INSECT MONITORING REPORTS
Report for June 13-19, 2012

BEET LEAFHOPPERS: **BLH numbers continue to be low. BLH were found at 17 of the 40 fields we surveyed this week. Most of the sticky cards with BLH had only 1- 3 per card, but one card near Pasco had 11 BLH. This is more BLH compared to last week, but still not many compared to the other years that we have monitored BLH using yellow sticky cards.**

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: **This week six more adult potato psyllids were found in the sentinel plot at Prosser, WA. All of these psyllids tested negative for the bacterium that causes zebra chip. We did not find any potato psyllids in the other sentinel plots in WA (at Yakima, Paterson, Pasco, and Othello), or in any of the commercial fields we sampled this week. But, we can't look at every field in the Basin, so everyone needs to keep their eyes open for psyllids. Everyone should intensify scouting efforts and have pest management plans ready to put in action. If you find potato psyllids, please let us know by calling me at (509) 754- 2011 x. 413 or sending an email to cwohleb@wsu.edu. We will submit psyllids for Liberibacter testing. I am also happy to help with psyllid identification or other questions you may have.**

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: **Winged aphids were seen in many of the fields we visited this week across the Basin. They were found in small numbers. No wingless, colonizing aphids were seen. If you did not use a systemic insecticide at planting, you are more likely to see wingless aphid populations beginning to build now. If you applied a systemic insecticide at planting, such as imidacloprid, thiamethoxam, or clothianidin, you can usually expect 80-100 days of residual control for aphids. You can find more information about managing aphids in the 2012 PNW Potato Insect/Mite IPM Guidelines below.**

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 potato tuberworm moths in three traps in the southern Columbia Basin this week. Each trap had only 1 PTW moth.**

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.