

# MONITORING ONION PESTS ACROSS THE TREASURE VALLEY - 2017

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## Objective

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

## Introduction

Growers continue to be challenged in how to manage thrips and 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

Six commercial fields in each of seven growing areas were monitored for thrips and IYSV on a weekly basis. Those areas were 1) Ontario, 2) Vale, 3) Oregon Slope/Weiser, 4) Nyssa, 5) Adrian, 6) Fruitland, and 7) Parma. Thirty-six of the fields were yellow onions and six were red onions. The most common variety among these fields was 'Joaquin' (n = 12). There were no more than three fields of any other variety.

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

## Results and Conclusions

Adult thrips were first detected in fields on May 19 in the Adrian area. Plants in the two fields with thrips were at the 2-leaf stage. Other fields in the monitoring network were in the 1- to 2-leaf state. By the following week, adult thrips had colonized at least some fields in all growing areas. Immature thrips were also found in fields in Adrian and Ontario. Thrips populations built up rapidly in early June. Plants with thrips went from 8% on May 26 to 82% on June 15.

Adult thrips numbers peaked around the first week of July in most areas. Immature thrips numbers peaked in the second half of July. Despite later plantings than normal in 2017 because of the weather, the timing of peak thrips abundance in mid- to late July was similar to other recent years.

Iris yellow spot virus emerged later and with a much lower incidence in 2017 than in recent years. The first plants infected with IYSV in commercial fields were found on June 15, 2 weeks later than in 2016. Ironically, these first infections were found in a field on the Oregon Slope, which usually

has much lower incidence than other growing areas. The earliest increase in IYSV incidence occurred in Fruitland, reaching 5% on July 21, while all other areas remained at  $\leq 1\%$ . The incidence of IYSV began to increase substantially during the week of July 28 and continued to escalate over the last 2 weeks of monitoring. However, the final seasonal incidence remained relatively low (2% in Parma to 27% in Vale). In contrast, IYSV incidence in 2016 ranged from 12% on the Oregon Slope/Weiser to over 80% in Fruitland, Nyssa, and Ontario. Infections on individual plants in 2017 did not appear to be very severe or extensive. The low incidence and severity of IYSV in 2017 suggest that direct feeding damage would have been more important in determining yield losses from thrips than virus damage.

Thrips populations varied across the growing regions and fluctuated depending on insecticide applications (Fig. 1). Fields on the Oregon Slope tended to have the fewest thrips and lowest incidence of IYSV (Figs. 1 and 2). Fields in Nyssa, Ontario, and Fruitland/Parma had the highest incidence of IYSV, with the earliest outbreaks occurring in Fruitland/Parma.

## **Acknowledgments**

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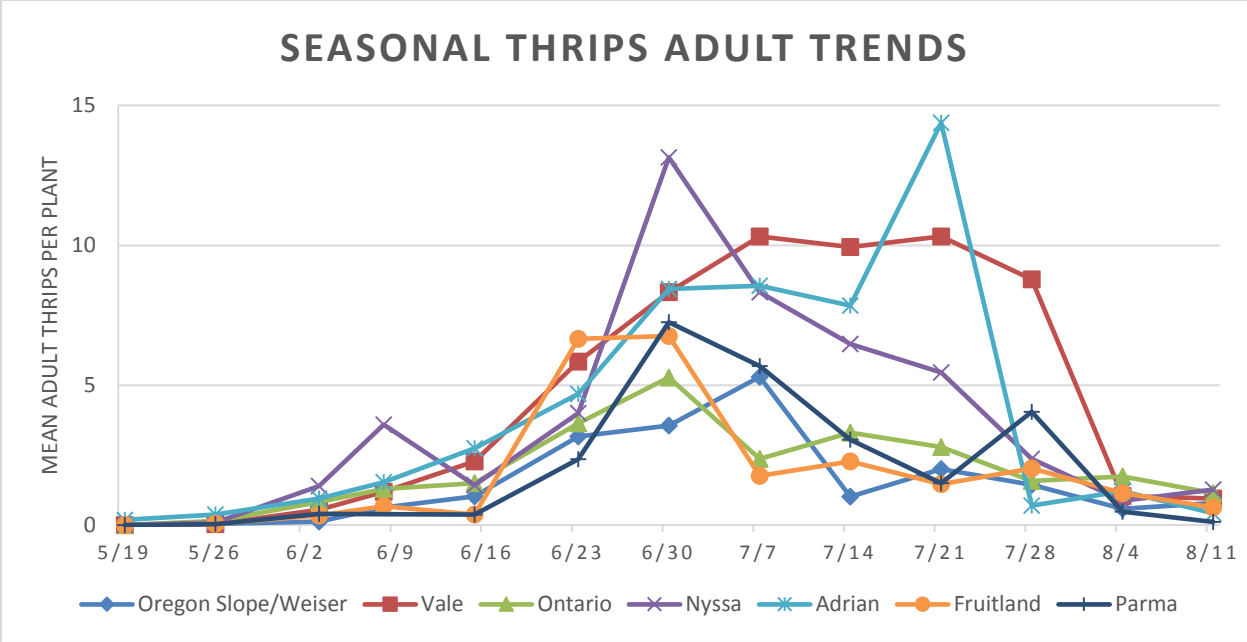


