

MONITORING ONION PESTS ACROSS THE TREASURE VALLEY—2019

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Objective

Provide growers with regional assessments of pest abundance in commercial fields.

Introduction

Growers continue to be challenged by how to manage thrips and the iris yellow spot virus (IYSV) that thrips vector. The Idaho-Eastern Oregon region has a range of different subregions, and thrips and virus pressure varies across those subregions. A number of growers have asked for assistance in monitoring pest pressure within their particular districts so they can make better-informed management decisions.

Methods

Fifty-six commercial onion fields (6 to 11 fields in each of seven growing areas) were monitored for thrips, IYSV, and other pest problems on a weekly basis. Those areas were (1) Ontario, (2) Vale, (3) Oregon Slope/Weiser, (4) Nyssa, (5) Adrian, (6) Fruitland, and (7) Parma. Forty-two of the fields were yellow onions, 10 were red onions, 3 were white onions, and 1 was a shallot field.

Averages of adult and immature thrips and IYSV incidence for each district were reported to growers, crop advisors, and others each week from May 15 to August 10 when plants began to senesce, and fields were being prepared for harvest.

Results and Conclusions

Overall thrips pressure was lower in 2019 than in several previous years. Figure 1 shows mean total thrips per plant in untreated plots at the Malheur Experiment Station from 2013 to 2019. In 2019, peak abundance occurred on July 8 with approximately 40 thrips per plant.

Thrips began colonizing fields in early May (Figures 2–5). Adult thrips were first detected at low levels (<0.2 per plant) in fields during the first survey on May 15 in all areas, when plants were at the 2-leaf stage. By the following week, immature thrips were present in fields in Nyssa and Vale. Thrips populations built through June, but the cool, wet early spring probably kept populations from peaking until the middle of July, which is a few days later than typical. The percentage of plants with thrips averaged above 75% from June 15 through July 20.

Adult thrips numbers peaked at the end of June and beginning of July (Figure 4). Immature thrips numbers peaked 1 to 2 weeks later than the peak of adults in most fields (Figure 5).

The first plants infected with IYSV were detected on June 22 in Fruitland. Iris yellow spot virus did not appear in all growing areas until July 13. Virus incidence was most severe in Fruitland and Ontario, which is typical.

Thrips populations varied across the growing regions and fluctuated depending on insecticide applications (Figures 1–5). Perhaps because of the typically high incidence of IYSV in the Fruitland area (Figure 6), thrips populations there were lower than in other areas (Figures 1–5).

Acknowledgments

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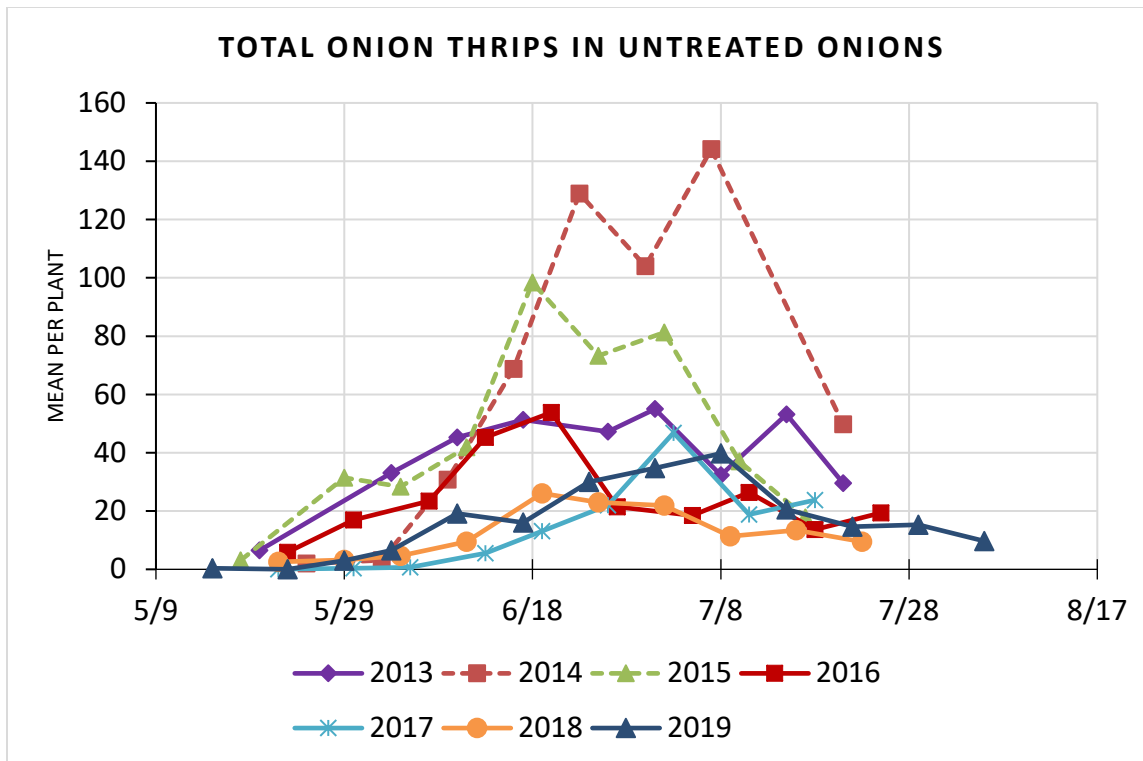


