California Department of Food & Agriculture Plant Health and Pest Prevention Services Integrated Pest Control Branch 5100 Douglas Avenue Shafter, CA 93263 Phone: (661) 395-2914 Fax: (661) 399-1601

### I. Project Updates

#### Navel Orangeworm Sterile Insect Technique

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

Aerial releases for 2022 began on March 15, 2022, with one magazine of approximately 750,000 moths being released daily over Zones 1 and 3. A second magazine of approximately 750,000 moths is anticipated to begin being released daily on or around May 28. Throughout the remainder of the season, this second magazine will primarily be released over Zones 5 and 7 with regular releases being diverted to separate sites for research purposes.

From March 15 to April 4, aerial releases were conducted on the same day the magazines were received in California. Since April 6, aerial releases have been conducted the day after the magazines were received in California; meaning the magazines were kept overnight in cold-storage prior to being released the following morning. This change in the aerial release schedule was due to changes to the airline's flight schedule from Phoenix, AZ to Bakersfield, CA that the Program uses to ship magazines from the Phoenix Rearing Facility to the CDFA Shafter field office. This next-day aerial release schedule is anticipated to continue for the remainder of the season.

Listed below are any circumstances which prevented regular aerial releases in 2022:

- <u>Saturday, March 19</u>: No aerial release conducted due to severe weather conditions; magazine held an extra night in the cold room to be released the following day
- Sunday, March 20: Double release; today's magazine and magazine from previous day released
- <u>Tuesday, March 22</u>: Shipment of moths not transferred through airlines; this shipment was transferred next day
- Wednesday, March 23: Double release; today's magazine and magazine from previous day released
- <u>Monday, March 28:</u> No aerial release conducted due to severe weather conditions; magazine held an extra night in the cold room to be released the following day
- Tuesday, March 29: Double release; today's magazine and magazine from previous day released
- <u>Tuesday, April 5:</u> No aerial release conducted due to release schedule change from same-day release to nextday release

#### **Navel Orangeworm Trapping**

The NOW trapping program 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, continue to be serviced on a weekly basis. Listed below are any circumstances which prevented regular servicing in 2022:

- <u>Week of January 7</u>: No traps were serviced due to severe weather on site
- <u>Week of January 14</u>: No traps were serviced in Zones 1 4 due to staffing issues
- <u>Week of February 25</u>: No traps were serviced in Zone 1 due to pesticide applications on site
- Week of March 4: No traps were serviced in Zone 2 due to pesticide applications on site
- Week of March 11: Only 26 of the 72 traps were serviced in Zone 2 due to pesticide applications on site
- <u>Week of April 1</u>: Only Zones 3 and 4 were serviced this week due to severe weather on site
- <u>Week of April 22</u>: No traps were serviced in Zone 2 due to pesticide applications on site

#### II. Project Design

The NOW Area Wide Project site includes eight orchards located in Fresno County, identified as Zones 1 through 8. Listed below is information related to each orchard:

| Zone # | Crop Type | Acres | Aerial SIT Release/Non-Release | Date Added to Area Wide Project |
|--------|-----------|-------|--------------------------------|---------------------------------|
| Zone 1 | Pistachio | 640   | Release                        | May 5, 2020                     |
| Zone 2 | Pistachio | 640   | Non-Release                    | May 5, 2020                     |
| Zone 3 | Almond    | 640   | Release                        | May 5, 2020                     |
| Zone 4 | Almond    | 640   | Non-Release                    | May 5, 2020                     |
| Zone 5 | Pistachio | 640   | Release                        | May 17, 2021                    |
| Zone 6 | Pistachio | 160   | Non-Release                    | May 17, 2021                    |
| Zone 7 | Almond    | 640   | Release                        | May 17, 2021                    |
| Zone 8 | Almond    | 160   | Non-Release                    | May 17, 2021                    |

Each zone has a trap site ratio of approximately 1 trap site per 18 acres for a total of 36 trap sites for each 640acre zone and 9 trap sites for each 160-acre zone. Trap sites include two traps: one trap baited with NOW pheromone/PPO lures and one trap baited with pistachio meal. 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.

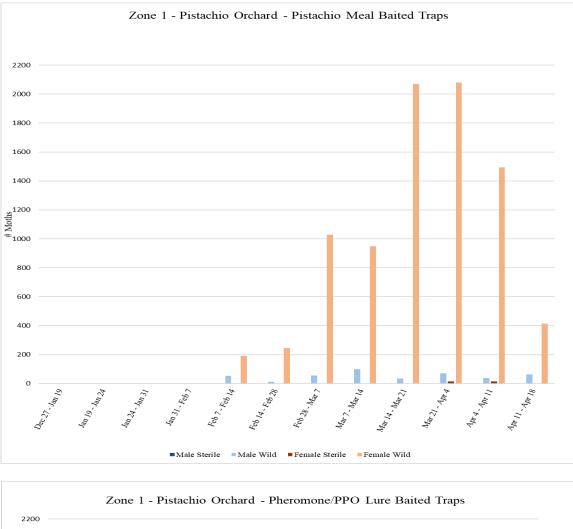
# III. Trap Results for <u>Week Ending on April 22, 2022</u>

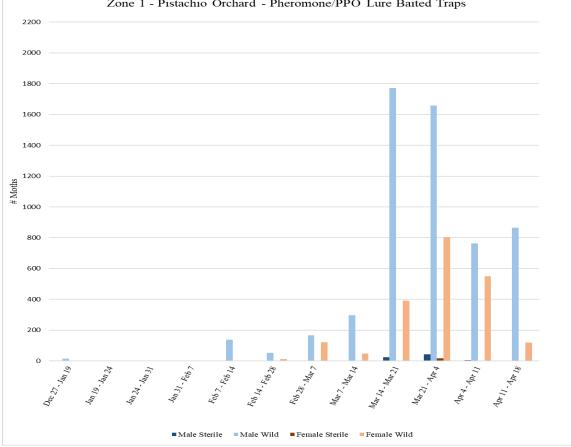
### Zone 1

Zone 1 is a pistachio orchard where aerial NOW SIT releases are conducted. A total of **72** traps were collected from Zone 1 on <u>Monday</u>, <u>April 18</u>, with **36** pistachio meal baited traps and **36** pheromone/PPO lure traps.

|                              |                   | Zo                 | ne 1 - Pi    | stachio        |                   |                |        |
|------------------------------|-------------------|--------------------|--------------|----------------|-------------------|----------------|--------|
|                              |                   | Pistac             | hio Meal B   | aited Traps    |                   |                |        |
|                              | # of              |                    |              |                |                   |                |        |
|                              | Releases          |                    |              |                |                   |                |        |
| Dates Traps in               | During Trap       | Male               | Male         | Male           | Female            | Female         | Female |
| Field                        | Period            | Sterile            | Wild         | Total          | Sterile           | Wild           | Total  |
| <sup>1</sup> Dec 27 - Jan 19 | 0                 | 0                  | 1            | 1              | 0                 | 1              | 1      |
| Jan 19 - Jan 24              | 0                 | 0                  | 0            | 0              | 0                 | 0              | 0      |
| Jan 24 - Jan 31              | 0                 | 0                  | 0            | 0              | 0                 | 0              | 0      |
| Jan 31 - Feb 7               | 0                 | 0                  | 0            | 0              | 0                 | 0              | 0      |
| Feb 7 - Feb 14               | 0                 | 0                  | 54           | 54             | 0                 | 191            | 191    |
| <sup>2</sup> Feb 14 - Feb 28 | 0                 | 0                  | 13           | 13             | 0                 | 245            | 245    |
| Feb 28 - Mar 7               | 0                 | 0                  | 57           | 57             | 0                 | 1028           | 1028   |
| Mar 7 - Mar 14               | 0                 | 0                  | 99           | 99             | 0                 | 950            | 950    |
| Mar 14 - Mar 21              | 7                 | 0                  | 36           | 36             | 0                 | 2070           | 2070   |
| <sup>3</sup> Mar 21 - Apr 4  | 15                | 1                  | 72           | 73             | 16                | 2079           | 2095   |
| Apr 4 - Apr 11               | 7                 | 3                  | 37           | 40             | 16                | 1495           | 1511   |
| Apr 11 - Apr 18              | 8                 | 0                  | 63           | 63             | 2                 | 414            | 416    |
|                              |                   |                    |              |                |                   |                |        |
| <sup>1</sup> 18              | of the 36 traps   | in field since     | Dec 20; 18   | 8 of the 36 th | raps in field sin | ce Dec 27      |        |
|                              |                   | <sup>2</sup> Traps | in field for | two weeks      |                   |                |        |
| <sup>3</sup> Traps           | s not serviced in | Zone 1 duri        | ng the weel  | c of Apr 1 d   | ue to severe we   | eather on site |        |