Figure 1. Seasonal trends of adult thrips in onion growing areas of the Treasure Valley during 2017.

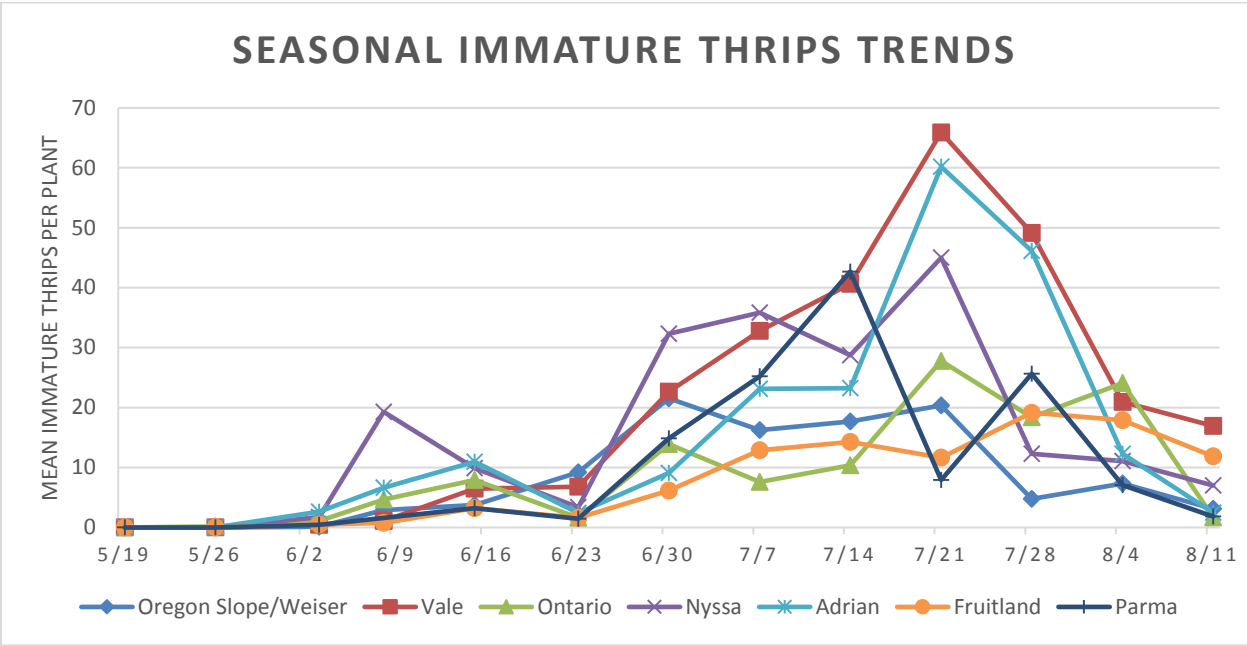


Figure 2. Seasonal trends of immature thrips in onion growing areas of the Treasure Valley during 2017.

