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In this issue....

Naval Orangeworm Update

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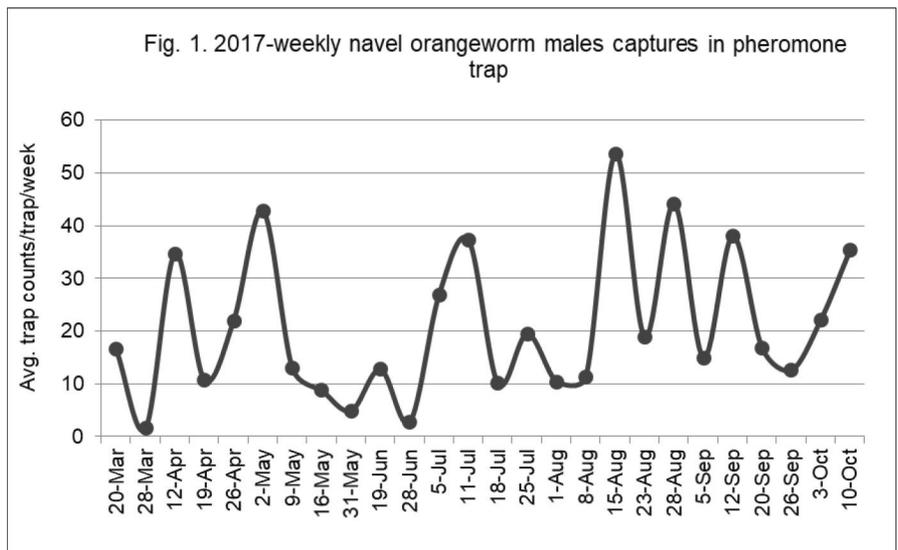
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Navel Orangeworm Activity in Almonds: Update

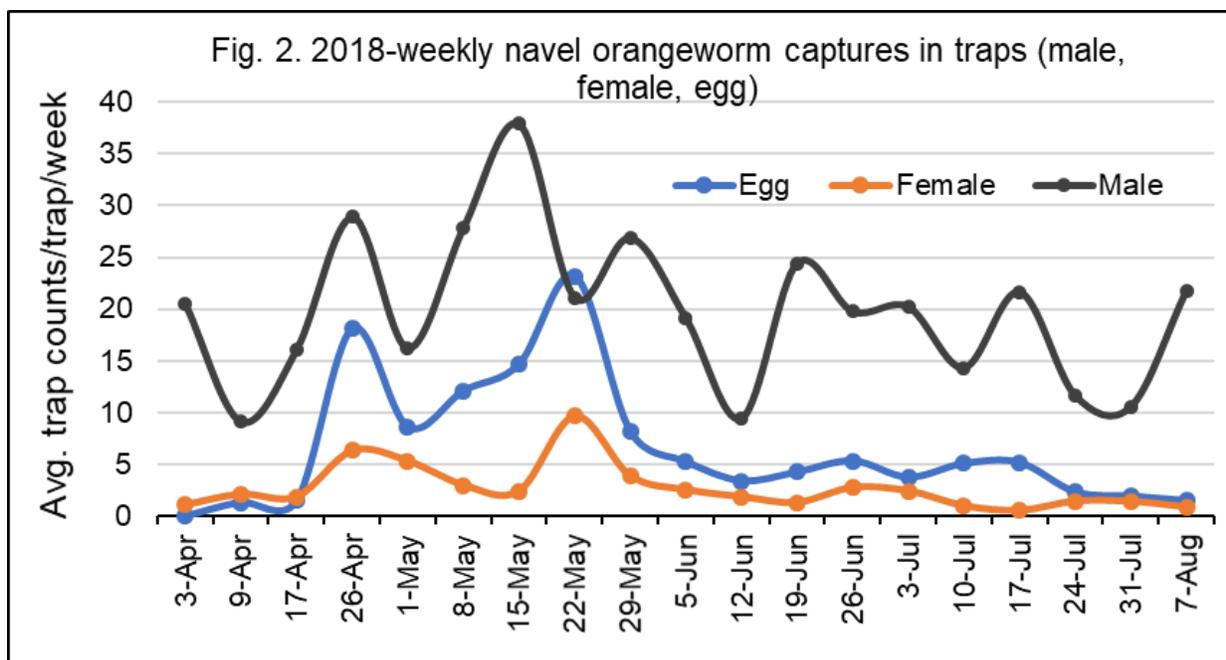
The information presented here is based on trap counts from three orchard locations in Stanislaus County (West Modesto, West Turlock, Denair) in 2017 and 2018. In each orchard site, we have three delta traps baited with male pheromone, three delta traps baited with ground mummy pistachio bait, and four egg traps baited with almond meal bait. Traps have been checked weekly with lure changes every 4-6 weeks.

Male moths in pheromone traps (2017 vs. 2018)

- In 2017 (Fig. 1), there are two peaks (April 14, May 2) early in the season (1st flight). The 2nd flight peak activity was on July 11, and the third flight activity began in mid-August (~810 DD [degree days] from the previous flight peak). Just before the 3rd flight, there was a three week period with relatively low moth activity.



- In 2018 (Fig. 2), we have seen a pattern similar to 2017. There were two peaks (April 26, May 15) early in the season (1st flight). The 2nd flight activity was extended from June 19 to July 7, and this is different from last year as the 2nd flight had a narrow peak (July 5-11) in 2017. Based on the latest counts, we see a significant increase in moth captures this week (8/7) compared to the two weeks previously (7/24, 7/31). I assume this number will increase next week (mid-August). For me, that is the indicator of the beginning of the third flight. If we consider June 30 as the middle of the 2nd flight, from that point we have already reached over 850 degree days as of 8/7. Remember that ~700 DD is the average time navel orangeworm takes to complete one generation in a new crop, but it can be 500 or 900 DD depending on other factors.



Female and egg traps:

- Female counts in the delta traps (with crushed pistachio as bait) have been high this year compared to my experience of using this trap in the past two years. Not surprisingly, the female trap counts coincided well with the egg counts in the egg trap (Fig. 2) since both traps use kairomone baits to attract females. It appears that male moth activity is earlier by a few days (less than a week) than the females. Assuming that is the case, we should be able to catch more females next week compared to the 8/7 trap counts. It is also possible that the female captures this time of the year may not be as high as their activity during the first flight due to the availability of the split nuts for egg laying.

What next?

Based on trap counts to date, it can be speculated that Nonpareil orchards that can be harvested before mid-August (latest by 20 Aug) won't be exposed to the major 3rd generation egg laying. For those who cannot harvest before that time, fumigating the stockpiles seems to be a good idea, especially if you have seen an indication of high navel orangeworm activity in your orchard. Also, based on the timing of the previous insecticide sprays and stage of the pollinizer varieties, consideration should be given to protect that crop as well.

Remember that every field is different, and pest management decisions should be made based on the insect activity in the trap as well as crop, damage history, and potentially other factors. Information that I have provided here is a guide on what is going on in the area in general, and your experience for this season can be completely different!

Please share your thoughts at jrijal@ucdavis.edu, or 209-525-6800.

The IPM Corner

A Pest Management Newsletter

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- ♦ Navel Orangeworm Update

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