|                              |                   | Zo                 | ne 1 - Pis   | stachio        |                   |                |        |
|------------------------------|-------------------|--------------------|--------------|----------------|-------------------|----------------|--------|
|                              |                   | Pheromor           | ne/PPO Lur   | e Baited Tra   | aps               |                |        |
|                              | # of              |                    |              |                |                   |                |        |
|                              | Releases          |                    |              |                |                   |                |        |
| Dates Traps in               | During Trap       | Male               | Male         | Male           | Female            | Female         | Female |
| Field                        | Period            | Sterile            | Wild         | Total          | Sterile           | Wild           | Total  |
| <sup>1</sup> Dec 27 - Jan 19 | 0                 | 0                  | 15           | 15             | 0                 | 0              | 0      |
| Jan 19 - Jan 24              | 0                 | 0                  | 1            | 1              | 0                 | 0              | 0      |
| Jan 24 - Jan 31              | 0                 | 0                  | 3            | 3              | 0                 | 0              | 0      |
| Jan 31 - Feb 7               | 0                 | 0                  | 0            | 0              | 0                 | 0              | 0      |
| Feb 7 - Feb 14               | 0                 | 0                  | 139          | 139            | 0                 | 4              | 4      |
| <sup>2</sup> Feb 14 - Feb 28 | 0                 | 0                  | 52           | 52             | 0                 | 12             | 12     |
| Feb 28 - Mar 7               | 0                 | 0                  | 166          | 166            | 0                 | 121            | 121    |
| Mar 7 - Mar 14               | 0                 | 0                  | 297          | 297            | 0                 | 48             | 48     |
| Mar 14 - Mar 21              | 7                 | 24                 | 1772         | 1796           | 0                 | 391            | 391    |
| <sup>3</sup> Mar 21 - Apr 4  | 15                | 44                 | 1659         | 1703           | 16                | 803            | 819    |
| Apr 4 - Apr 11               | 7                 | 5                  | 764          | 769            | 3                 | 551            | 554    |
| Apr 11 - Apr 18              | 8                 | 3                  | 866          | 869            | 2                 | 120            | 122    |
|                              |                   |                    |              |                |                   |                |        |
| <sup>1</sup> 18              | of the 36 traps i | in field since     | Dec 20; 18   | 8 of the 36 th | raps in field sin | ce Dec 27      |        |
|                              |                   | <sup>2</sup> Traps | in field for | two weeks      |                   |                |        |
| <sup>3</sup> Traps           | s not serviced in | Zone 1 duri        | ng the week  | c of Apr 1 d   | ue to severe we   | eather on site |        |

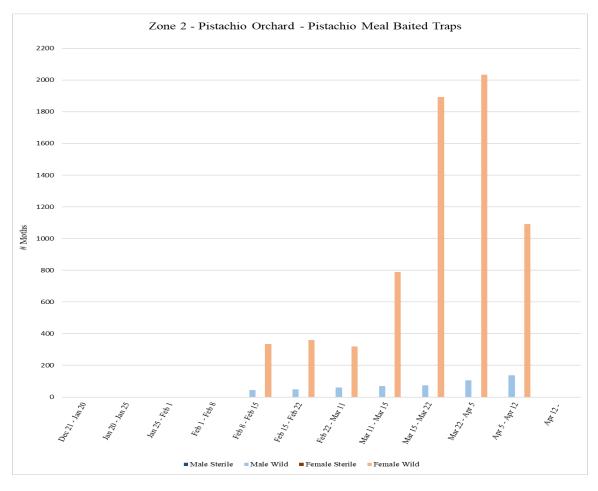


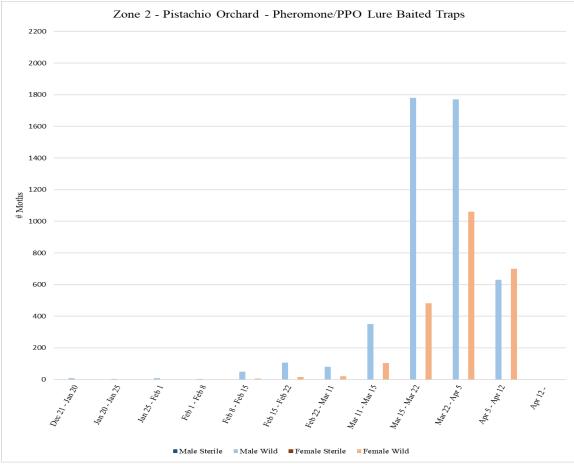


Zone 2 is a pistachio orchard where aerial NOW SIT releases are not conducted. No traps were collected from Zone 2 during the week of Apr 22 due to pesticide applications on site.

|                              |                   | Zor               | ne 2 - Pis    | tachio       |                  |               |        |
|------------------------------|-------------------|-------------------|---------------|--------------|------------------|---------------|--------|
|                              |                   | Pistacl           | nio Meal Ba   | nited Traps  |                  |               |        |
|                              | # of Releases     |                   |               |              |                  |               |        |
| Dates Traps in               | During Trap       | Male              | Male          | Male         | Female           | Female        | Female |
| Field                        | Period            | Sterile           | Wild          | Total        | Sterile          | Wild          | Total  |
| <sup>1</sup> Dec 21 - Jan 20 | 0                 | 0                 | 0             | 0            | 0                | 2             | 2      |
| Jan 20 - Jan 25              | 0                 | 0                 | 0             | 0            | 0                | 0             | 0      |
| Jan 25 - Feb 1               | 0                 | 0                 | 0             | 0            | 0                | 0             | 0      |
| Feb 1 - Feb 8                | 0                 | 0                 | 0             | 0            | 0                | 0             | 0      |
| Feb 8 - Feb 15               | 0                 | 0                 | 45            | 45           | 0                | 335           | 335    |
| Feb 15 - Feb 22              | 0                 | 0                 | 49            | 49           | 0                | 360           | 360    |
| <sup>2</sup> Feb 22 - Mar 11 | 0                 | 0                 | 61            | 61           | 0                | 318           | 318    |
| <sup>3</sup> Mar 11 - Mar 15 | 0                 | 0                 | 69            | 69           | 0                | 790           | 790    |
| Mar 15 - Mar 22              | 0                 | 0                 | 73            | 73           | 0                | 1893          | 1893   |
| <sup>4</sup> Mar 22 - Apr 5  | 0                 | 0                 | 106           | 106          | 0                | 2033          | 2033   |
| Apr 5 - Apr 12               | 0                 | 0                 | 138           | 138          | 0                | 1091          | 1091   |
| <sup>5</sup> Apr 12 -        |                   |                   |               |              |                  |               |        |
|                              |                   |                   |               |              |                  |               |        |
|                              |                   | <sup>1</sup> Trap | s in field si | nce 12/21    |                  |               |        |
| <sup>2</sup> O               | nly 13 of the 36  | traps service     | d this week   | due to pest  | icide applicatio | ns on site    |        |
| <sup>3</sup> 13              | of the 36 traps i | n field since     | Mar 11; 23    | of the 36 tr | aps in field sin | ce Feb 22     |        |
| <sup>4</sup> Trap            | s not serviced in | Zone 2 durin      | ng the week   | of Apr 1 d   | ue to severe we  | ather on site |        |
|                              | serviced in Zone  |                   |               |              |                  |               | n site |

