

## INSECT MONITORING REPORTS

*Report for Sept. 22-28, 2011*

**POTATO TUBERWORM:** Potato tuberworm (PTW) moth numbers are slowly on the rise in the southern Columbia Basin. We collected moths in seven of our network traps this week; three traps near Pasco with 3-7 moths/trap, one off of the Kahlotus Hwy with 6 moths/trap, one near Burbank, WA with 1 moth/trap, one south of Kennewick with 2 moths/trap, and one close to the Oregon border with 22 moths/trap. No moths have been collected in the north Columbia Basin. These trap catches are not very large for this time of year (except for the trap near the OR border). We were catching more moths this time last year. A graph showing the average PTW moth counts in the Columbia Basin this season can be seen below. The graph also shows the average moth counts in the south Basin in 2010 for comparison.

**Management Recommendations:** Cultural methods reported to reduce PTW damage include 1) eliminating cull piles and volunteers to reduce overwintering stages of PTW; 2) maintaining soil moisture (apply 0.1" per day) after vine kill to prevent soil cracking; 3) minimizing the time between desiccation and harvest; and 4) maintaining more than 2" of soil over tubers during the season, and covering hills with 1-2" of soil after vine kill. Insecticide spray programs beginning 4-8 weeks before harvest have been successful in reducing tuberworm in potato tubers. For a list of products recommended for PTW control go to ***IPM Guidelines for Insects and Mites in ID, OR, and WA Potatoes.***

**APHIDS:** There are not many potato fields left to look at this season. But, large numbers of aphids are likely to occur in the few fields that are still growing in the Basin. Aphids were found in 8 of the 12 fields (67%) we sampled this week; some were winged forms and others were wingless. Of course, the aphid-virus threat for potatoes in the Columbia Basin is mostly over. The exception is the few fields that are still green, actively growing, bulking, and scheduled for a very late harvest.

**Management Recommendations:** Early recognition and control of aphids is the best tactic in limiting the spread of potato leafroll virus (PLRV). PLRV infections are less common compared to a decade ago, but PLRV continues to be seen occasionally in the Basin. This virus causes a tuber symptom called net necrosis in some cultivars that is unacceptable in processing potatoes. To minimize the spread of virus, university-based recommendations are to treat late-season storage potatoes as soon as non-winged aphids are detected. The low tolerance for net necrosis by processors and the high vectoring capacity of aphids, explains the very low treatment threshold for aphids in potato fields destined for storage and processing. Higher action thresholds may be appropriate for cultivars that do not develop net necrosis when infected with PLRV, and for potatoes that will not be stored. Many foliar insecticides are labeled for the suppression of aphids in potatoes; for a list of products recommended for late-season potatoes go to ***IPM Guidelines for Insects and Mites in ID, OR, and WA Potatoes.***

**POTATO PSYLLIDS and ZEBRA CHIP:** Potato psyllids are small insects that can be problematic in potatoes, mostly because they can transmit a bacterium (*Candidatus Liberibacter*) which causes a disease known as zebra chip. Zebra chip (ZC) is a new disease for the Columbia Basin

of WA and OR; it has previously been reported in TX, CA, CO, KS, NE, NM, and WY (mostly on chipping potatoes). This disease reduces both yield and tuber quality and has led to serious economic losses in some regions. Potato plants affected by ZC at an early stage may show leaf curling, purpling in the upper plant, bushy-appearance, and aerial tubers. Early on they may look like plants infected with potato leafroll virus, and later they may look like plants with purple top disease or psyllid yellows. More importantly, ZC can cause a necrotic symptom in the tuber. The necrosis has a characteristic "net-like" appearance when cut that first appears on the stem end of the tuber, but can progress through the tuber. If you have plants with symptomatic foliage, you should dig tubers and check for necrotic symptoms. Even a low incidence of bacteria-carrying psyllids can cause widespread infection. Nymph and adult stages of the psyllid pick up the bacterium when feeding on an infected plant. Once a psyllid picks up the bacterium, it is always a carrier. It can transmit the bacterium to potato plants in as little as 6 hours of feeding. The potato psyllid apparently does not overwinter in the Columbia Basin, but migrates from the south and arrives in the lower Basin in early July (based on trap data). Adult potato psyllids resemble miniature (0.5") cicadas and are often referred to as "jumping plant lice". They are quick, frequent movers, and are difficult to catch. Psyllid nymphs are small, green, and have a flattened, scale-like appearance. They are slow-moving and can be found on the underside of the leaves. Unfortunately, potato psyllids are not easy to monitor with traps. They are not attracted to yellow, and there is no pheromone currently available to attract potato psyllids. For more information, read the recent report issued by Silvia Rondon and Phil Hamm with OSU Hermiston, "***Essential Information about Zebra Chip in the Columbia Basin: Infection, Late Season Control, and Storage***". The report includes several photos of the potato psyllid (egg, nymph, and adult stages), and foliar and tuber symptoms of ZC.