Figure 1. Mean total thrips per plant in untreated onion plots at the Malheur Experiment Station from 2013 to 2019.

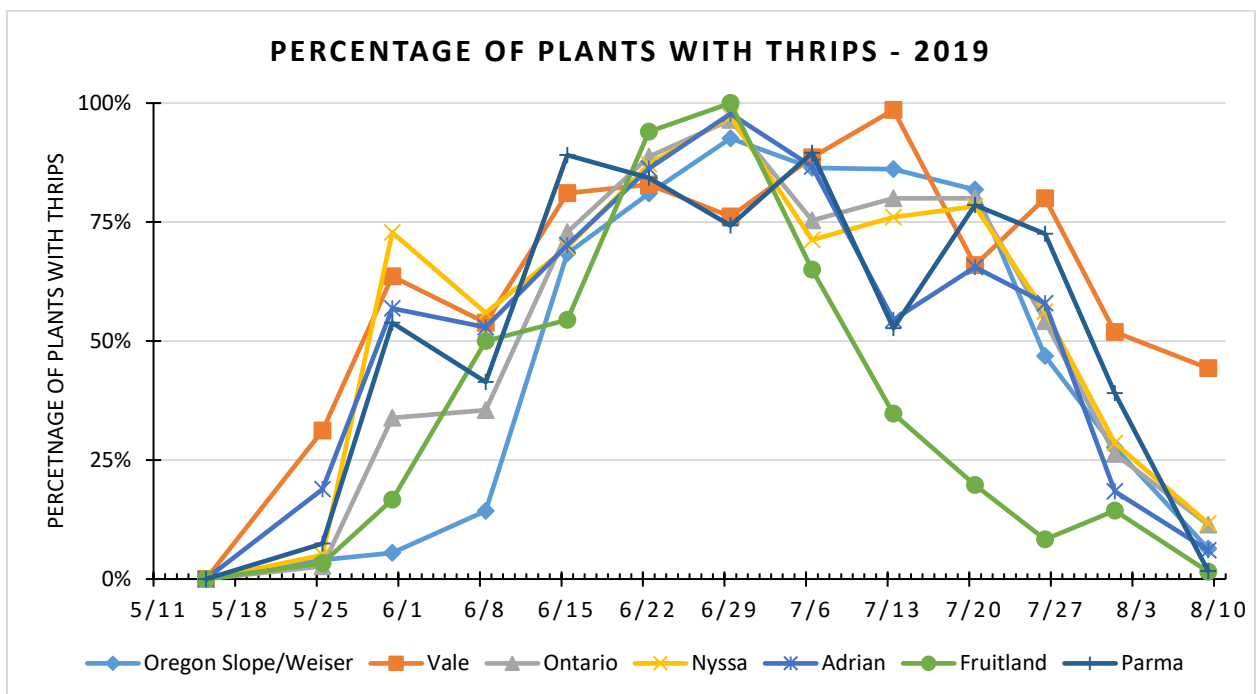


Figure 2. Average percentage of onion plants with thrips present during the 2019 season from different growing areas of the Treasure Valley.