|                              |                   | Zoi               | ne 2 - Pis    | tachio       |                  |               |        |
|------------------------------|-------------------|-------------------|---------------|--------------|------------------|---------------|--------|
|                              |                   | Pheromon          | e/PPO Lure    | e Baited Tra | aps              |               |        |
|                              | # of Releases     |                   |               |              |                  |               |        |
| Dates Traps in               | During Trap       | Male              | Male          | Male         | Female           | Female        | Female |
| Field                        | Period            | Sterile           | Wild          | Total        | Sterile          | Wild          | Total  |
| <sup>1</sup> Dec 21 - Jan 20 | 0                 | 0                 | 9             | 9            | 0                | 0             | 0      |
| Jan 20 - Jan 25              | 0                 | 0                 | 3             | 3            | 0                | 0             | 0      |
| Jan 25 - Feb 1               | 0                 | 0                 | 8             | 8            | 0                | 0             | 0      |
| Feb 1 - Feb 8                | 0                 | 0                 | 3             | 3            | 0                | 0             | 0      |
| Feb 8 - Feb 15               | 0                 | 0                 | 49            | 49           | 0                | 7             | 7      |
| Feb 15 - Feb 22              | 0                 | 0                 | 106           | 106          | 0                | 15            | 15     |
| <sup>2</sup> Feb 22 - Mar 11 | 0                 | 0                 | 80            | 80           | 0                | 20            | 20     |
| <sup>3</sup> Mar 11 - Mar 15 | 0                 | 0                 | 351           | 351          | 0                | 103           | 103    |
| Mar 15 - Mar 22              | 0                 | 0                 | 1781          | 1781         | 0                | 483           | 483    |
| <sup>4</sup> Mar 22 - Apr 5  | 0                 | 0                 | 1771          | 1771         | 0                | 1061          | 1061   |
| Apr 5 - Apr 12               | 0                 | 0                 | 631           | 631          | 0                | 699           | 699    |
| <sup>5</sup> Apr 12 -        |                   |                   |               |              |                  |               |        |
|                              |                   |                   |               |              |                  |               |        |
|                              |                   | <sup>1</sup> Trap | s in field si | nce 12/21    |                  |               |        |
| <sup>2</sup> O               | nly 13 of the 36  | traps service     | d this week   | due to pest  | icide applicatio | ns on site    |        |
| <sup>3</sup> 13              | of the 36 traps i | n field since     | Mar 11; 23    | of the 36 tr | aps in field sin | ce Feb 22     |        |
| <sup>4</sup> Trap            | s not serviced in | Zone 2 durin      | ng the week   | of Apr 1 d   | ue to severe we  | ather on site |        |
| <sup>5</sup> Traps not       | serviced in Zone  | e 2 during th     | ne week of    | Apr 22 due   | to pesticide a   | pplications o | n site |

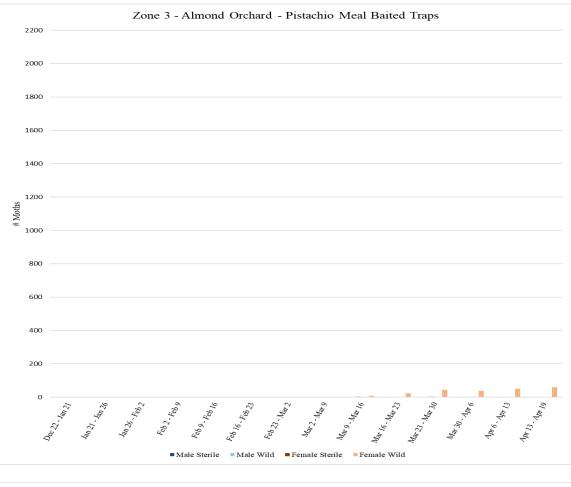


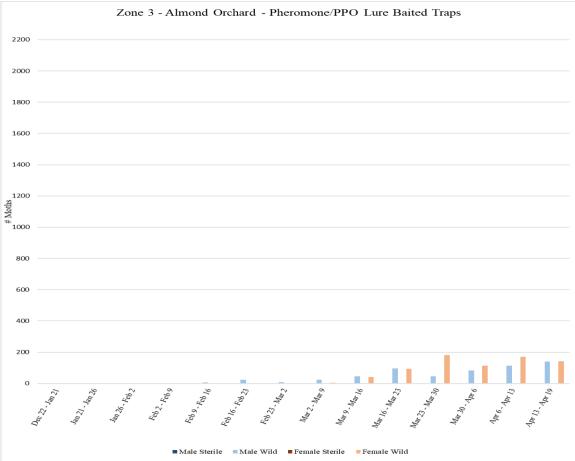


Zone 3 is an almond orchard where aerial NOW SIT releases are conducted. A total of **72** traps were collected from Zone 3 on <u>Tuesday</u>, <u>April 19</u>, with **36** pistachio meal baited traps and **36** pheromone/PPO lure traps.

|                              |               | Zo      | ne 3 - Al     | mond        |         |        |        |
|------------------------------|---------------|---------|---------------|-------------|---------|--------|--------|
|                              |               | Pistacl | hio Meal Ba   | aited Traps |         |        |        |
|                              | # of Releases |         |               |             |         |        |        |
| Dates Traps in               | During Trap   | Male    | Male          | Male        | Female  | Female | Female |
| Field                        | Period        | Sterile | Wild          | Total       | Sterile | Wild   | Total  |
| <sup>1</sup> Dec 22 - Jan 21 | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Jan 21 - Jan 26              | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Jan 26 - Feb 2               | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Feb 2 - Feb 9                | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Feb 9 - Feb 16               | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Feb 16 - Feb 23              | 0             | 0       | 0             | 0           | 0       | 0      | 0      |
| Feb 23 - Mar 2               | 0             | 0       | 1             | 1           | 0       | 0      | 0      |
| Mar 2 - Mar 9                | 0             | 0       | 0             | 0           | 0       | 3      | 3      |
| Mar 9 - Mar 16               | 2             | 0       | 4             | 4           | 0       | 9      | 9      |
| Mar 16 - Mar 23              | 8             | 0       | 0             | 0           | 0       | 24     | 24     |
| Mar 23 - Mar 30              | 9             | 0       | 5             | 5           | 0       | 45     | 45     |
| Mar 30 - Apr 6               | 7             | 0       | 0             | 0           | 0       | 39     | 39     |
| Apr 6 - Apr 13               | 8             | 0       | 2             | 2           | 0       | 52     | 52     |
| Apr 13 - Apr 19              | 7             | 0       | 0             | 0           | 0       | 59     | 59     |
|                              |               | 100     |               | 10/00       |         |        |        |
|                              |               | "Trap   | s in field si | nce 12/22   |         |        |        |

