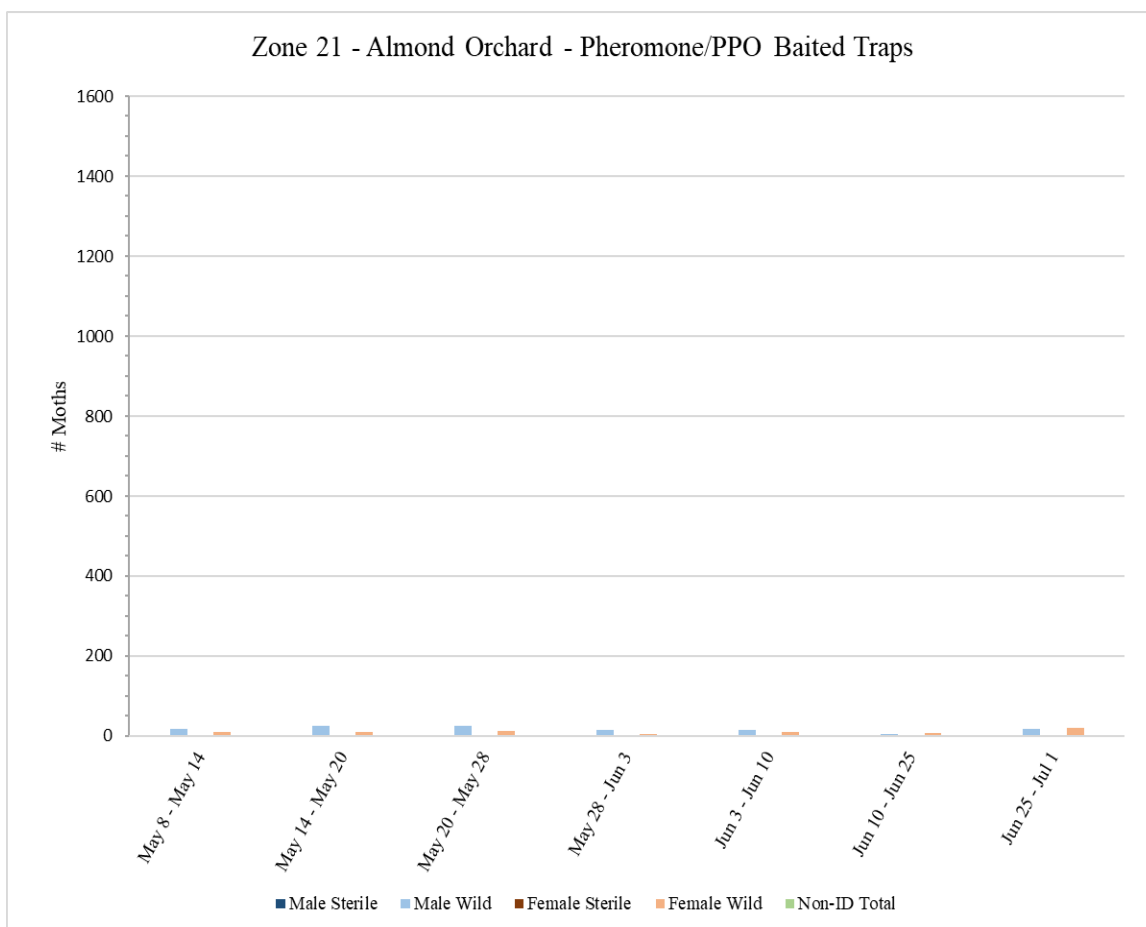
Zone 20 - Almond								
Pheromone/PPO Lure Baited Traps								
Dates Traps in Field	# of Releases During Trap Period	Male Sterile	Male Wild	Male Total	Female Sterile	Female Wild	Female Total	Non-ID Total
May 8 – May 14	0	0	10	10	0	5	5	0
May 14 – May 20	0	0	9	9	0	12	12	0
May 20 – May 28	0	0	27	27	0	16	16	0
May 28 – Jun 3	0	0	17	17	0	6	6	0
Jun 3 – Jun 10	0	0	7	7	0	8	8	0
¹ Jun 10 – Jun 25	0	0	21	21	0	9	9	0
Jun 25 – Jul 1	0	0	17	17	0	34	34	0



Zone 21 – Almond Orchard

A total of 9 pheromone/PPO lure-baited traps were collected from Zone 21 on Tuesday, July 1.

