A SURVEY OF THRIPS MOVEMENT INTO ONION FIELDS IN THE TREASURE VALLEY

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Introduction

Thrips are the vector for iris yellow spot virus in onion. Two of the challenges to integrated pest management of thrips are knowing when thrips are moving into the fields and where they are coming from. This survey was a first attempt to gather that information.

Materials and Methods

Yellow sticky cards were attached to wooden stakes at a height of 18 inches from the ground and placed on the edges of selected onion fields throughout the Treasure Valley. One card per field edge was placed, with the sticky side facing away from the onion field, on as many sides of the onion field as could be easily accessed. The sticky cards were replaced with fresh cards each week. The collected cards were examined and the thrips counted. In order to reduce time, a representative 35- by 70-mm rectangular area of the card was selected, from which counts were made.

Results and Discussion

Figure 1 shows the weekly movement of thrips into the onion fields. Thrips numbers increased dramatically after June 14 and diminished rapidly after July 13. This is consistent with thrips counts made in insecticide trials in Parma, Idaho and Ontario, Oregon where thrips populations peaked and declined during the same time period.

Thrips numbers moving into onion fields were evenly distributed for traps located on the north, south, and west edges of fields but were nearly double for the east edges (Fig. 2).

Surprisingly, fields with pasture as the neighboring crop had a higher influx of thrips than any other crop (Fig. 3). Onion fields adjacent to other onion fields had the fewest thrips moving into the onions. It should be noted that there was a large variation in the type of crop surrounding onion fields, so that there were very few repetitions of any particular crop. Making conclusions based on a few crops is tenuous where the crop factor is confounded with the location factor.

Oregon Slope and Nyssa, Oregon had the lowest populations of thrips while Vale, Oregon had the highest (Fig. 4).

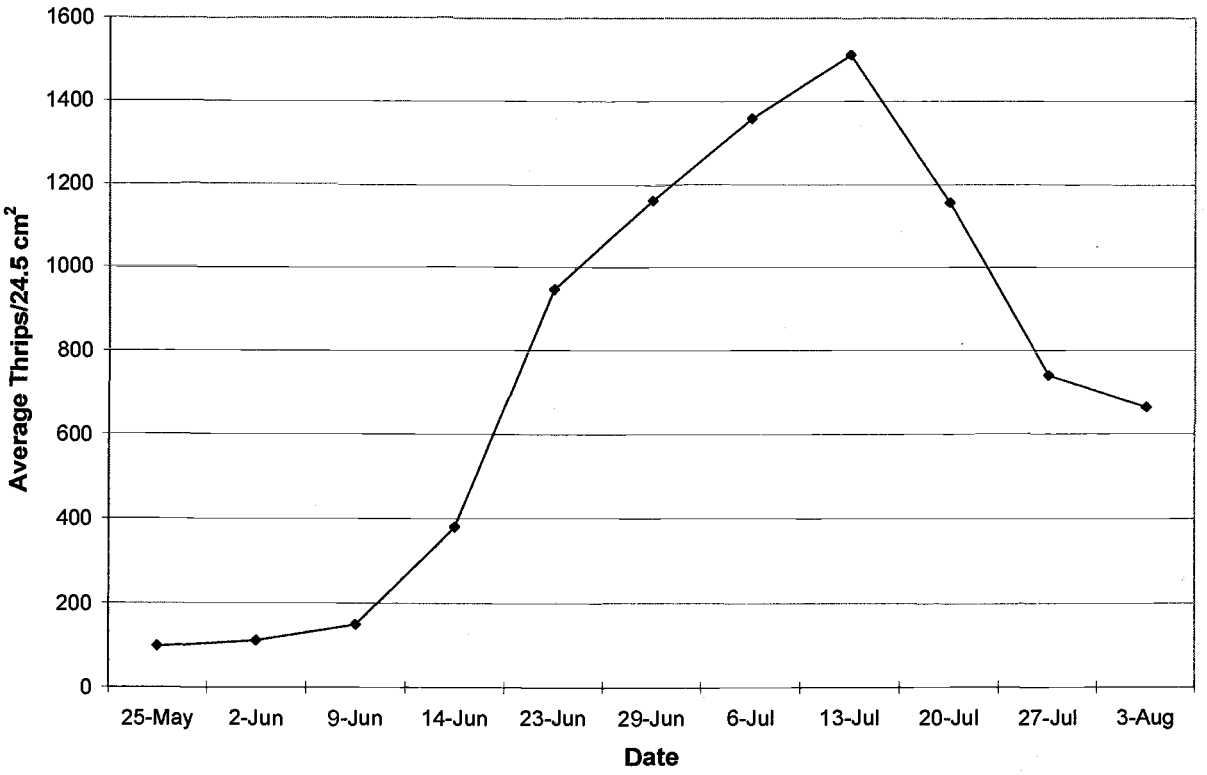

Figure 1. Average number of thrips per week per 24.5 cm^2 of sticky card. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.