|                              |               | Zo       | ne 3 - Al     | mond         |         |        |        |
|------------------------------|---------------|----------|---------------|--------------|---------|--------|--------|
|                              |               | Pheromor | ne/PPO Lure   | e Baited Tra | aps     |        |        |
|                              | # of Releases |          |               |              |         |        |        |
| Dates Traps in               | During Trap   | Male     | Male          | Male         | Female  | Female | Female |
| Field                        | Period        | Sterile  | Wild          | Total        | Sterile | Wild   | Total  |
| <sup>1</sup> Dec 22 - Jan 21 | 0             | 0        | 0             | 0            | 0       | 0      | 0      |
| Jan 21 - Jan 26              | 0             | 0        | 1             | 1            | 0       | 0      | 0      |
| Jan 26 - Feb 2               | 0             | 0        | 0             | 0            | 0       | 0      | 0      |
| Feb 2 - Feb 9                | 0             | 0        | 0             | 0            | 0       | 0      | 0      |
| Feb 9 - Feb 16               | 0             | 0        | 6             | 6            | 0       | 0      | 0      |
| Feb 16 - Feb 23              | 0             | 0        | 24            | 24           | 0       | 2      | 2      |
| Feb 23 - Mar 2               | 0             | 0        | 7             | 7            | 0       | 0      | 0      |
| Mar 2 - Mar 9                | 0             | 0        | 23            | 23           | 0       | 3      | 3      |
| Mar 9 - Mar 16               | 2             | 0        | 46            | 46           | 0       | 40     | 40     |
| Mar 16 - Mar 23              | 8             | 1        | 96            | 97           | 0       | 94     | 94     |
| Mar 23 - Mar 30              | 9             | 1        | 45            | 46           | 0       | 182    | 182    |
| Mar 30 - Apr 6               | 7             | 1        | 82            | 83           | 0       | 113    | 113    |
| Apr 6 - Apr 13               | 8             | 1        | 113           | 114          | 0       | 171    | 171    |
| Apr 13 - Apr 19              | 7             | 0        | 139           | 139          | 0       | 142    | 142    |
|                              |               | 100      |               | 10/00        |         |        |        |
|                              |               | Trap     | s in field si | nce $12/22$  |         |        |        |



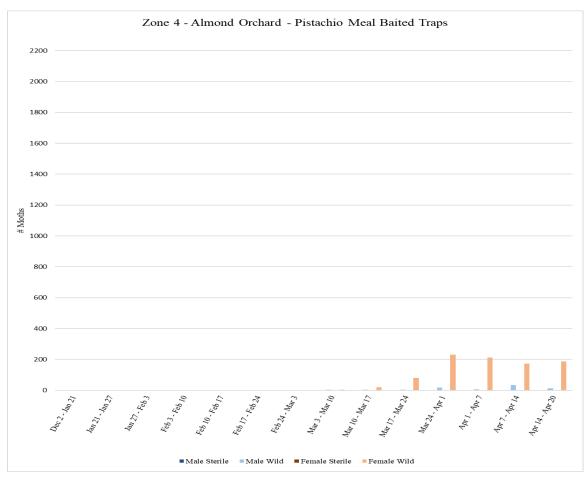


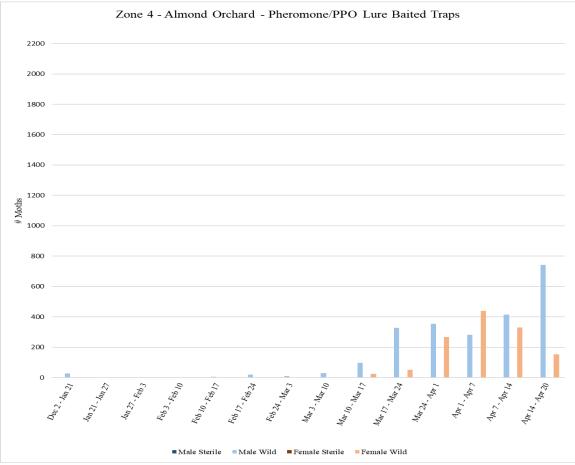
Zone 4 is an almond orchard where aerial NOW SIT releases are not conducted. A total of 72 traps were collected from Zone 4 on <u>Wednesday</u>, April 20, with **36** pistachio meal baited traps and **36** pheromone/PPO lure traps.

|                             | Zone 4 - Almond |                   |               |           |         |        |        |  |  |  |  |
|-----------------------------|-----------------|-------------------|---------------|-----------|---------|--------|--------|--|--|--|--|
| Pistachio Meal Baited Traps |                 |                   |               |           |         |        |        |  |  |  |  |
|                             | # of Releases   |                   |               |           |         |        |        |  |  |  |  |
| Dates Traps in              | During Trap     | Male              | Male          | Male      | Female  | Female | Female |  |  |  |  |
| Field                       | Period          | Sterile           | Wild          | Total     | Sterile | Wild   | Total  |  |  |  |  |
| <sup>1</sup> Dec 2 - Jan 21 | 0               | 0                 | 0             | 0         | 0       | 0      | 0      |  |  |  |  |
| Jan 21 - Jan 27             | 0               | 0                 | 0             | 0         | 0       | 0      | 0      |  |  |  |  |
| Jan 27 - Feb 3              | 0               | 0                 | 0             | 0         | 0       | 0      | 0      |  |  |  |  |
| Feb 3 - Feb 10              | 0               | 0                 | 0             | 0         | 0       | 0      | 0      |  |  |  |  |
| Feb 10 - Feb 17             | 0               | 0                 | 0             | 0         | 0       | 0      | 0      |  |  |  |  |
| Feb 17 - Feb 24             | 0               | 0                 | 0             | 0         | 0       | 2      | 2      |  |  |  |  |
| Feb 24 - Mar 3              | 0               | 0                 | 0             | 0         | 0       | 1      | 1      |  |  |  |  |
| Mar 3 - Mar 10              | 0               | 0                 | 4             | 4         | 0       | 5      | 5      |  |  |  |  |
| Mar 10 - Mar 17             | 0               | 0                 | 5             | 5         | 0       | 21     | 21     |  |  |  |  |
| Mar 17 - Mar 24             | 0               | 0                 | 3             | 3         | 0       | 81     | 81     |  |  |  |  |
| Mar 24 - Apr 1              | 0               | 0                 | 17            | 17        | 0       | 232    | 232    |  |  |  |  |
| Apr 1 - Apr 7               | 0               | 0                 | 7             | 7         | 0       | 213    | 213    |  |  |  |  |
| Apr 7 - Apr 14              | 0               | 0                 | 35            | 35        | 0       | 172    | 172    |  |  |  |  |
| Apr 14 - Apr 20             | 0               | 0                 | 14            | 14        | 0       | 187    | 187    |  |  |  |  |
|                             |                 | <sup>1</sup> Trat | os in field s | ince 12/2 |         |        |        |  |  |  |  |

| <sup>1</sup> Traps | in | field | since | 12/2 |
|--------------------|----|-------|-------|------|
|--------------------|----|-------|-------|------|