Zone 21 - 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
May 8 – May 14	1	0	18	18	1	11	12	0
May 14 – May 20	2	0	26	26	0	10	10	1
May 20 – May 28	3	0	26	26	0	13	13	0
May 28 – Jun 3	6	0	14	14	0	6	6	0
Jun 3 – Jun 10	7	1	14	15	0	10	10	1
Jun 10 – Jun 25	14	0	6	6	1	8	9	0
Jun 25 – Jul 1	6	1	17	18	0	20	20	0



IV. NOW Degree Days

NOW Degree days begin to accumulate when ambient temperatures remain between the lower threshold of 55° F and the upper threshold of 93.9° F. Using data from weather stations nearest to the trap sites, courtesy of the UC IPM website - https://ipm.ucanr.edu/PHENOLOGY/ma-navel_orangeworm.html, the chart below shows daily and total accumulated degree days since January 1, 2025. The model uses a double triangle and vertical cutoff method of calculating degree days.

Weather Station Location: Five Points, Fresno

Date	Air Temperatures (°F)		Degree Days	
	Min	Max	Daily	Accumulated
1/1/2025	33.00	60.20	0.50	0.50
1/2/2025	33.60	62.30	1.15	1.65
1/3/2025	42.80	60.10	0.67	2.32
1/4/2025	37.70	59.50	0.43	2.75
1/5/2025	34.40	59.40	0.37	3.12
1/6/2025	32.40	60.80	0.76	3.88
1/7/2025	42.50	63.40	1.46	5.34
1/8/2025	34.60	62.90	1.03	6.37
1/9/2025	30.10	62.40	0.86	7.23
1/10/2025	30.80	69.10	2.83	10.06
1/11/2025	36.70	62.10	0.91	10.97
1/12/2025	31.50	57.90	0.15	11.12
1/13/2025	26.00	60.20	0.41	11.53
1/14/2025	27.70	62.70	0.85	12.38
1/15/2025	28.00	66.80	1.82	14.20
1/16/2025	29.10	66.20	1.77	15.97
1/17/2025	32.30	65.40	1.59	17.56
1/18/2025	30.50	60.50	0.49	18.05
1/19/2025	28.30	61.90	0.73	18.78
1/20/2025	30.00	59.40	0.32	19.10
1/21/2025	28.20	64.30	1.18	20.28
1/22/2025	26.80	62.90	0.86	21.14
1/23/2025	26.80	66.80	1.78	22.92
1/24/2025	28.60	68.00	2.59	25.51
1/25/2025	40.10	59.70	0.50	26.01
1/26/2025	34.60	51.30	0.00	26.01
1/27/2025	31.80	57.70	0.13	26.14
1/28/2025	27.30	60.20	0.43	26.57
1/29/2025	29.70	61.40	0.68	27.25
1/30/2025	32.40	60.10	0.49	27.74
1/31/2025	34.60	61.40	1.01	28.75
2/1/2025	45.20	66.90	2.92	31.67
2/2/2025	39.50	71.80	4.38	36.05
2/3/2025	39.60	69.00	3.97	40.02
2/4/2025	47.70	69.50	4.21	44.23
2/5/2025	40.30	61.10	0.90	45.13
2/6/2025	40.70	61.40	0.98	46.11
2/7/2025	40.30	60.90	0.78	46.89
2/8/2025	36.80	59.60	0.41	47.30
2/9/2025	29.90	58.40	0.20	47.50

