

INSECT MONITORING REPORT

Summarized Report for Aug. 26 - Sept. 1, 2010

APHIDS: Aphid populations have been on the rise for the past few weeks. Aphids (non-winged, colonizing forms) were found in more than half of the fields we sampled this week. In fields where aphids were present, the counts averaged 2.3 aphids/plant and ranged from 0.1 to 14.9 aphids/plant. The aphid-virus threat for potatoes in the Columbia Basin is mostly over. The exception is with fields that are still green, actively growing, bulking, and not scheduled for harvest anytime soon.

Recommendations: Early recognition and control of aphids is the best tactic in limiting the spread of potato leafroll virus (PLRV). 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 found in five survey traps this week; one near Burbank, and four north of Pasco. These traps had 1-5 moths/trap. These counts are relatively low right now, but watch for the numbers to increase as we move into September.

Recommendations: Potato growers in areas potentially impacted by these insects should maintain at least one pheromone trap adjacent to each of their potato fields. PTW infestations can be highly localized, and it is risky to conclude too much from traps that are miles away from your fields. The traps should be checked weekly. If you are finding moths in your traps, you know you may have a problem. If the moth counts increase from week to week, then chemical control measures prior to harvest may be warranted. Insecticide spray programs beginning 4 to 8 weeks before harvest have been successful in reducing PTW in potato tubers. Cultural methods reported to reduce PTW damage include 1) eliminating cull piles and volunteers to reduce overwintering stages of PTW; 2) maintaining soil moisture after vine kill to prevent soil cracking (researchers have shown applying 0.1" of sprinkler irrigation daily from vine kill to harvest decreases PTW tuber damage without increasing fungal or bacterial

diseases); 3) minimizing the time between desiccation and harvest (the longer tubers remain in the field after vine kill, the greater the likelihood of tuber infestation); and 4) maintaining more than 2" of soil over tubers during the season, and covering hills with 1-2" of soil after vine kill (tubers exposed or close to the surface are at high risk for PTW damage).

SPIDER MITES: Many fields in the Basin have large populations of two-spotted spider mites now, and the damage they do to the crop is becoming easy to spot. If you plan to use a miticide to control the mites, it may be too late. **Miticides should be applied when mites are first detected, because none of the registered miticide products provide full control once populations reach outbreak levels.** The mites damage potato plants by feeding on the leaves, which causes them to develop small yellow splotches that darken to reddish brown lesions. Heavy infestations often lead to early plant senescence. 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.

BEET LEAFHOPPERS: Beet leafhoppers (BLH) are still out and about, but they probably are not doing any damage to your potatoes this late into the growing season.

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 and June, and possibly in July. So, the time to control BLH in potatoes is over.** It takes a while for purple top symptoms to develop. If your potatoes were infected with BLTVA you are probably seeing 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.