|                                 |               | Zo      | ne 4 - Al     | mond        |         |        |        |  |  |  |  |
|---------------------------------|---------------|---------|---------------|-------------|---------|--------|--------|--|--|--|--|
| Pheromone/PPO Lure Baited Traps |               |         |               |             |         |        |        |  |  |  |  |
|                                 | # of Releases |         |               |             |         |        |        |  |  |  |  |
| Dates Traps in                  | During Trap   | Male    | Male          | Male        | Female  | Female | Female |  |  |  |  |
| Field                           | Period        | Sterile | Wild          | Total       | Sterile | Wild   | Total  |  |  |  |  |
| <sup>1</sup> Dec 2 - Jan 21     | 0             | 0       | 26            | 26          | 0       | 1      | 1      |  |  |  |  |
| Jan 21 - Jan 27                 | 0             | 0       | 0             | 0           | 0       | 0      | 0      |  |  |  |  |
| Jan 27 - Feb 3                  | 0             | 0       | 0             | 0           | 0       | 0      | 0      |  |  |  |  |
| Feb 3 - Feb 10                  | 0             | 0       | 0             | 0           | 0       | 0      | 0      |  |  |  |  |
| Feb 10 - Feb 17                 | 0             | 0       | 4             | 4           | 0       | 0      | 0      |  |  |  |  |
| Feb 17 - Feb 24                 | 0             | 0       | 20            | 20          | 0       | 1      | 1      |  |  |  |  |
| Feb 24 - Mar 3                  | 0             | 0       | 11            | 11          | 0       | 3      | 3      |  |  |  |  |
| Mar 3 - Mar 10                  | 0             | 0       | 30            | 30          | 0       | 3      | 3      |  |  |  |  |
| Mar 10 - Mar 17                 | 0             | 0       | 96            | 96          | 0       | 25     | 25     |  |  |  |  |
| Mar 17 - Mar 24                 | 0             | 0       | 328           | 328         | 0       | 50     | 50     |  |  |  |  |
| Mar 24 - Apr 1                  | 0             | 0       | 355           | 355         | 0       | 267    | 267    |  |  |  |  |
| Apr 1 - Apr 7                   | 0             | 0       | 281           | 281         | 0       | 439    | 439    |  |  |  |  |
| Apr 7 - Apr 14                  | 0             | 0       | 414           | 414         | 0       | 330    | 330    |  |  |  |  |
| Apr 14 - Apr 20                 | 0             | 0       | 742           | 742         | 0       | 154    | 154    |  |  |  |  |
|                                 |               | 100     |               | . 10/0      |         |        |        |  |  |  |  |
|                                 |               | "Trap   | os in field s | ince $12/2$ |         |        |        |  |  |  |  |

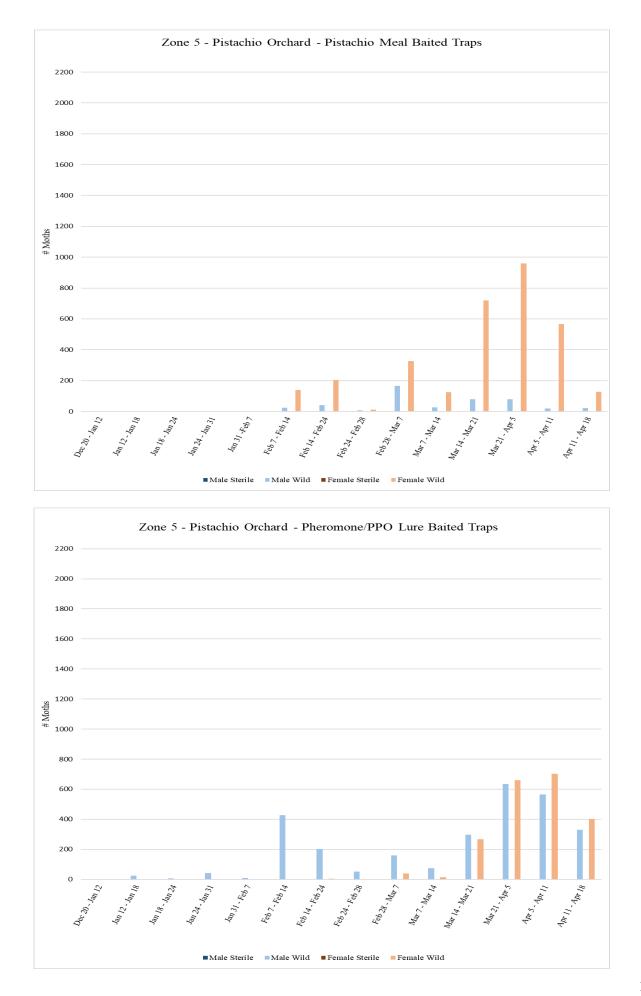




Zone 5 is a pistachio orchard where aerial NOW SIT releases will be conducted. A total of **72** traps were collected from Zone 5 on <u>Monday</u>, <u>April 18</u>, with **36** pistachio meal baited traps and **36** pheromone/PPO lure traps.

|                              |                   | Zo                | ne 5 - Pis     | stachio     |                 |                |        |
|------------------------------|-------------------|-------------------|----------------|-------------|-----------------|----------------|--------|
|                              |                   | Pistac            | hio Meal B     | aited Traps |                 |                |        |
|                              | # of              |                   |                |             |                 |                |        |
|                              | Releases          |                   |                |             |                 |                |        |
| Dates Traps in               | During Trap       | Male              | Male           | Male        | Female          | Female         | Female |
| Field                        | Period            | Sterile           | Wild           | Total       | Sterile         | Wild           | Total  |
| <sup>1</sup> Dec 20 - Jan 12 | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 12 - Jan 18              | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 18 - Jan 24              | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 24 - Jan 31              | 0                 | 0                 | 1              | 1           | 0               | 0              | 0      |
| Jan 31 -Feb 7                | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Feb 7 - Feb 14               | 0                 | 0                 | 25             | 25          | 0               | 138            | 138    |
| Feb 14 - Feb 24              | 0                 | 0                 | 40             | 40          | 0               | 204            | 204    |
| Feb 24 - Feb 28              | 0                 | 0                 | 6              | 6           | 0               | 12             | 12     |
| Feb 28 - Mar 7               | 0                 | 0                 | 166            | 166         | 0               | 327            | 327    |
| Mar 7 - Mar 14               | 0                 | 0                 | 26             | 26          | 0               | 124            | 124    |
| Mar 14 - Mar 21              | 0                 | 0                 | 80             | 80          | 0               | 720            | 720    |
| <sup>2</sup> Mar 21 - Apr 5  | 0                 | 0                 | 78             | 78          | 0               | 960            | 960    |
| Apr 5 - Apr 11               | 0                 | 0                 | 19             | 19          | 0               | 566            | 566    |
| Apr 11 - Apr 18              | 0                 | 0                 | 21             | 21          | 0               | 127            | 127    |
|                              |                   | <sup>1</sup> Trar | os in field si | nce 12/20   |                 |                |        |
| <sup>2</sup> Trap            | s not serviced in |                   |                |             | ue to severe we | eather on site |        |