Date	Air Temperatures (°F)		Degree Days	
	Min	Max	Daily	Accumulated
2/10/2025	28.10	58.50	0.20	47.70
2/11/2025	27.50	60.90	0.76	48.46
2/12/2025	43.50	58.10	0.45	48.91
2/13/2025	49.80	66.30	3.30	52.21
2/14/2025	43.00	61.60	0.99	53.20
2/15/2025	34.80	59.80	0.47	53.67
2/16/2025	36.00	66.80	2.52	56.19
2/17/2025	41.80	63.30	1.49	57.68
2/18/2025	38.40	64.90	2.97	60.65
2/19/2025	52.90	77.90	9.10	69.75
2/20/2025	43.90	63.60	1.58	71.33
2/21/2025	34.70	67.80	2.64	73.97
2/22/2025	38.50	73.60	5.23	79.20
2/23/2025	42.30	77.10	7.66	86.86
2/24/2025	47.70	77.80	8.59	95.45
2/25/2025	47.40	69.20	3.89	99.34
2/26/2025	37.30	73.40	4.97	104.31
2/27/2025	41.10	78.70	8.12	112.43
2/28/2025	46.70	75.10	6.75	119.18
3/1/2025	43.50	78.90	7.55	126.73
3/2/2025	38.30	59.50	0.49	127.22
3/3/2025	39.40	64.10	1.60	128.82
3/4/2025	36.80	66.60	2.44	131.26
3/5/2025	40.90	53.70	0.00	131.26
3/6/2025	39.60	55.80	0.02	131.28
3/7/2025	37.60	61.40	0.83	132.11
3/8/2025	35.80	68.50	2.78	134.89
3/9/2025	35.70	74.50	5.30	140.19
3/10/2025	41.10	70.30	4.15	144.34
3/11/2025	43.00	69.90	4.46	148.80
3/12/2025	46.70	66.70	2.98	151.78
3/13/2025	39.70	56.20	0.04	151.82
3/14/2025	38.50	54.70	0.00	151.82
3/15/2025	35.40	63.60	1.37	153.19
3/16/2025	37.70	69.20	3.98	157.17
3/17/2025	48.00	61.10	1.18	158.35
3/18/2025	41.30	62.20	1.10	159.45
3/19/2025	35.30	66.80	2.72	162.17
3/20/2025	45.30	67.20	3.03	165.20
3/21/2025	39.20	69.70	3.87	169.07
3/22/2025	43.90	68.90	3.82	172.89
3/23/2025	43.30	74.40	6.39	179.28
3/24/2025	46.40	83.20	11.52	190.80
3/25/2025	50.70	89.20	16.00	206.80
3/26/2025	54.40	84.70	13.54	220.34
3/27/2025	49.50	78.50	9.19	229.53
3/28/2025	47.30	68.90	4.08	233.61
3/29/2025	42.70	67.80	3.93	237.54
3/30/2025	50.00	68.80	4.87	242.41
3/31/2025	48.40	71.60	5.04	247.45
4/1/2025	38.40	61.20	0.83	248.28

Date	Air Temperatures (°F)		Degree Days	
	Min	Max	Daily	Accumulated
4/2/2025	37.50	62.70	1.12	249.40
4/3/2025	35.00	66.70	2.28	251.68
4/4/2025	38.30	72.50	4.65	256.33
4/5/2025	40.80	76.70	6.72	263.05
4/6/2025	42.50	80.20	9.25	272.30
4/7/2025	48.70	78.50	10.03	282.33
4/8/2025	52.90	76.60	8.85	291.18
4/9/2025	46.90	83.00	11.19	302.37
4/10/2025	49.00	86.20	13.58	315.95
4/11/2025	51.60	83.10	12.70	328.65
4/12/2025	52.40	80.30	10.32	338.97
4/13/2025	45.40	81.40	9.95	348.92
4/14/2025	47.30	87.40	15.27	364.19
4/15/2025	57.50	83.30	13.44	377.63
4/16/2025	48.40	73.70	7.83	385.46
4/17/2025	53.70	70.20	6.43	391.89
4/18/2025	50.50	73.00	6.61	398.50
4/19/2025	46.10	80.80	9.79	408.29
4/20/2025	47.50	82.50	11.20	419.49
4/21/2025	49.90	84.70	12.73	432.22
4/22/2025	50.20	85.00	12.47	444.69
4/23/2025	47.50	78.90	8.47	453.16
4/24/2025	42.50	72.80	5.97	459.13
4/25/2025	49.20	66.80	3.91	463.04
4/26/2025	48.80	60.60	1.29	464.33
4/27/2025	48.10	65.10	2.76	467.09
4/28/2025	44.90	72.00	5.52	472.61
4/29/2025	46.70	82.30	11.30	483.91
4/30/2025	51.60	84.70	14.09	498.00
5/1/2025	55.00	87.00	16.05	514.05
5/2/2025	55.20	86.30	15.27	529.32
5/3/2025	53.20	75.20	8.28	537.60
5/4/2025	47.20	75.20	7.55	545.15
5/5/2025	49.10	81.10	10.69	555.84
5/6/2025	49.40	86.10	13.05	568.89
5/7/2025	48.70	84.60	16.30	585.19
5/8/2025	66.20	89.70	20.43	605.62
5/9/2025	56.10	93.40	20.53	626.15
5/10/2025	59.20	94.70	21.18	647.33
5/11/2025	56.10	86.70	15.03	662.36
5/12/2025	49.90	75.00	7.19	669.55
5/13/2025	43.80	71.80	5.21	674.76
5/14/2025	45.60	78.40	8.85	683.61
5/15/2025	49.10	83.90	12.87	696.48
5/16/2025	53.50	85.70	14.89	711.37
5/17/2025	54.60	78.80	10.30	721.67
5/18/2025	47.00	82.30	11.35	733.02
5/19/2025	51.60	87.40	15.63	748.65
5/20/2025	55.80	87.70	15.48	764.13
5/21/2025	50.10	90.50	16.05	780.18
5/22/2025	52.30	88.80	15.22	795.40

