

## INSECT MONITORING REPORTS

*Report for Aug. 11-17, 2011*

**SPIDER MITES:** Growers should continue to look for two-spotted spider mites in potato fields. Large numbers of mites have been reported in a small number of potato fields around the Columbia Basin. Sampling for mites requires close visual inspection because they are tiny and difficult to see. It helps to shake the plant over a piece of white paper and then look for the tiny moving dots. Mite populations increase rapidly and the damage they cause can go unnoticed for some time, so it is important to scout often. **If you plan to use a miticide, apply it early because none of the registered miticide products provide full control once populations reach outbreak levels.** A well-timed application is made when mite populations reach 2 mites per leaf, which is close to the detection limit for the pest. Include a surfactant to improve coverage. In most cases, a single, well-timed, application will control mites. Mite outbreaks have been related to 1) use of non-selective pesticides, like pyrethroids; 2) close proximity to mite harboring crops like corn, alfalfa, hops, and mint; 3) close proximity to dusty roads; and 4) hot, dry weather.

**APHIDS:** Aphids were found in 10 of the 35 fields (29%) we surveyed this week. We found both winged and wingless green peach aphids (GPA). Wingless colonizing GPAs were collected in 7 of the 35 fields (20%). The fields that had wingless aphids averaged only 0.4 aphids/plant, which is a low population density that is not easily detected.

**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. It is important to keep in mind, however, that aphids spread other viruses and can cause direct injury to plants when aphid densities are high. 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***. When selecting an insecticide it is important to know the use restrictions (PHI, season limits, etc.), follow guidelines for insecticide resistance management, and consider the impact on natural enemies.

Organic potato growers have only a few choices for chemical control of aphids, including insecticidal soaps, *Beauveria bassiana* products, and neem oil (azadirachtin). Unfortunately, we do not have information on the efficacy of these organic options for control of aphids in potatoes. Be sure to check with the WSDA Organic Food Program to confirm that a product is approved for use in certified organic crops in WA.

**POTATO TUBERWORM:** Potato tuberworm (PTW) moths were collected in three of our network traps this week; two near Pasco with 1 and 6 moths/trap respectively, and one close to the Oregon border with 14 moths/trap. We expect the numbers of moths to continue to build in August, particularly in the southern Columbia Basin, with peak populations in September-October.

**Management Recommendations:** If you grow potatoes in the Columbia Basin south of Connell, it would be a good idea to put out your own PTW pheromone traps to monitor the situation. Information about setting up traps and identifying the moths can be found in the article, "Tuberworm Monitoring with Pheromone Traps". Infestations of PTW are highly localized, and it is risky to conclude too much from traps that may be several miles away. Unfortunately, we do not have enough information to translate counts from trapping into a risk assessment. It is clear, however, that more moths in traps equal more risk. The traps should be checked weekly. If the moth counts increase from week to week, then control measures may be warranted before harvest. 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.***

**BEET LEAFHOPPERS:** Beet leafhopper (BLH) populations around potato fields in the Basin continue to be low. Our network of yellow sticky card traps averaged only 1.5 BLH/trap. The most collected this week was 27 BLH on a trap on the Royal Slope. Another trap near Eltopia had 25 BLH/trap. All other traps had 6 BLH/trap or fewer. If you are seeing purple top symptoms in your field, please send a quick note via email to [cwohleb@wsu.edu](mailto:cwohleb@wsu.edu). We would like to assess how widespread this disease is in the Basin.

**Management Recommendations:** Beet leafhoppers are important pests because they transmit BLTVA, a phytoplasma that causes purple top disease in potatoes. Most BLTVA infections occur early in the season, during May-July, so most chemical treatments for BLH are applied at-planting and/or in May, June, and July. It can take a while for purple top symptoms to develop, but if your potatoes were infected with BLTVA you are probably beginning to see the symptoms of purple top now. Symptoms may include leaf curling with purple coloration, aerial tubers, chlorosis, and early senescence. Potato cultivars vary in susceptibility to purple top. Ranger, Umatilla, and Norkotah are considered highly susceptible; Russet Burbank is susceptible; and Alturas and Shepody are moderately susceptible.