

Section IV  
Potato Pests

## 2011 INSECT REPORT IN EASTERN OREGON

S.I. Rondon and R. Marchosky  
Oregon State University, Hermiston Agricultural Research and Extension Center  
2121 South First Street, Hermiston, OR 97838  
Phone (541) 567 8321  
[silvia.rondon@oregonstate.edu](mailto:silvia.rondon@oregonstate.edu); [ruben.marchosky@oregonstate.edu](mailto:ruben.marchosky@oregonstate.edu)

Over the last six years, the Hermiston Agricultural Research and Extension Center (HAREC) Entomology program, under the direction of Dr. Silvia Rondon has set out insect trapping stations along various routes in Umatilla and Morrow counties. The purpose of these insect trapping stations is to alert growers regarding the presence of key insect pests of potatoes.

Insect trapping data reports including aphid populations [green peach aphid, *Myzus persicae* (Sulzer); potato aphid, *Macrosiphum euphoribae* (Thomas); other aphids] had been gathered since the late 1970's. Over the last six years, this data has been expanded to include beet leafhoppers (*Circulifer tenellus* Baker), other leafhoppers, and the potato tuber moth (*Phthorimaea operculella* Zeller). This data in the form of insect counts by station is reported in a weekly "Potato Update" newsletter emailed and published online during the growing season (<http://oregonstate.edu/dept/hermiston/trap-reports>). This report presents data collected in 2011 in Umatilla and Morrow counties.

### Methods

Thirty four (34) insect trapping stations were set out at various locations along a 200 plus mile route through Umatilla and Morrow counties. Each station consisted of three insect traps: (1) a Delta trap with a pheromone lure attached to the center of a white sticky card to attract male potato tuber moths, (2) a yellow sticky card to trap leafhoppers, and (3) a yellow five gallon bucket filled approximately half-way with water to trap winged adult aphids.



Delta traps and sticky cards were set out beginning 21 April and removed from fields on 1 October. Yellow water buckets began trapping aphids beginning 16 June and ending on 11 August. All traps were served each week and returned for processing to our laboratory in Hermiston, OR. New white sticky cards for the Delta traps and yellow sticky cards were set out each week. Pheromone lures within Delta traps were replaced with new lures on a monthly basis. During aphid trapping, all winged aphids in yellow water buckets were collected, placed in vials containing 100% ETOH, marked with date and the trap designation, and returned to our laboratory for identification. The water in yellow buckets was replaced each week. White sticky cards and yellow sticky cards collected from the field were examined using a dissecting microscope. All winged aphids collected from the field were identified utilizing a dissecting microscope with reference to keys contained in "Aphids of Western North America North of Mexico" authored by Keith Pike (Washington State University). Insect counts were summarized as number of insect per trap per date.

### **Results and Discussion**

Aphid populations were low throughout the season (Fig. 1). Historically aphid data is also presented (Fig. 2). In 2011, green peach aphids reached peaks on 30 June and 28 July. Potato aphid populations peaked on 7 June with a mean slightly higher than 0.25 aphids per trap per date. Other aphids combined reach a peak of 0.65 aphids per trap on 30 June. By 4 August, almost no aphids were being found.

Beet leafhopper populations were also low in 2011 (Fig. 3). Beet leafhoppers reached 2.28 per trap on 30 June and peaked a week later. In 2010, beet leafhoppers were trapped at higher rates as compared to 2011.

Few potato tuber moths were trapped in 2011. Populations began to rise after 11 August, and then peaked on 31 August. However, populations did not exceed 0.18 tuber moths adult per trap which was a level below action thresholds and very low compared to recent years.

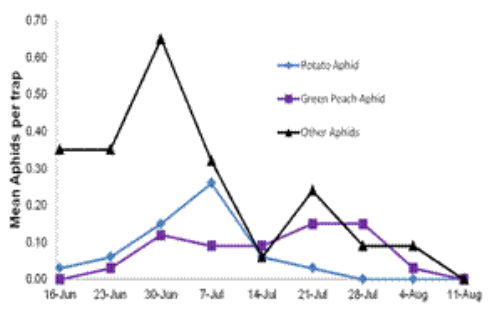


Fig. 1 Population dynamics of green peach aphids, potato aphids and other aphids in Morrow and Umatilla counties during the 2011 growing season.

