

INSECT MONITORING REPORTS

Report for Aug. 4-10, 2011

SPIDER MITES: We are continuing to look for two-spotted spider mites, but have not seen many in the survey fields so far. This is the time of the season when potato growers should be actively looking for mites. Growers who have made one or more applications this season of a broad-spectrum insecticide, such as a pyrethroid (Asana™, Baythroid™, Ambush™, Pounce™, Leverage™, Endigo™, Hero™, Brigadier™, Voliam Xpress™), are especially at risk for mite outbreaks. 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: There are no major outbreaks of aphids to report in the Columbia Basin this week. Aphids were found in 10 of the 30 fields (33%) we surveyed. Most were winged green peach aphids (GPA). Wingless colonizing GPAs were collected in 5 of the 30 fields (17%). The fields that had wingless aphids averaged only 0.2 aphid/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.

BEET LEAFHOPPERS: It has been another slow week for beet leafhoppers (BLH). The most collected on our network of yellow sticky cards was 10 BLH on a trap near Basin City. Click on the map and graph below to view recent data for the region. If you are seeing purple top symptoms in your field, please send a quick note via email to cwohleb@wsu.edu. I 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.

POTATO TUBERWORM: Potato tuberworm (PTW) moths were collected in three of our network traps this week; one near Pasco with 5 moths/trap, one near Connell with 1 moth/trap, and one close to the Oregon border with 26 moths/trap. This is the highest number of moths we have seen in our traps so far. 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***.

BENEFICIAL INSECTS: It appears that populations of beneficial insects are on the decline in potato fields. We found big-eyed bugs in only 17% of the fields we survey, and damsel bugs in 13% of the fields.

