



Potato Progress

Research and Extension for Washington's Potato Industry

Published by Washington State Potato Commission www.potatoes.com

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Volume III, Number 10

July 23, 2003

Watch Your Loopers

Peter J. Landolt and Richard S. Zack. USDA-ARS, Wapato, and WSU Pullman respectively.

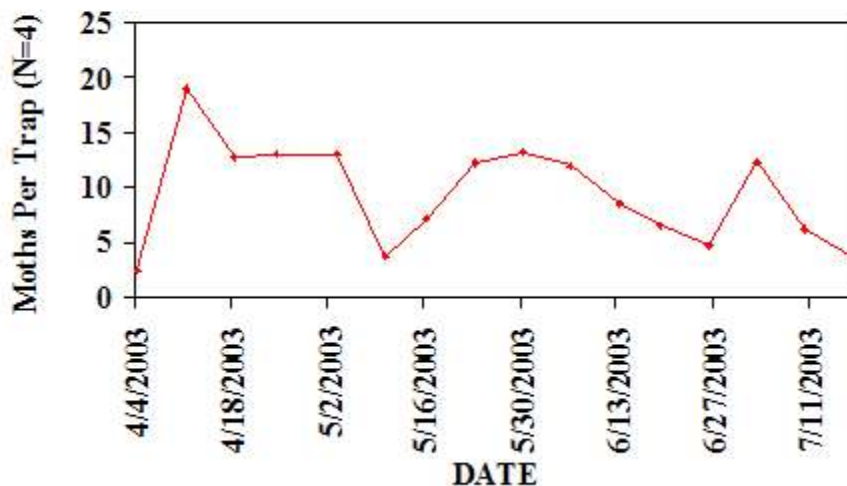
Loopers are the most common defoliating caterpillars on potatoes in Washington, but we have no good guidelines on when to be concerned and when to respond to their presence on your crop. What may be most important is to not be caught by surprise.

Many species of moths are called loopers, but we are concerned with the alfalfa looper and the cabbage looper, both found on potato despite their names. Both move in a looping fashion, and are similar in appearance. The alfalfa looper often has stronger longitudinal stripes or bands that are dark green to nearly black on a light green background, while the cabbage looper is generally simply light green. Both are about 1.2 inches long when mature. The moths are about one inch long, with a 1.2 to 1.5 inch wingspan, and both have a bright white or silver comma shaped spot on the forewing.

The alfalfa looper moth is present in our area from March through October with highest numbers from May into September. It is one of the earliest flying moths in spring and will fly during the daytime in cool weather in Spring and again in Autumn. It is always a threat because it is widespread and abundant on other crops in the area, although there is no clear picture of the level of damage to the potato crop by this insect. The larvae often develop partly and then die when eating potato foliage. Season long monitoring is being done with the feeding attractant of phenylacetaldehyde with beta myrcene (PAA + BM) used to bait a UniTrap®. Average weekly trap captures for this season are shown below.

These traps are maintained at 4 sites this year: the USDA-ARS Moxee field station, the Halvorson farm near

Alfalfa Loopers to PAA + BM

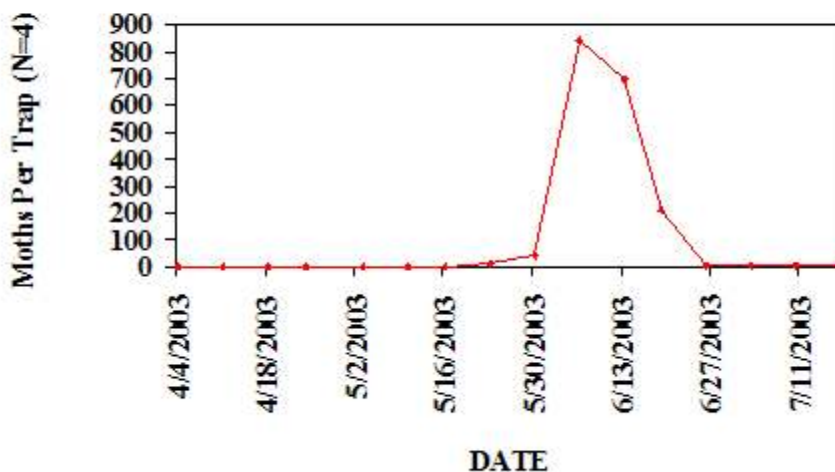


Toppenish, the WSU Prosser Research Station, and the USDA field site near Paterson. Alfalfa looper numbers in traps this season are similar to numbers seen over the last several years. Also, thus far this season, there are no distinct flights of the alfalfa looper, and the moths are generally always around. Again, this pattern is similar to what we have seen over the past several years.

The pattern of captures of cabbage looper moths is quite different from that seen with the alfalfa looper. It is a subtropical insect that usually overwinters to the south and migrates with southerly winds into temperate areas of the country. In seven years of monitoring moths in eastern Washington, the cabbage looper was rare in 1996-2000 and in 2002, was extremely abundant in 2001, and appears to be abundant again in 2003. Monitoring of the cabbage looper uses a pheromone that attracts males to a UniTrap®. A distinct flight of cabbage looper moths was evident in June (see graph below), which is early compared to what happened in 2002 when they showed up in large numbers in mid to late July. It is likely that those moths in June laid numerous eggs that are maturing caterpillars and pupae at this time. Cabbage looper larvae feed well on potato foliage and many other crop plants. It would be a good idea to watch late season potato fields for this insect and evidence of damage.