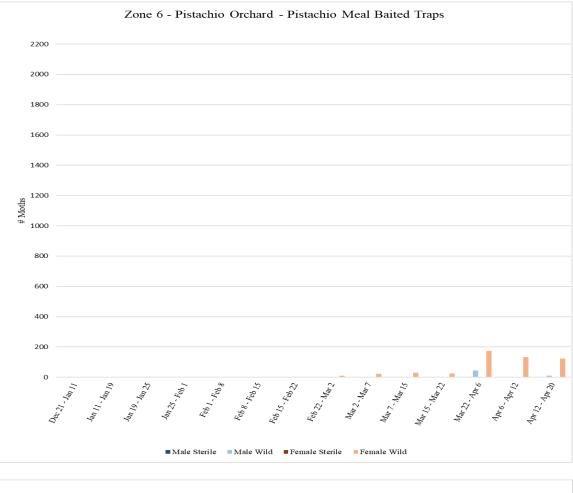
|                              |                   | Zo                | ne 5 - Pis    | stachio      |                 |                |        |
|------------------------------|-------------------|-------------------|---------------|--------------|-----------------|----------------|--------|
|                              |                   | Pheromor          | ne/PPO Lur    | e Baited Tra | aps             |                |        |
|                              | # of              |                   |               |              |                 |                |        |
|                              | Releases          |                   |               |              |                 |                |        |
| Dates Traps in               | During Trap       | Male              | Male          | Male         | Female          | Female         | Female |
| Field                        | Period            | Sterile           | Wild          | Total        | Sterile         | Wild           | Total  |
| <sup>1</sup> Dec 20 - Jan 12 | 0                 | 0                 | 0             | 0            | 0               | 0              | 0      |
| Jan 12 - Jan 18              | 0                 | 0                 | 24            | 24           | 0               | 0              | 0      |
| Jan 18 - Jan 24              | 0                 | 0                 | 7             | 7            | 0               | 0              | 0      |
| Jan 24 - Jan 31              | 0                 | 0                 | 41            | 41           | 0               | 0              | 0      |
| Jan 31 - Feb 7               | 0                 | 0                 | 10            | 10           | 0               | 0              | 0      |
| Feb 7 - Feb 14               | 0                 | 0                 | 427           | 427          | 0               | 1              | 1      |
| Feb 14 - Feb 24              | 0                 | 0                 | 202           | 202          | 0               | 3              | 3      |
| Feb 24 - Feb 28              | 0                 | 0                 | 51            | 51           | 0               | 0              | 0      |
| Feb 28 - Mar 7               | 0                 | 0                 | 159           | 159          | 0               | 38             | 38     |
| Mar 7 - Mar 14               | 0                 | 0                 | 74            | 74           | 0               | 15             | 15     |
| Mar 14 - Mar 21              | 0                 | 0                 | 296           | 296          | 0               | 266            | 266    |
| <sup>2</sup> Mar 21 - Apr 5  | 0                 | 0                 | 634           | 634          | 0               | 660            | 660    |
| Apr 5 - Apr 11               | 0                 | 0                 | 565           | 565          | 0               | 703            | 703    |
| Apr 11 - Apr 18              | 0                 | 0                 | 329           | 329          | 0               | 402            | 402    |
|                              |                   | <sup>1</sup> Trap | s in field si | nce 12/20    |                 |                |        |
| <sup>2</sup> Traps           | s not serviced in | •                 |               |              | ue to severe we | eather on site |        |

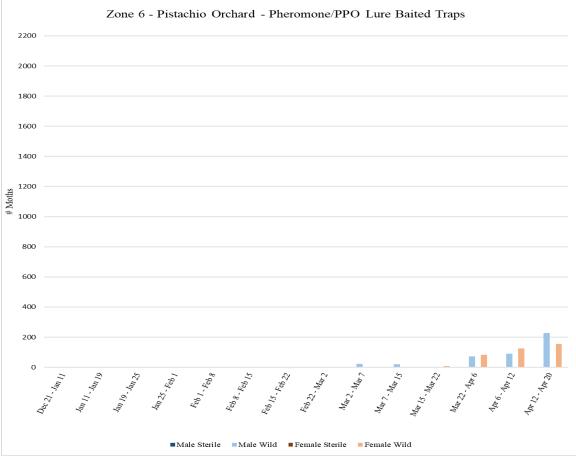


Zone 6 is a pistachio orchard where aerial NOW SIT releases are not conducted. A total of **18** traps were collected from Zone 6 on <u>Wednesday</u>, <u>April 20</u>, with **9** pistachio meal baited traps and **9** pheromone/PPO lure traps.

|                              |                   | Zo                | ne 6 - Pi      | stachio     |                 |                |        |
|------------------------------|-------------------|-------------------|----------------|-------------|-----------------|----------------|--------|
|                              |                   | Pistac            | hio Meal B     | aited Traps |                 |                |        |
|                              | # of              |                   |                |             |                 |                |        |
|                              | Releases          |                   |                |             |                 |                |        |
| Dates Traps in               | During Trap       | Male              | Male           | Male        | Female          | Female         | Female |
| Field                        | Period            | Sterile           | Wild           | Total       | Sterile         | Wild           | Total  |
| <sup>1</sup> Dec 21 - Jan 11 | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 11 - Jan 19              | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 19 - Jan 25              | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Jan 25 - Feb 1               | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Feb 1 - Feb 8                | 0                 | 0                 | 0              | 0           | 0               | 0              | 0      |
| Feb 8 - Feb 15               | 0                 | 0                 | 1              | 1           | 0               | 0              | 0      |
| Feb 15 - Feb 22              | 0                 | 0                 | 0              | 0           | 0               | 4              | 4      |
| Feb 22 - Mar 2               | 0                 | 0                 | 1              | 1           | 0               | 11             | 11     |
| Mar 2 - Mar 7                | 0                 | 0                 | 1              | 1           | 0               | 22             | 22     |
| Mar 7 - Mar 15               | 0                 | 0                 | 0              | 0           | 0               | 29             | 29     |
| Mar 15 - Mar 22              | 0                 | 0                 | 0              | 0           | 0               | 24             | 24     |
| <sup>2</sup> Mar 22 - Apr 6  | 0                 | 0                 | 44             | 44          | 0               | 175            | 175    |
| Apr 6 - Apr 12               | 0                 | 0                 | 1              | 1           | 0               | 132            | 132    |
| Apr 12 - Apr 20              | 0                 | 0                 | 11             | 11          | 0               | 123            | 123    |
|                              |                   | <sup>1</sup> Trar | os in field si | nce 12/21   |                 |                |        |
| <sup>2</sup> Trap            | s not serviced in |                   |                |             | ue to severe we | eather on site |        |

|                              |                   | Zo                | ne 6 - Pi     | stachio      |                 |                |        |
|------------------------------|-------------------|-------------------|---------------|--------------|-----------------|----------------|--------|
|                              |                   | Pheromor          | ne/PPO Lur    | e Baited Tra | aps             |                |        |
|                              | # of              |                   |               |              |                 |                |        |
|                              | Releases          |                   |               |              |                 |                |        |
| Dates Traps in               | During Trap       | Male              | Male          | Male         | Female          | Female         | Female |
| Field                        | Period            | Sterile           | Wild          | Total        | Sterile         | Wild           | Total  |
| <sup>1</sup> Dec 21 - Jan 11 | 0                 | 0                 | 0             | 0            | 0               | 0              | 0      |
| Jan 11 - Jan 19              | 0                 | 0                 | 1             | 1            | 0               | 0              | 0      |
| Jan 19 - Jan 25              | 0                 | 0                 | 0             | 0            | 0               | 0              | 0      |
| Jan 25 - Feb 1               | 0                 | 0                 | 0             | 0            | 0               | 0              | 0      |
| Feb 1 - Feb 8                | 0                 | 0                 | 0             | 0            | 0               | 0              | 0      |
| Feb 8 - Feb 15               | 0                 | 0                 | 3             | 3            | 0               | 0              | 0      |
| Feb 15 - Feb 22              | 0                 | 0                 | 3             | 3            | 0               | 0              | 0      |
| Feb 22 - Mar 2               | 0                 | 0                 | 2             | 2            | 0               | 1              | 1      |
| Mar 2 - Mar 7                | 0                 | 0                 | 24            | 24           | 0               | 1              | 1      |
| Mar 7 - Mar 15               | 0                 | 0                 | 20            | 20           | 0               | 0              | 0      |
| Mar 15 - Mar 22              | 0                 | 0                 | 0             | 0            | 0               | 8              | 8      |
| <sup>2</sup> Mar 22 - Apr 6  | 0                 | 0                 | 72            | 72           | 0               | 83             | 83     |
| Apr 6 - Apr 12               | 0                 | 0                 | 89            | 89           | 0               | 126            | 126    |
| Apr 12 - Apr 20              | 0                 | 0                 | 228           | 228          | 0               | 155            | 155    |
|                              |                   | <sup>1</sup> Trap | s in field si | ince 12/21   |                 |                |        |
| <sup>2</sup> Trap            | s not serviced in | Zone 6 duri       | ng the weel   | k of Apr 1 d | ue to severe we | eather on site |        |