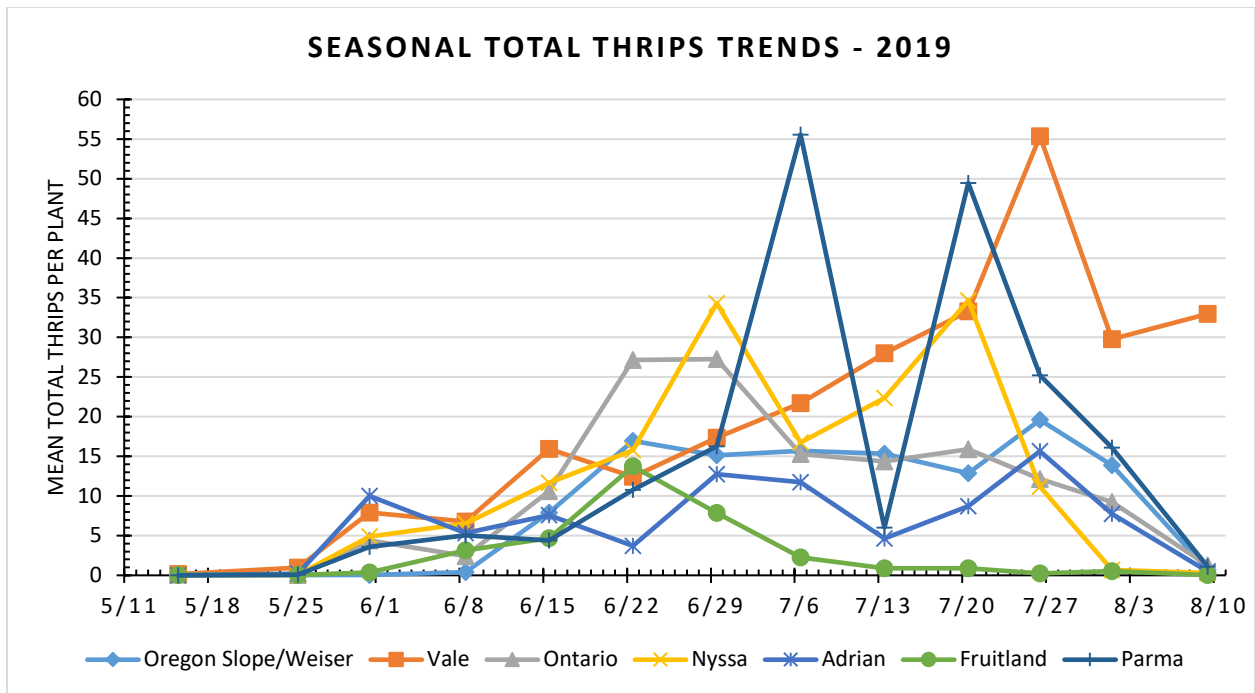


Figure 3. Seasonal trends of total thrips in onion growing areas of the Treasure Valley during 2019.

