Potato Progress

Research and Extension for Washington's Potato Industry
Published by Washington State Potato Commission **www.potatoes.com**
Andrew Jensen, Editor. Submit articles and comments to: ajensen@potatoes.com
108 Interlake Rd., Moses Lake, WA 98837; Fax: 509-765-4853; Phone: 509-765-8845.

Volume VII, Number 11 *July 30, 2007*

Washington Potato Pest Management Field Day
Wednesday, August 8, 2007 - Eltopia Vicinity

The field day starts at 8:30 and goes until lunch, among the topics are:

A New Aphidicide for Potatoes; Beleaf it or Not! Mac Learned and Brian Corbin, FMC

A New Soil Borne Potato Virus: Potato Mop Top Virus. Jim Crosslin, USDA -ARS

Biology and Control of Wireworm: Interesting New Research Results and a Killer New Insecticide. Dave Horton, USDA -ARS and Alan Schreiber

New Early Blight and Late Blight Fungicide Evito. Jeri West, Arysta LifeSciences

Two New Registrations from Bayer CropSciences. Paul Pargeter, Bayer CropSciences

Did Beet Leafhopper Get Us this Year? Will Potato Tuberworm Get us this Year? Andy Jensen, Washington State Potato Commission

Washington Has a New, Effective Miticide. Scott Ockey, Chemtura Corporation

12:30: Hosted Lunch - Whole Hog Bar-B-Que Come Have Lunch on Alan Schreiber

Location: Agriculture Development Group Inc., 2621 Ringold Road, Eltopia, WA

Directions: The farm is about 20 minutes north of Pasco. From the north, head west off Hwy 17 to Basin City from Mesa. Turn left on Glade North Rd. in Basin City and proceed seven miles to Ringold Rd. and turn right. Proceed 3.5 miles to Bellevue Rd. and turn right, following signs into the farm. From the south, take either Glade North Rd. or Road 68 (which becomes Taylor Flats Rd.) north from I-182 in Pasco. Ringold Rd. is about 15 miles north of Pasco. From Glade North Rd., follow the instructions above. From Taylor Flats Rd., turn right on Ringold Rd. and go about ½ mile to Bellevue Rd. and turn left.

New Potato Pesticide Update

Alan Schreiber
Agriculture Development Group, Inc.

Beleaf: New Aphidicide Registered for Potatoes

Beleaf (flonicamid) is a new insecticide recently registered on potatoes by FMC. The product is active against a variety of piercing-sucking insects such as aphids, plant bugs and leafhoppers. Beleaf provides a new mode of action that stops insect feeding quickly. No other product in its class (pyridinecarboxamide) is registered for use in the United States.

Beleaf has a seven-day preharvest interval and is applied at rates between 2.0 to 2.8 ounces of formulated product per acre. There is a seasonal limit of 8.4 ounces for Beleaf on potatoes. It should be applied with an ionic surfactant. It is rainfast as soon as the product is dry on the leaf surface. In addition, Beleaf is virtually non-toxic to beneficial insects, making it a good choice for IPM programs. When using Beleaf by chemigation, be sure to minimize water volumes. Do not apply Beleaf with 0.25 or more acre inches of water.

Beleaf can be applied by air, ground and chemigation. Aphids stop feeding within 30 minutes of either coming into contact with or ingesting the material. When applied to potatoes, the product has 14 to 21 days of residual activity depending upon rate of application, pest pressure and stage of plant growth. Beleaf provides translaminar activity, penetrating leaf tissues and forming a reservoir of active ingredient within the leaf.

Beleaf in perspective. I have tested Beleaf in efficacy trials every year since 2000 on our research farm for FMC and for the Washington State Potato Commission. I have tested this product by ground, commercial aerial applicator and via chemigation. This product has performed as well as, or better than, all other aphidicides that we have screened. This product is as effective as Actara, Fulfill and Monitor for control of aphids. I feel its greatest strength is its greatest weakness. It is very effective against all aphids on potatoes. This makes the product a very effective IPM tool and it should not flare aphids or mites. However, this also means that if a grower is facing a mixed assemblage of insect pests, he or she may need to use a product with a broader spectrum of control.

Acramite 4SC: A New Miticide Registered on Potatoes

Mites are considered a pest of potatoes only in the Columbia Basin of Washington and Oregon and to a lesser degree, the remaining potato growing regions on the Inland Northwest. In a typical year, approximately 50,000 acres of potatoes would be treated for mites. Because of this limited acreage, companies have been reluctant to register miticides for this minor use pattern (Bayer's Oberon is a key exception). The Washington State Potato Commission, with funding support from the Washington State Commission on Pesticide Registration, pursued registration for new miticides on potatoes using the IR-4 process. As a result of this multi-year process, a new miticide has been registered on potatoes.