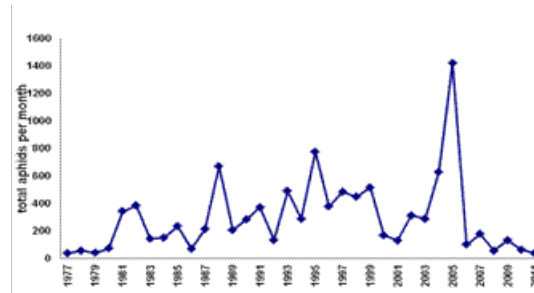


Fig. 2. Historical phenology of aphids in Morrow and Umatilla counties, 1977-2011.

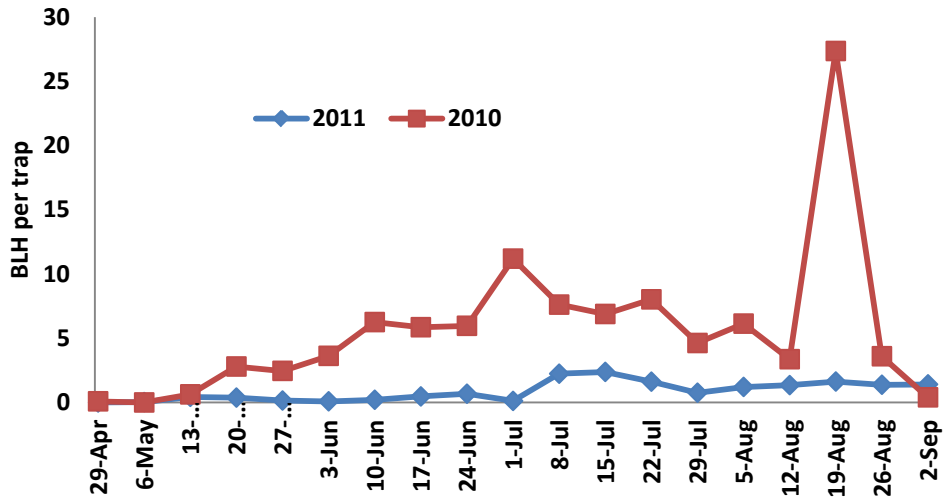


Fig. 3 Population dynamics of beet leafhoppers in Morrow and Umatilla counties during the 2011 growing season.

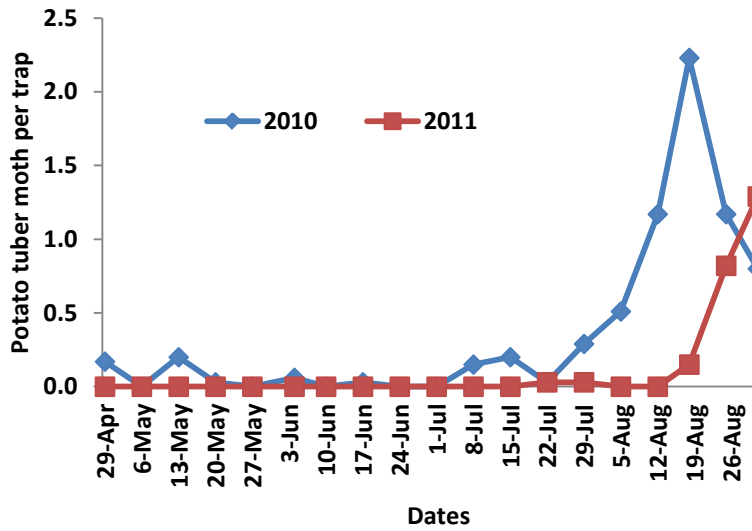


Fig. 4 Population dynamics of potato tuber moths in Morrow and Umatilla counties during the 2011 growing season.