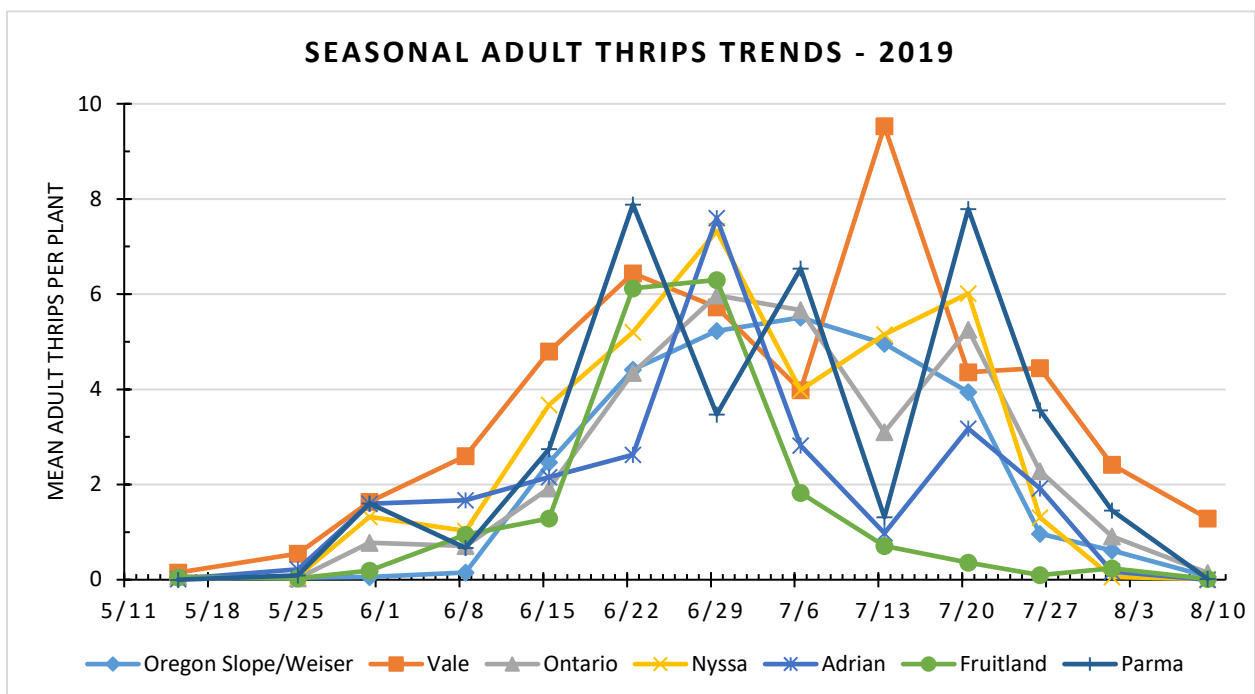


Figure 4. Seasonal trends of adult thrips in onion growing areas of the Treasure Valley during 2019.