Date	Air Temperatures (°F)		Degree Days	
	Min	Max	Daily	Accumulated
5/23/2025	50.20	82.30	11.32	806.72
5/24/2025	48.50	85.00	13.28	820.00
5/25/2025	53.40	86.20	14.93	834.93
5/26/2025	53.80	81.10	11.58	846.51
5/27/2025	49.20	87.90	15.84	862.35
5/28/2025	57.50	89.60	17.28	879.63
5/29/2025	52.20	88.10	16.25	895.88
5/30/2025	56.40	95.60	23.20	919.08
5/31/2025	65.20	101.30	27.45	946.53
6/1/2025	62.00	97.10	22.68	969.21
6/2/2025	54.50	90.20	17.98	987.19
6/3/2025	57.00	89.50	18.50	1005.69
6/4/2025	58.00	92.30	20.53	1026.22
6/5/2025	59.50	92.60	20.92	1047.14
6/6/2025	59.00	92.20	21.55	1068.69
6/7/2025	62.80	95.10	23.80	1092.49
6/8/2025	62.20	93.70	23.08	1115.57
6/9/2025	62.70	95.60	24.38	1139.95
6/10/2025	63.60	97.30	24.30	1164.25
6/11/2025	59.00	92.30	18.98	1183.23
6/12/2025	52.10	90.60	16.98	1200.21
6/13/2025	54.40	91.50	18.50	1218.71
06/14/2025	56.60	91.10	19.15	1237.86
06/15/2025	57.80	93.80	21.48	1259.34
06/16/2025	60.50	92.20	19.61	1278.95
06/17/2025	53.50	90.60	17.69	1296.64
06/18/2025	56.00	96.90	22.63	1319.27
06/19/2025	60.70	96.80	20.96	1340.23
06/20/2025	48.70	85.80	13.71	1353.94
06/21/2025	53.40	80.00	11.10	1365.04
06/22/2025	50.10	83.90	13.18	1378.22
06/23/2025	54.10	88.20	17.01	1395.23
06/24/2025	57.50	92.40	19.88	1415.11
06/25/2025	57.20	94.00	20.38	1435.49
06/26/2025	56.30	94.30	20.98	1456.47
06/27/2025	59.00	96.90	24.23	1480.70
06/28/2025	64.10	99.90	27.08	1507.78
06/29/2025	64.40	99.00	26.03	1533.81
06/30/2025	61.70	98.50	24.88	1558.69
07/01/2025	60.80	97.40	24.60	1583.29
07/02/2025	62.80	99.30	26.80	1610.09
07/03/2025	65.80	98.90	24.72	1634.81
07/04/2025	55.30	91.10	18.05	1652.86

V. Quality Control

QC tests are performed on samples taken from each shipment of sterile NOW moths. These tests include: zero-hour mortality rates, zero-hour mating dissections, forty-eight-hour mating dissections, seven-day longevity monitoring, and crush tests. Throughout the span of a week, Monday through Sunday, the results of each test are averaged. Below are the QC results from samples of sterile NOW moths taken during the week of Monday, June 23, 2025 to Sunday, June 29, 2025:

- 0% of moths from samples found dead at zero hour
- 1% of moths from samples found to have mated at zero hour
- 72% of moths from samples found to have mated after forty-eight hours
- 78% of moths from samples remained alive after seven days in BioChamber
- 100% of moths from samples found to have distinct red dye markings

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