Acramite 4SC (bifenazate) was registered for potatoes this year by Chemtura. Acramite 4SC has activity against two-spotted spider mites on potatoes. The current Section 3 label allows ground and air applications. Very recently, Chemtura obtained a Section 24c in Washington (WA-070009), Idaho (ID-070013), and Oregon (OR-070019) for application via chemigation. If you apply Acramite 4SC via chemigation you must have a copy of the 24c label in your possession. Acramite is applied at

16 to 24 fluid ounces of product per acre. The label requires 20 gallons of water minimum when applying by ground, 5 gallons of water minimum when applying by air, and a water volume of 0.15 to 0.25 acre inches when applying by chemigation. Use the lower rate when mite pressure is low and the higher rate when mite pressure is high. Acramite has a 12-hour restricted entry interval and a 14 day preharvest interval. There is a seasonal limit of 24 ounces per acre and is limited to one application.

Important advantages to the use of Acramite 4SC are that the product has no significant plant-back restrictions of concern to potato growers and is safe to beneficial arthropods. I have tested Acramite by ground, chemigation and fixed winged commercial aerial application and the product has provided very good control of two spotted spider mite. As with all miticides, it is critical to make the application early. There is no such thing as a rescue miticide treatment.

Evito: A New Strobilurin Fungicide Registered on Potatoes

Evito is a new active ingredient, fluoxystrobin, recently registered by Arysta LifeScience on potatoes. This product has excellent activity against early blight and has good activity against late blight. One advantage of Evito is that it has some systemic activity. Research has also shown it has excellent activity against rhizoctonia and the company is pursuing an expansion of the label to cover this use pattern. The use rate is 3.8 ounces per acre. Arysta LifeSciences has found that a half rate of 1.9 ounces of Evito plus Bravo at 1 pint was very effective against early and late blight. Evito is a strobilurin fungicide and should not be rotated with other members of the same class.

Evito in Perspective. Evito is new to the Washington potato industry and there is little local research data. I have reviewed Evito potato disease research conducted by Walt Stevenson (University of Wisconsin), Gary Secor (North Dakota State University) and Jeff Miller (until recently, University of Idaho). In their set of five trials, Evito preformed very similar to Quadris. I suspect this product, while a different molecule, works like Quadris. I am in the midst of conducting split commercial field tests with Evito and competing strobilurin products and so far this season it appears to be performing comparably.

Correction: *Article Amendment in recognition of co-author John Wilson. Reference to article in Volume VII, Number 10. D. Henderson , E. Riga, W. Snyder and J. Wilson. Multifaceted Bio-Control Methods against the Columbia Root Knot Nematode and Colorado Potato Beetle. Note: Preliminary research data based upon greenhouse trials.

Potato Association of America 91st Annual Meeting

August 12-16, 2007
Shilo Inn Conference Center Idaho Falls, Idaho

The annual meeting of the Potato Association of America (PAA) will be held this year in Idaho Falls August 12-16. The PAA is the official professional society for those interested in advancing the potato industry. There will be numerous presentations and posters during Monday through Thursday of the week covering almost every topic of potato research and extension. Attendees will be from several countries but mostly the U.S. and Canada. There will be a special industry-oriented session during the morning of Tuesday, August 14th. For more information see the meeting's website at: http://www.conferences.uidaho.edu/PAA/default.asp. Also, see below for the program of the Tuesday industry-oriented session.

Potato Industry Session
Shilo Inn, Idaho Falls, Idaho

8:15 **Effects of varying seed piece size and spacing on yield and size distribution of three potato cultivars.** Bohl, William. H., Jeff Stark, and Christopher S. McIntosh.
8:30 **Storage characteristics of A93157-6LS (Premier Russet) potatoes.** Brandt, Tina , N. Olsen, G. Kleinkopf, R. Novy and J. Stark.
8:45 **Effects of cold temperatures on Ranger Russet tuber quality.** Woodell, Lynn K., N. Olsen, and G. E. Kleinkopf.
9:00 **Blood, sweat, burlap: a reappraisal of potato's past.** Pavek M.J., B.C. Clark, E.P Driskill Jr., and Z.J. Holden.
9:15 **Historical driving forces behind US potato production.** Pavek M.J., B.C. Clark, E.P Driskill Jr., and Z.J. Holden.
9:30 **Effect of Seed-borne Potato Virus Y on Performance of Russet Burbank, Russet Norkotah and Shepody Potatoes.** Nolte, P.1, Whitworth, J.L.2, Thornton, M.K.3, and McIntosh, C.S.
9:45 **Response of potatoes to soil applied insecticides, fungicides and herbicides.** Thornton, M. K., J.S. Miller, P.J.S. Hutchinson, and J.M. Alvarez.
10:00 Break
10:30 **PVMI, The Potato Variety Management Institute, Update after the first year.** Debons, J.
10:45 **The potato industry and Idaho's economy.** Patterson, Paul E.1, Garth Taylor 2 and Joe Guenthner.
11:00 **Development of Potato Virus Y Resistance in the Aberdeen Breeding Program.** Whitworth, J.L. and R.G. Novy.
11:15 **Using N Uptake Analysis to Assess N Status of Different Potato Varieties.** Stark, J.C., S.L. Love and C. McIntosh.
11:30 **A Sampling of Insects Associated with Potato Tubers.** Jensen, A.S.
11:45 **Yield and chipping performance of ten advanced lines in the 2006 USPB-SFA national trials.** Halseth, D.E.
12:00 **A review of the effects of fertilizers and soil fertility on tuber specific gravity.** Kelling, K.A., and C.A.M. Laboski.
12:15 Lunch