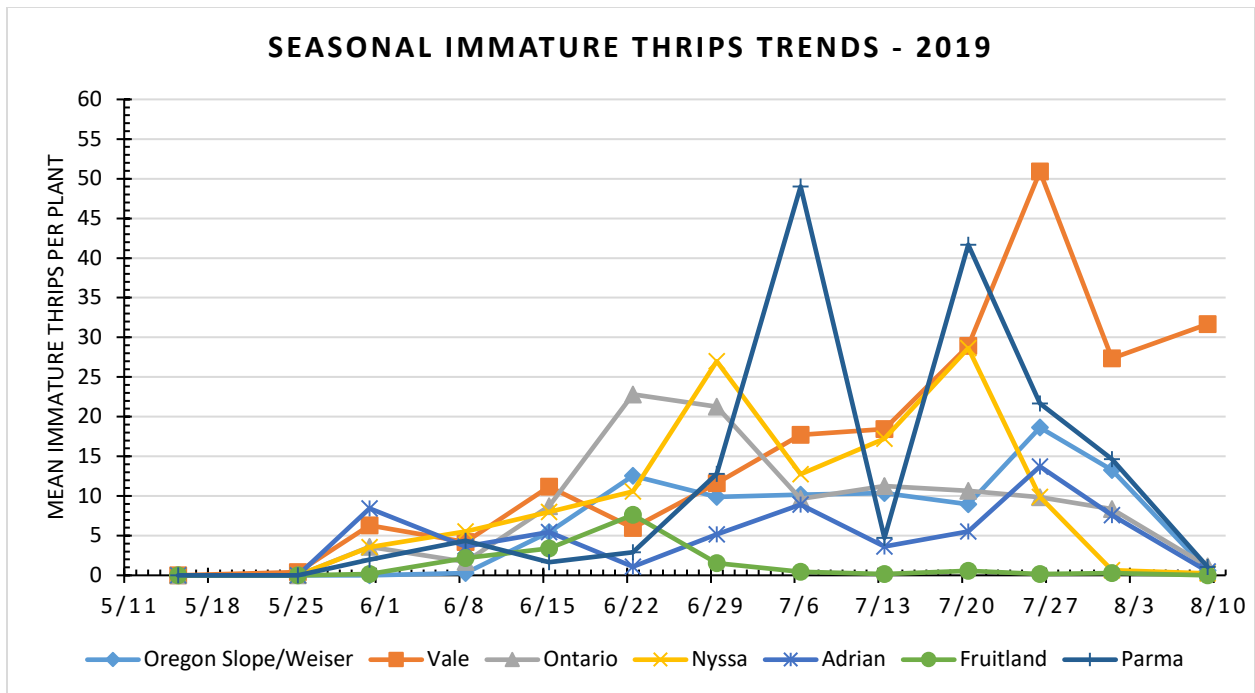


Figure 5. Seasonal trends of immature thrips in onion growing areas of the Treasure Valley during 2019.

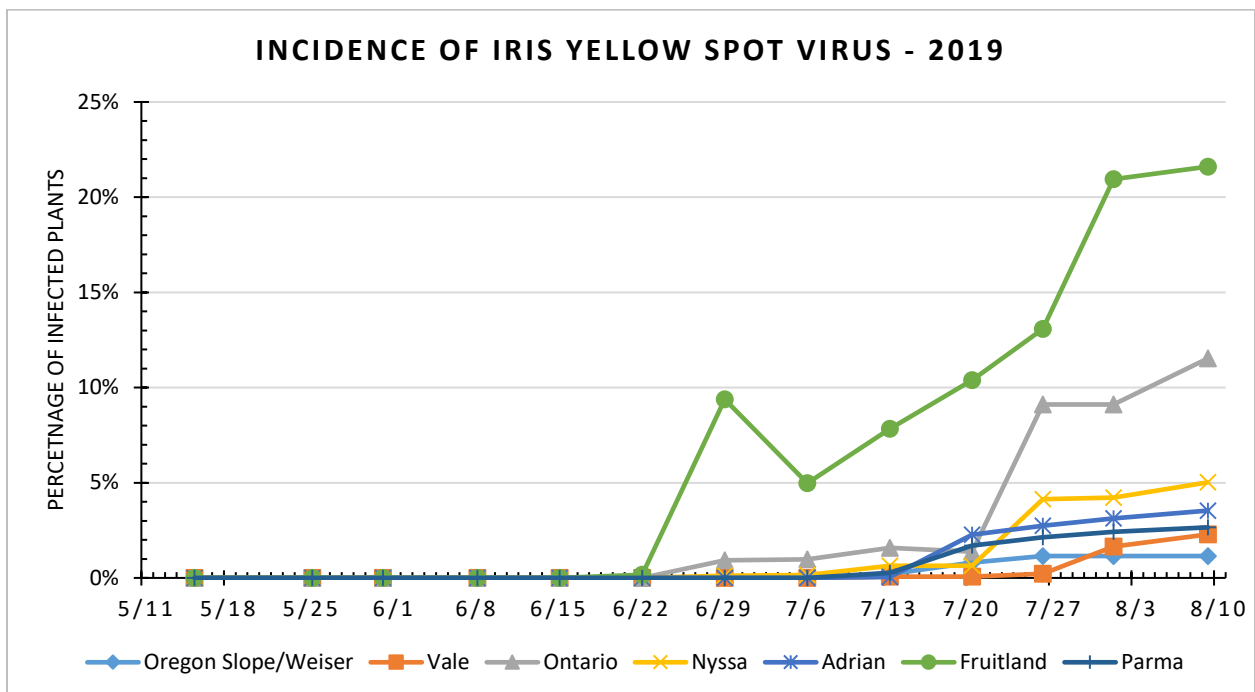


Figure 6. Seasonal incidence of Iris yellow spot virus in commercial onion fields from different growing areas of the Treasure Valley during 2019. Values are the mean percentage of infected plants per field for each area.