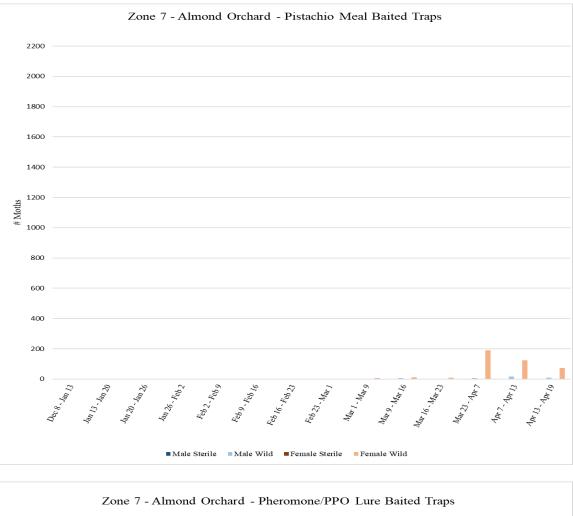


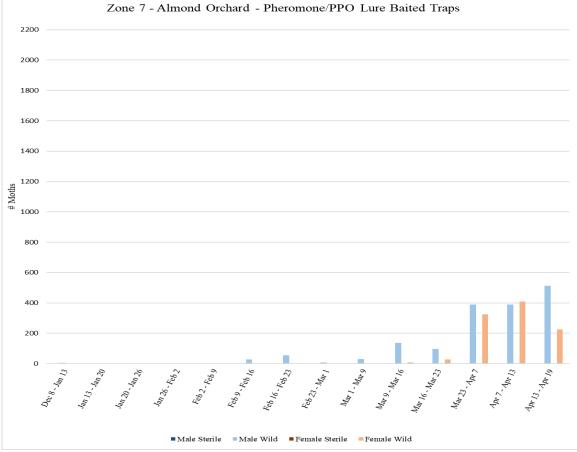


Zone 7 is an almond orchard where aerial NOW SIT releases will be conducted. A total of **72** traps were collected from Zone 7 on <u>Tuesday</u>, <u>April 19</u>, with **36** pistachio meal baited traps and **36** pheromone/PPO lure traps.

|                             |                   | Zo          | <b>ne 7 - A</b> | lmond        |                 |               |        |
|-----------------------------|-------------------|-------------|-----------------|--------------|-----------------|---------------|--------|
|                             |                   | Pistac      | hio Meal B      | aited Traps  |                 |               |        |
|                             | # of              |             |                 |              |                 |               |        |
|                             | Releases          |             |                 |              |                 |               |        |
| Dates Traps in              | During Trap       | Male        | Male            | Male         | Female          | Female        | Female |
| Field                       | Period            | Sterile     | Wild            | Total        | Sterile         | Wild          | Total  |
| <sup>1</sup> Dec 8 - Jan 13 | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Jan 13 - Jan 20             | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Jan 20 - Jan 26             | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Jan 26 - Feb 2              | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Feb 2 - Feb 9               | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Feb 9 - Feb 16              | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Feb 16 - Feb 23             | 0                 | 0           | 3               | 3            | 0               | 1             | 1      |
| Feb 23 - Mar 1              | 0                 | 0           | 0               | 0            | 0               | 0             | 0      |
| Mar 1 - Mar 9               | 0                 | 0           | 1               | 1            | 0               | 7             | 7      |
| Mar 9 - Mar 16              | 0                 | 0           | 6               | 6            | 0               | 13            | 13     |
| Mar 16 - Mar 23             | 0                 | 0           | 0               | 0            | 0               | 10            | 10     |
| <sup>2</sup> Mar 23 - Apr 7 | 0                 | 0           | 6               | 6            | 0               | 191           | 191    |
| Apr 7 - Apr 13              | 0                 | 0           | 17              | 17           | 0               | 125           | 125    |
| Apr 13 - Apr 19             | 0                 | 0           | 10              | 10           | 0               | 74            | 74     |
|                             |                   |             |                 |              |                 |               |        |
|                             |                   |             | ps in field s   |              |                 |               |        |
| <sup>2</sup> Trap           | s not serviced in | Zone 7 duri | ng the week     | c of Apr 1 d | ue to severe we | ather on site |        |

|  |                       | Zo              | one 7 - Al   | lmond         |                   |                |                 |
|--|-----------------------|-----------------|--------------|---------------|-------------------|----------------|-----------------|
|  |                       | Pheromor        | ne/PPO Lur   | e Baited Tra  | aps               |                |                 |
|  | # of<br>Releases      |                 |              |               |                   |                |                 |
| Dates Traps in<br>Field                | During Trap<br>Period | Male<br>Sterile | Male<br>Wild | Male<br>Total | Female<br>Sterile | Female<br>Wild | Female<br>Total |
| <sup>1</sup> Dec 8 - Jan 13            | 0                     | 0               | 6            | 6             | 0                 | 0              | 0               |
| Jan 13 - Jan 20                        | 0                     | 0               | 0            | 0             | 0                 | 0              | 0               |
| Jan 20 - Jan 26                        | 0                     | 0               | 0            | 0             | 0                 | 0              | 0               |
| Jan 26 - Feb 2                         | 0                     | 0               | 0            | 0             | 0                 | 0              | 0               |
| Feb 2 - Feb 9                          | 0                     | 0               | 0            | 0             | 0                 | 0              | 0               |
| Feb 9 - Feb 16                         | 0                     | 0               | 29           | 29            | 0                 | 0              | 0               |
| Feb 16 - Feb 23                        | 0                     | 0               | 55           | 55            | 0                 | 0              | 0               |
| Feb 23 - Mar 1                         | 0                     | 0               | 8            | 8             | 0                 | 0              | 0               |
| Mar 1 - Mar 9                          | 0                     | 0               | 31           | 31            | 0                 | 0              | 0               |
| Mar 9 - Mar 16                         | 0                     | 0               | 138          | 138           | 0                 | 8              | 8               |
| Mar 16 - Mar 23                        | 0                     | 0               | 98           | 98            | 0                 | 27             | 27              |
| <sup>2</sup> Mar 23 - Apr 7            | 0                     | 0               | 390          | 390           | 0                 | 325            | 325             |
| Apr 7 - Apr 13                         | 0                     | 0               | 390          | 390           | 0                 | 408            | 408             |
| Apr 13 - Apr 19                        | 0                     | 0               | 512          | 512           | 0                 | 227            | 227             |
| <sup>1</sup> Traps in field since 12/8 |                       |                 |              |               |                   |                |                 |
| <sup>2</sup> Trap                      | s not serviced in     | Zone 7 duri     | ng the week  | c of Apr 1 d  | ue to severe we   | eather on site |                 |

