INSECT MONITORING REPORTS
Report for June 6-12, 2012

BEET LEAFHOPPERS: **BLH were found at only 10 of the 40 fields we surveyed this week, and numbers were 1- 2 BLH/trap. These are some of the lowest counts we have had for this time of the year since the network of traps was established.**

Beet leafhoppers are important pests because they transmit BLTVA, a phytoplasma that causes purple top disease in potatoes. In the Columbia Basin, the first spring generation of BLH usually migrates towards potato fields in late May and early June, with a peak flight in late June. Yellow sticky traps placed near potato fields are one way to monitor BLH. Information about setting up traps and identifying BLH can be found in the article, "*Beet Leafhopper Monitoring with Yellow Sticky Cards*". Treatment thresholds based on BLH numbers on traps have not been established, but we know that the risk of infection increases as BLH populations become large. If the numbers on traps build up to 40 or more BLH per week, then it is probably time to be concerned. A typical weekly catch during peak BLH activity is 100. Eliminating weed hosts (wild mustards, Russian thistle, kochia) in areas surrounding potato fields is an important cultural management approach for BLH. Potato growers may also select cultivars that are less susceptible to purple top (Ranger, Umatilla, and Norkotah are considered highly susceptible; Russet Burbank is susceptible; and Alturas and Shepody are moderately susceptible). A number of insecticides are labeled for use on potatoes to control leafhoppers. There is new research to suggest that systemic at-planting insecticides, especially those with longer residual activity applied at the maximum allowed rate, provide adequate early season control of BLH. Results may vary depending on the product used, application rate, soil and environmental conditions, and insect pressure. Foliar insecticides may also be used to control BLH. These are usually applied in May, June, and sometimes July. Insecticides with long residual activity (10-14 days) are preferred. If you apply a non-systemic insecticide, it may be necessary to shorten the application interval during periods of rapid plant growth to ensure adequate plant coverage. Remember to always read and follow instructions on the pesticide label. For more information about managing BLH, visit *IPM Guidelines for Insects and Mites in ID, OR, and WA Potatoes* and the *2012 PNW Insect Management Handbook*.

POTATO PSYLLIDS: **The first reports of potato psyllids in potato fields in the Columbia Basin occurred this week. Two adult potato psyllids were found in two different fields in Oregon (near Irrigon and Hermiston) by crop consultants. Both of these psyllids tested negative for Liberibacter, the bacterium transmitted by potato psyllids that causes zebra chip. Also this week, Joe Munyaneza found two adult potato psyllids in a sentinel plot (a small, isolated plot of potatoes, without insecticide, established for monitoring and research purposes) in Prosser. These psyllids also tested negative for Liberibacter. No potato psyllids were found in the five other sentinel plots being monitored in Othello, Pasco, Paterson, Hermiston, and Yakima, and none were found in commercial potato fields being monitored as part of the regional insect sampling network. We believe that numbers are still very low right now. But, it will be important to intensify scouting efforts, and to have pest management plans ready to implement. If you find potato**

psyllids or want some help with psyllid identification, please let us know by sending an email to cwohleb@wsu.edu. We will submit samples for Liberibacter testing.

Potato psyllids are important pests mostly because they can transmit a bacterium (*Candidatus* Liberibacter) to potatoes that causes zebra chip disease (ZC). This disease reduces both yield and tuber quality and has lead to serious economic losses in some regions. ZC was first detected in potato fields in the Columbia Basin in 2011. It is expected that ZC will show up again in 2012. Early detection is critical for controlling psyllids and minimizing transmission of zebra chip disease. We don't have a lot of experience monitoring for psyllids in PNW potato fields, but here are some recommendations… In other regions, adult psyllids are monitored using five or more yellow sticky cards placed inside the field, just above the plants, and near the field edge. But, this method may not be very helpful for detecting low populations. Another method for sampling adult psyllids is to use a leaf blower/vacuum with a mesh net secured to the end of the cylinder (suction end). This method may be better for detecting low population densities. Operate the machine (in vacuum mode) above the potato plants for at least 5 minutes, 5-10 feet from the edge of the field, then carefully remove the net from the end of the cylinder. It helps to transfer the insects from the net to a plastic bag that you can seal, then look for the tiny winged adults. You will also find lots of other insects. Other life stages of the psyllid may be found by collecting several leaves (mid-plant) from the outer rows of the field, and then scan the underside (with a hand-lens) for the tiny nymphs and eggs. It is also recommended to scout for psyllids in cull piles and volunteer potatoes. Current recommendations are that first detection of potato psyllids, in any life stage, is the threshold for action until more information is available. For more information about psyllids, including insect identification, monitoring, and control recommendations, read *Biology and Management of Potato Psyllid in Pacific Northwest Potatoes*.

APHIDS: **Potato growers should start monitoring fields for aphids. We are beginning to see a few winged aphids moving into potato fields across the Columbia Basin. If you applied a systemic insecticide at planting, such as imidacloprid, thiamethoxam, or clothianidin, you can usually expect 80- 100 days of residual control.**

Aphids are important pests because they transmit several important potato viruses, especially potato leafroll virus (PLRV) and potato virus Y (PVY). Green peach aphids are the most important vector of PLRV, which has caused substantial yield and tuber quality losses in the Columbia Basin. PLRV causes net necrosis in some cultivars, an unacceptable tuber defect in processing potatoes. PVY can also result in significant yield losses, and some strains cause tuber defects. Potato growers should monitor fields for aphids at least once a week, because early recognition and control of aphids is the best tactic in limiting spread of potato viruses. Current recommendations are to treat long-season storage potatoes as soon as wingless aphids are detected. Low tolerances have been established because even a low incidence of seed borne PVY and PLRV can spread rapidly if aphids go unchecked.

POTATO TUBERWORM: **We found one potato tuberworm moth in a trap located near the OR border this week.**

Potato tuberworm (PTW) was first recognized as an important pest of potatoes in the southern Columbia Basin in 2003. PTW larvae feed on tubers causing damage that renders them unmarketable. Potato growers with fields south of Connell, WA are recommended to pay close attention to regional trapping data, and should deploy pheromone traps. Infestations of PTW are highly localized, and it is risky to conclude too much from traps that may be several miles away. Information about setting up traps and identifying PTW moths can be found in the article, "*Tuberworm Monitoring with Pheromone Traps*". Trap counts from mid-season to harvest are particularly important to watch. Pre-harvest control measures may be warranted in fields where PTW moths in pheromone traps are found to be increasing every week, especially in August-October.