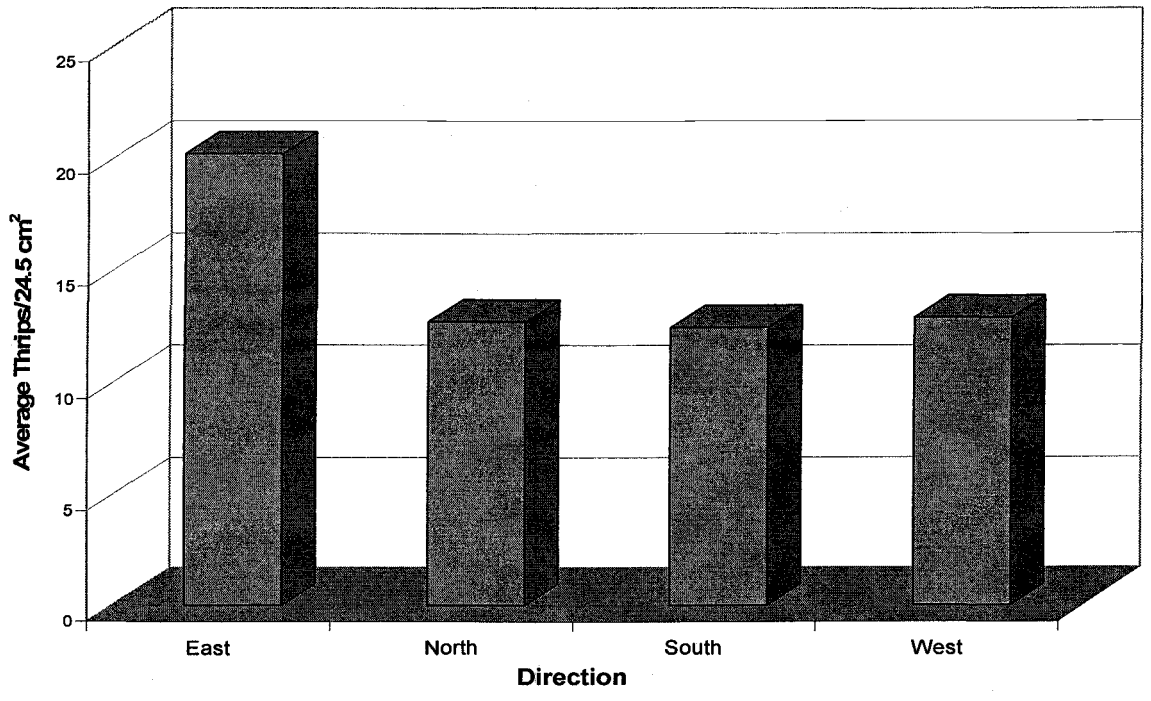

Figure 2. Average number of thrips by trap direction. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.