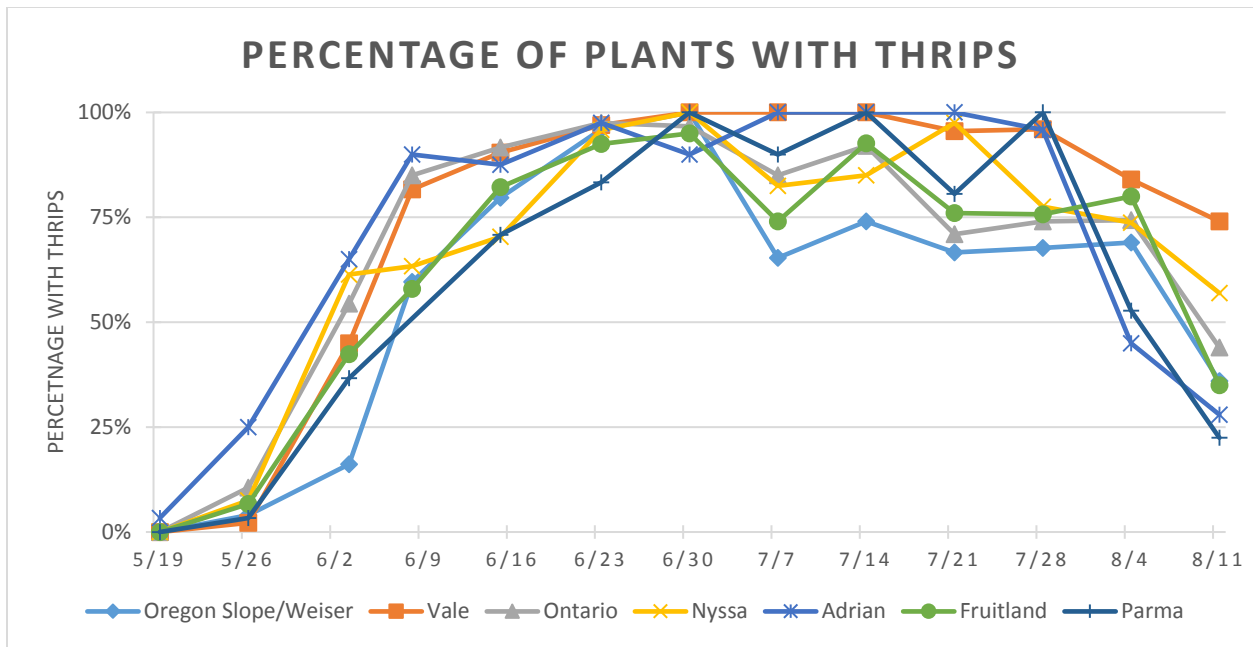


Figure 3. Average percentage of onion plants with thrips present during the 2017 season from different growing areas of the Treasure Valley.

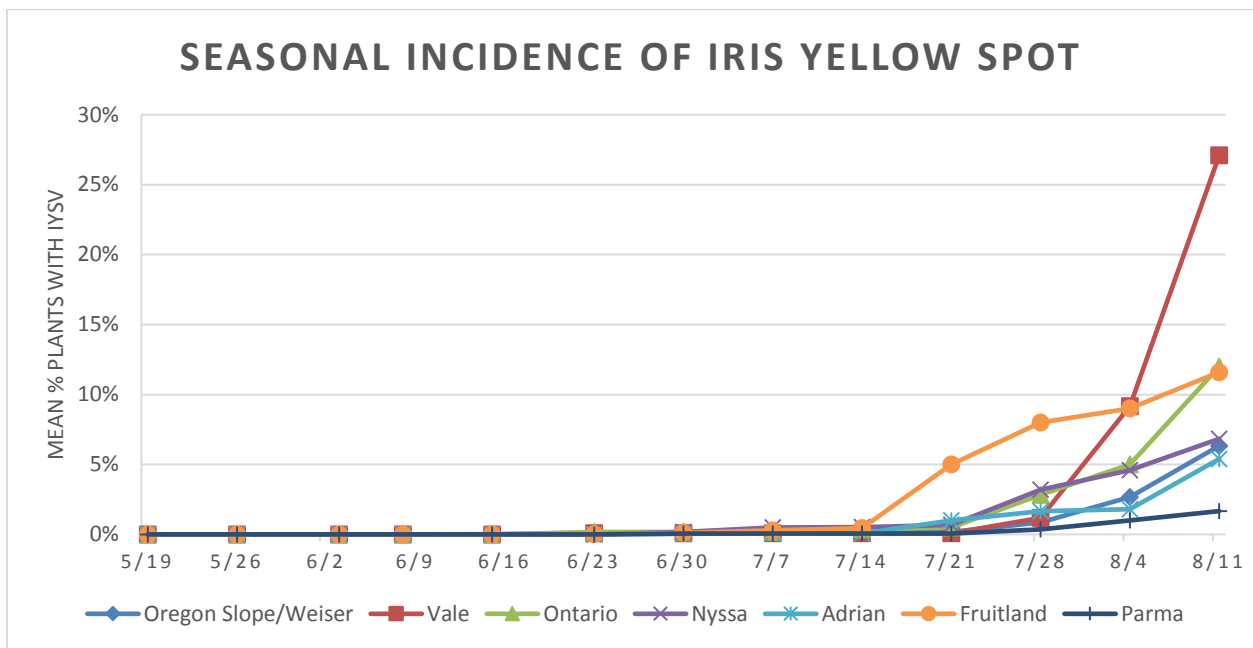


Figure 4. Seasonal incidence of Iris yellow spot virus in commercial onion fields from different growing areas of the Treasure Valley, 2017. Values are the mean percentage of infected plants per field for each area.