

INSECT MONITORING REPORTS

Report for June 15-21, 2011

BEET LEAFHOPPERS: Beet leafhopper (BLH) populations have been slow to build this season. It may have something to do with the cooler and wetter conditions this spring. The numbers have been low. The traps in the area surrounding Mattawa ranged from 2-16 BLH/trap and averaged 5.8 BLH/trap this week. The traps south of Basin City to the OR border ranged from 0-32 BLH/trap. The traps west of Moses Lake (except Mattawa) ranged 0-27 BLH/trap. The traps east of Moses Lake to Basin City ranged 0-1 BLH/trap. Click on the map below to view recent data for the region. Note that all of the traps for BLH functioned normally this week.

The BLH is the only known vector of BLTVA, a phytoplasma that causes purple top disease in potatoes. Infected plants show a range of symptoms, including leaf curling and purpling, aerial tubers, chlorosis, and early senescence. Purple top is managed by controlling BLH and thereby preventing the spread of BLTVA.

BLH Monitoring: Yellow sticky traps placed near potato fields are one way to monitor BLH populations. We recommend that growers deploy at least two traps near each of their potato fields. Populations can be spotty, so the more traps near a field, the more likely an infestation will be detected. More information about setting up traps and identifying BLH can be found in the article, "Beet Leafhopper Monitoring with Yellow Sticky Cards". It is also helpful for growers to follow regional trapping results. The long-distance movement of BLH is poorly understood, so growers should consider the possibility of BLH moving quickly from highly infested areas to less infested areas. 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.

BLH Cultural Management: Eliminating the weed hosts of BLH in areas surrounding potato fields is an important cultural management approach. 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.

BLH Chemical Management: A number of foliar insecticides are labeled for use on potatoes to control leafhoppers. 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. The jury is still out on whether systemic insecticides applied at planting will control BLH and limit transmission of BLTVA. Some potato growers have observed poor results with insecticides applied at planting, and attribute this to an inadequate level of insecticide in the plant by the time of the season that BLH are active (especially June and later). Results may vary depending on the product used, application rate, soil and environmental conditions, and insect pressure. There is new research (Schreiber, 2008-2010) suggesting that systemic at-planting insecticides with longer residual activity applied at the maximum allowed rate may provide adequate early season control of BLH. 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 2011 PNW Insect Management Handbook.

POTATO TUBERWORM: One potato tuberworm moth was found in a trap near Pasco this week.

APHIDS: Aphids were found in 12 of the 35 fields (35%) we surveyed in the Basin this week. Most of these were winged green peach aphids. 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. It is important to note that these aphids were found all over the Columbia Basin, i.e. in fields near Othello, Connell, Royal City, Mattawa, Eltopia, Pasco, and Patterson. This means that potato growers across the Basin should be checking their fields regularly for aphids. Click on the map below to view recent data for the region.

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 these days compared to a decade ago, but PLRV continues to be seen occasionally in the Basin. In fact, a few plants with leafroll symptoms were found in the WSU Commercial Seed Lot Trial earlier this week. PLRV 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.

BIG- EYED BUGS: Big-eyed bugs were found in 63% of the fields we surveyed across the Basin this week. These are beneficial insects that feed on pest insects, including aphids and the eggs and larvae of Colorado potato beetle. Big-eyed bugs are voracious predators that have been observed to eat more than twenty aphids in a day! These are good insects to have in your potato fields. Unfortunately, big-eyed bugs are very susceptible to broad-spectrum insecticides. Dr. Bill Snyder, WSU Entomologist, and his team have observed that big-eyed bugs are six times more abundant in fields sprayed with selective pesticides (like Fulfill and Success) compared to fields treated with broad-spectrum insecticides (like Monitor).