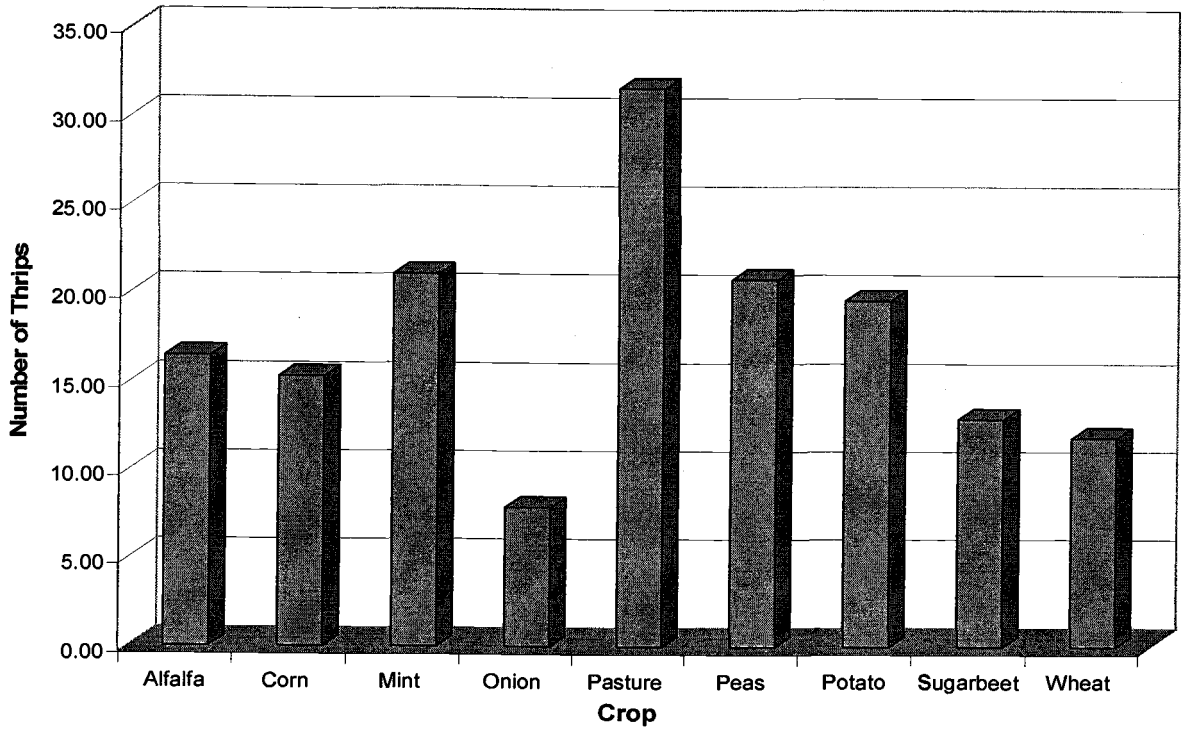

Figure 3. Average number of thrips by adjacent crop. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.

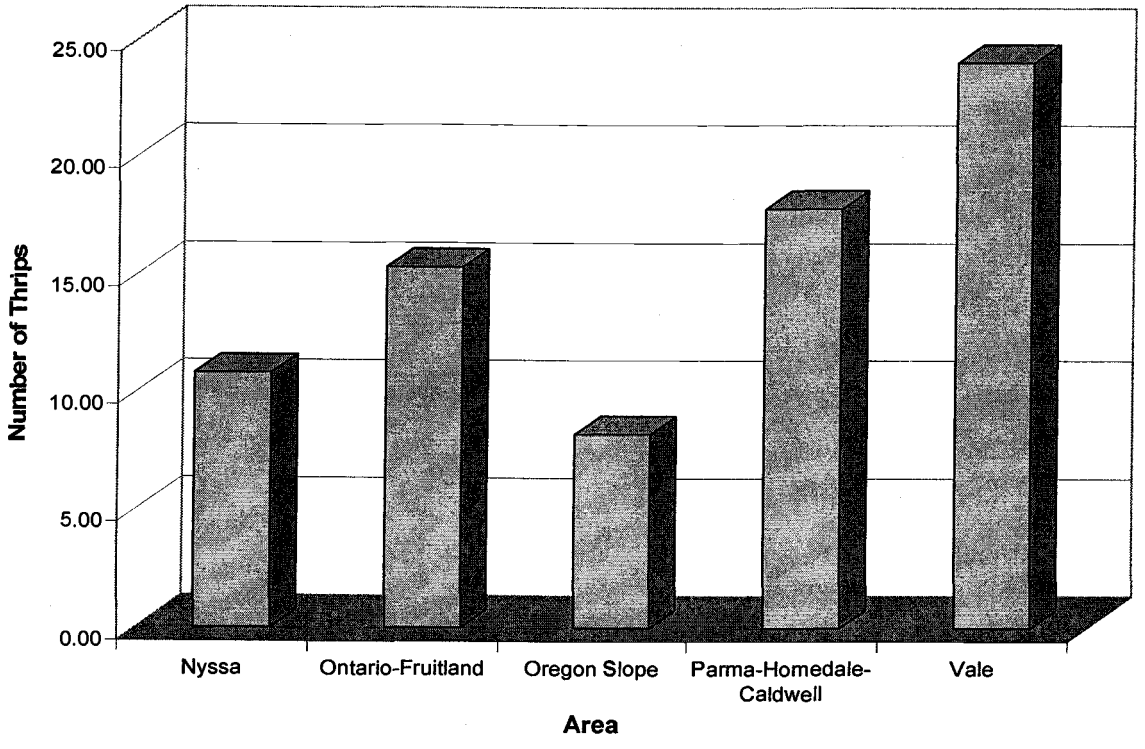

Figure 4. Average number of thrips by area. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.