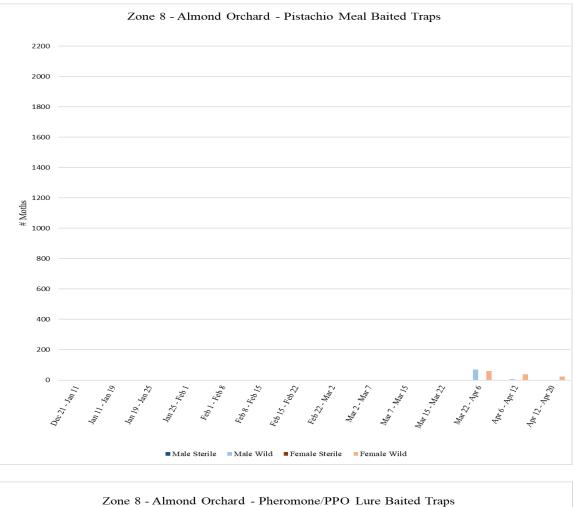


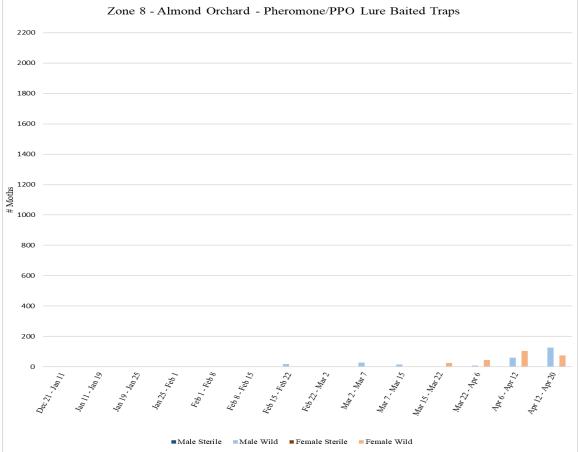


Zone 8 is an almond orchard where aerial NOW SIT releases are not conducted. A total of **18** traps were collected from Zone 8 on <u>Wednesday</u>, <u>April 20</u>, with **9** pistachio meal baited traps and **9** pheromone/PPO lure traps.

|                              |                   | Zo                | ne 8 - A       | lmond       |                 |               |        |
|------------------------------|-------------------|-------------------|----------------|-------------|-----------------|---------------|--------|
|                              |                   | Pistac            | hio Meal B     | aited Traps |                 |               |        |
|                              | # of              |                   |                |             |                 |               |        |
|                              | Releases          |                   |                |             |                 |               |        |
| Dates Traps in               | During Trap       | Male              | Male           | Male        | Female          | Female        | Female |
| Field                        | Period            | Sterile           | Wild           | Total       | Sterile         | Wild          | Total  |
| <sup>1</sup> Dec 21 - Jan 11 | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Jan 11 - Jan 19              | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Jan 19 - Jan 25              | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Jan 25 - Feb 1               | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Feb 1 - Feb 8                | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Feb 8 - Feb 15               | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Feb 15 - Feb 22              | 0                 | 0                 | 1              | 1           | 0               | 0             | 0      |
| Feb 22 - Mar 2               | 0                 | 0                 | 0              | 0           | 0               | 0             | 0      |
| Mar 2 - Mar 7                | 0                 | 0                 | 1              | 1           | 0               | 0             | 0      |
| Mar 7 - Mar 15               | 0                 | 0                 | 0              | 0           | 0               | 1             | 1      |
| Mar 15 - Mar 22              | 0                 | 0                 | 0              | 0           | 0               | 1             | 1      |
| <sup>2</sup> Mar 22 - Apr 6  | 0                 | 0                 | 70             | 70          | 0               | 59            | 59     |
| Apr 6 - Apr 12               | 0                 | 0                 | 7              | 7           | 0               | 37            | 37     |
| Apr 12 - Apr 20              | 0                 | 0                 | 2              | 2           | 0               | 23            | 23     |
|                              |                   | <sup>1</sup> Trar | os in field si | nce 12/21   |                 |               |        |
| <sup>2</sup> Trap            | s not serviced in |                   |                |             | ue to severe we | ather on site |        |

| Zone 8 - Almond                         |  |         |      |       |         |        |              |  |  |  |
|---|--|---------|------|-------|---------|--------|--------------|--|--|--|
| Pheromone/PPO Lure Baited Traps         |  |         |      |       |         |        |              |  |  |  |
|   | # of   |         |      |       |         |        |              |  |  |  |
|   | Releases   |         |      |       |         |        |              |  |  |  |
| Dates Traps in                          | During Trap  | Male    | Male | Male  | Female  | Female |              |  |  |  |
| Field                                   | Period   | Sterile | Wild | Total | Sterile | Wild   | Female Total |  |  |  |
| <sup>1</sup> Dec 21 - Jan 11            | 0  | 0       | 0    | 0     | 0       | 0      | 0            |  |  |  |
| Jan 11 - Jan 19                         | 0  | 0       | 0    | 0     | 0       | 0      | 0            |  |  |  |
| Jan 19 - Jan 25                         | 0  | 0       | 0    | 0     | 0       | 0      | 0            |  |  |  |
| Jan 25 - Feb 1                          | 0  | 0       | 0    | 0     | 0       | 0      | 0            |  |  |  |
| Feb 1 - Feb 8                           | 0  | 0       | 0    | 0     | 0       | 0      | 0            |  |  |  |
| Feb 8 - Feb 15                          | 0  | 0       | 2    | 2     | 0       | 1      | 1            |  |  |  |
| Feb 15 - Feb 22                         | 0  | 0       | 19   | 19    | 0       | 0      | 0            |  |  |  |
| Feb 22 - Mar 2                          | 0  | 0       | 2    | 2     | 0       | 0      | 0            |  |  |  |
| Mar 2 - Mar 7                           | 0  | 0       | 28   | 28    | 0       | 4      | 4            |  |  |  |
| Mar 7 - Mar 15                          | 0  | 0       | 15   | 15    | 0       | 0      | 0            |  |  |  |
| Mar 15 - Mar 22                         | 0  | 0       | 0    | 0     | 0       | 25     | 25           |  |  |  |
| <sup>2</sup> Mar 22 - Apr 6             | 0  | 0       | 8    | 8     | 0       | 46     | 46           |  |  |  |
| Apr 6 - Apr 12                          | 0  | 0       | 61   | 61    | 0       | 104    | 104          |  |  |  |
| Apr 12 - Apr 20                         | 0  | 0       | 126  | 126   | 0       | 75     | 75           |  |  |  |
|   |  |         |      |       |         |        |              |  |  |  |
| <sup>1</sup> Traps in field since 12/21 |  |         |      |       |         |        |              |  |  |  |
| <sup>2</sup> Trap                       | <sup>2</sup> Traps not serviced in Zone 8 during the week of Apr 1 due to severe weather on site |         |      |       |         |        |              |  |  |  |





### IV. Quality Control

QC tests are performed on samples taken from each shipment of sterile NOW moths. These tests include: zerohour 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 results for the week of <u>Monday</u>, <u>April 11</u>, 2022 to <u>Sunday</u>, <u>April 17</u>, 2022:

- 1% of moths from samples found dead at zero hour
- 3% of moths from samples found to have mated at zero hour
- 6% of moths from samples found to have mated after forty-eight hours
- 78% of moths from samples remained alive after seven days in BioChamber
- 81% of moths from samples found to have distinct red dye markings