We thank Daryl Green, Leo Camelo, Hal Collins, Christina Peterson, Jewel Brumley, and Bob Halvorson for help with this monitoring effort.

Cabbage Loopers to Pheromone



Drip Irrigation Field Day

Clearwater Supply will be hosting their annual drip irrigation field day on August 5th. There will be a hosted lunch. Issues they plan to cover include demonstrations and field evaluations of onions, seed crops, garden produce, and of course potatoes.

Date and time: August 5th, 2003, **9:00 am**

Place: About 9 miles east of Royal City, North of Hwy 26, near the intersection of Roads 12 and B SE.

Remember: PAA Spokane August 12th

The Potato Association of America (PAA) is made up of scientists who study potatoes from across North America and beyond. The association holds an annual meeting each August. This year's meeting is in Spokane, August 10-14. The event is being coordinated by a committee of WSU, Potato Commission, and industry personnel. We have created a day of presentations on August 12 specifically for local growers and industry partners. For the day's complete program, see the last issue of *Potato Progress*, or contact the commission. To register for the day, which includes 3 meals and a day program for only \$50, see <http://www.paa2003.wsu.edu/registration.htm> or call the Andy Jensen at the Potato Commission for assistance.

Location: Red Lion Hotel at the Park, 201 W. North River Drive, Spokane, WA 99201 USA
Reservation Line: 1-800-325-4000

Prosser USDA-ARS Update

Emerging Diseases of Potatoes Research: Thanks to strong support from the WSPC, the FY2003 budget provided a funding increase to the Prosser ARS Unit to conduct new research on "Emerging Diseases of Potatoes." A 2-year term research position has been created, and Dr. James Crosslin started work on June 30th.

Dr. Crosslin's expertise includes: molecular plant virology, detection and identification of viruses, viroids, and phytoplasmas by PCR, RT-PCR, molecular cloning, and DNA sequence analysis. Dr. Crosslin's recent research accomplishments include: reporting of the necrotic strain of potato virus Y (PVY-N) in the western U.S., use of RT-PCR for detection of tobacco rattle virus (TRV) in potato tubers, cloning and sequencing full-length RNA2 clones from WA, OR, and CO isolates of TRV, molecular cloning of PVY and PVA coat protein genes for plant transformation, impact of rotation crops and weeds on the epidemiology of TRV in the Columbia Basin. Dr. Crosslin received his Ph.D. from Washington State University and M.Sc. from Montana State University.

Interested in Presenting Your Research Results?

If you conduct potato-related research, and would like to be considered for a slot at the February 2004 Potato Conference in Moses Lake, we would like to hear from you. The program committee is currently working to compile a list of those with an interest in presenting, including their potential topics. Later in the fall we will be choosing topics and speakers for this event. If you have a topic to offer, or would like to suggest a topic by another specialist, please call or e-mail Andrew Jensen at the potato commission (ajensen@potatoes.com) or Gary Pelter with WSU Cooperative Extension (509-754-2011 ext 413).

Pest Management Field Day

Wednesday, August 6, 2003 – Eltopia Vicinity

Location: Ag. Development Group Farm
Ringold and Bellevue Roads, North of Pasco

Agriculture Development Group, Inc, in cooperation with the Washington State Potato Commission, and several crop protection companies is hosting the Washington Potato Pest Management Field Day to review the latest research results and agrichemical registrations in potatoes. This is the most comprehensive potato pest management field day in Washington. Pesticide credits will be available.

- 9:30 Introductions and Overview
- 9:40 The 5 Most Interesting Research Results of the Year (So Far) - Alan Schreiber
- 10:00 Non Target Herbicide Drift Symptoms on Potatoes – Bill Cobb
- 10:20 Worm Control-Two New Tools
- 10:45 New Horizons in Aphid Management

Noon Hog Roast Barbecue

- 1:00 Potato Yellows, Beet Leafhopper and BLH Transmitted Virescens Agent
- 1:45 The Future of Mite Control
- 2:10 Potato Diseases
 - Rhizoctonia
 - White Mold
 - Early Blight
 - Late Blight

Call 509 266 4348 for any additional information or directions.

Potato Yellows Syndrome Research Project Contacts

If you have a field or any part thereof with symptoms of the yellows syndrome so common in 2002, please contact one of the following individuals. All the folks below are a part of a WSPC-funded research project on this disease. We are planning to better-understand the disease, and hope to learn from fields infected in 2003. **Symptoms of this disease include most or all of the following: curled yellow or purplish leaves similar to leafroll virus, shortened internodes, swollen nodes, aerial tubers, and early plant decline.**

Southern WA and Oregon:	Phil Hamm, 541-567-8321 or 541-561-4724
Southern and Central Basin:	Alan Schreiber, 509-539-4537
North Basin:	Andy Jensen, 509-760-4859
Yakima Valley and Southern WA:	Joe Munyaneza, 509-454-6564