

INSECT MONITORING REPORTS
Report for June 27-July 3, 2012

APHIDS: Aphids were seen throughout the Basin this week, in 16 out of 38 fields surveyed (42%). These were mostly winged aphids of various species, including the green peach aphid. The counts have been low so far, only 0.2 aphids per plant on average, but watch for the counts to increase as the winged aphids begin to produce wingless offspring. Wingless, colonizing aphids were found in three fields in the south 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 for aphids. That means systemic insecticides in many fields in the Basin are expiring, so watch 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.

BEET LEAFHOPPERS: Beet leafhoppers (BLH) were found in a few more of our traps this week, but the counts continue to be low for this time of the season. BLH were found at 20 of the 39 fields we surveyed this week. Most of the sticky cards with BLH had fewer than 10 per card, but one card near Pasco had 13 BLH, and one card on the east Royal Slope had 11 BLH.

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 TUBERWORM: We found potato tuberworm moths in four traps in the Columbia Basin this week; two traps near the OR border with 1- 5 moths, one near Pasco with 3 moths, and one near Othello with 1 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. The more moths you find in the traps, the more tuberworm larvae you are likely to find in the field feeding on plants and tubers. 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.

POTATO PSYLLIDS: Potato psyllids are being found in more of our sentinel plots this week. Two adult potato psyllids and some nymphs were found in Pasco. These are being tested for *Liberibacter* now. Additionally, potato psyllids were collected in sentinel plots in Yakima, Prosser, and Hermiston. None of those have tested positive for *Liberibacter*. Unfortunately, adult potato psyllids from a yellow sticky card on a commercial field in Idaho (Twin Falls County) have tentatively tested positive for *Liberibacter*. This is the first report of infected potato psyllids in the PNW this season. 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 sending an email to your local extension agent, either cwohle@wsu.edu or twaters@wsu.edu. We will submit psyllids for *Liberibacter* testing. For more information, read the new extension publication [Potato Psyllid Vector of Zebra Chip Disease in the Pacific Northwest](#).

Potato psyllids are important pests mostly because they can transmit a bacterium (*Candidatus Liberibacter solanacearum*) to potatoes that causes zebra chip disease (ZC). This disease reduces both yield and tuber quality and has led 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, and 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, and 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* and *Potato Psyllid Vector of Zebra Chip Disease in the Pacific Northwest*.