Potato Progress

Research and Extension for Washington's Potato Industry
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Watch for Potato Tuberworm

Andrew Jensen, Washington State Potato Commission

The past two years have seen more potato tuberworm in the Columbia Basin of Oregon and Washington than in the recent past. Tuberworm is a small inconspicuous moth as an adult (Fig. 1), and as a caterpillar is white or pinkish, with a dark brown head and a full-size length of about ¾ inch.

During the early growing season, tuberworm caterpillars feed as very young larvae inside leaves as leaf miners. They may later live inside stems or within groups of leaves tied together with silk. Tubers are also a food source for the caterpillars, especially exposed tubers and those within 2 inches of the soil surface. Available references contradict each other regarding whether larvae drop from the foliage to infest tubers, or adults lay eggs directly on the tubers. Regardless the method, tuber damage is the main concern with tuberworms (Fig. 2). For photographs of the damage, see the electronic version of this article on the potato commission web site at: http://www.potatoes.com/????. Tuber damage is often near the surface, consisting of broad, flat tunnels or furrows in the skin. Caterpillars will also burrow deep into tubers, similar to flea beetle larvae. Tunnels left by tuberworms are dirty-looking, and their openings may be marked by collected droppings of the caterpillar.

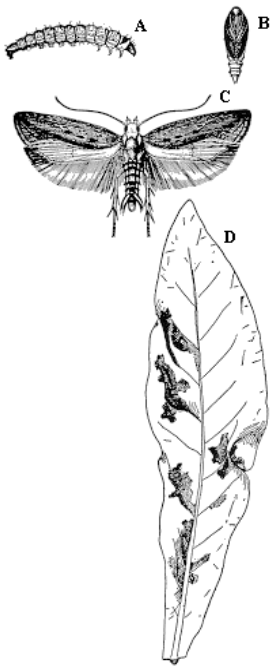

Fig. 1. Potato tuberworm. A. Larva; B. Pupa; C. Adult; D. Damage.

Development of the tuberworm is very fast in the summer, allowing a complete generation in 3 to 4 weeks. Caterpillars will continue to feed and develop in potato storages at temperatures above 50°F. According to available references, the insect overwinters as a fully fed caterpillar or pupa either in potato storage buildings or associated with tubers left in the field after harvest. Its ability to withstand Columbia Basin winters is not specifically known.

Little is known about management of tuberworm in Washington, since it is a relatively new/sporadic concern. The commission office and your WSU extension personnel would appreciate hearing from you if you suspect tuberworm is causing problems in your fields.

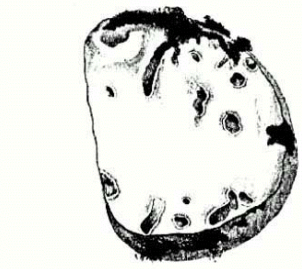
Fig. 2. Potato tuberworm damage.

Congratulations to Chuck Brown and the Tri-State Potato Variety Development Team

The USDA Agricultural Research Service recently announced that Chuck Brown was one of four recipients of a USDA/ARS Technology Award for 2002 for Potato Variety Development. The other recipients are from the USDA/ARS Aberdeen unit: Dennis Corsini, Rich Novy, and Joe Pavek (retired). This is a national level competitive award and is a significant tribute to Dr. Brown's contributions to technology transfer in the Pacific Northwest potato industry. All four participants were cited for contributions to the development of new germplasm that lead to the release of new varieties. These new varieties have contributed to the profitability of the potato industry of the PNW. Greater resistance to pests and diseases, improved and stabler expression of quality factors, and increased recovery of processed product were cited as evidence of successful accomplishment. One of the releases, Ranger Russet, is now grown on about 100,000 acres at a gross value of $240 million dollars annually. Specifically, Dr. Brown has identified useful traits in exotic germplasm, characterized them, and transferred genetic factors controlling these traits into the mainstream breeding program. The four USDA/ARS researchers identified in the award made an impact as team members with major inputs by faculty and technicians of the State Experiment Stations of Washington, Idaho, and Oregon, and personnel from a number of private companies. The award will be presented in Washington, DC, February 2003.

Submitting Articles to Potato Progress

All scientists working on potatoes are welcome to submit articles to Potato Progress. Articles are limited to a maximum of 4 pages, including text, tables, and figures. Published articles must be directed to the layman, not in scientific article format of Introduction, Materials & Methods, Results, and Discussion. To submit an article, e-mail it to **ajensen@potatoes.com**.

WSPC Research Proposal Review Meeting Dates

The Washington State Potato Commission is preparing for another round of research proposal review and funding. Proposals are reviewed and funding recommendations made by the 17-member Research Council, a committee made up of commissioners and potato industry representatives. Due dates and meeting dates for research proposal consideration are listed below. **All meetings are open to the public. Interested potato growers are particularly encouraged to attend and offer input to researchers and commissioners.** Please contact Andy Jensen, Director of Research & Technical Affairs with questions or comments. Additional information on WSPC research can be found at: http://www.potatoes.com.

Schedule (tentative) for proposal submission and Research Reviews:

1. All proposals due: November 15, 2002.
2. Preliminary Research Review (Moses Lake, JonathInns Restaurant): 8:00 am, December 17, 2002.
3. Revised "new" proposals and progress reports due: January 15, 2003.
4. Final Research Review (Pullman): February 13-14, 2003.

2002
Mustard Green Manure Field Day

Tuesday, October 22nd, 10 am

At the Dale Gies Farm
1.5 miles west of Rd. M on Rd. 5 SE
Moses Lake, Washington

Use of Mustard Green Manures in Potato Production:

- Variety trial of White and Oriental Mustards, and Blends
- Demonstration of incorporation techniques
- Columbia Basin farmers' experiences with mustard
- Biofumigation research from Italy

For More Information Call Andy McGuire

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