Look What's Out There

Dr. John F. Baniecki, Extension Specialist in Plant Pathology/Entomology, Pest Management Program

Issue 4– April 2004
http://www.wvu.edu/~agexten/

Colorado Potato Beetles Love Freeze-Dried Diet

You say "po-tay-to." I say "po-tah-to." Colorado potato beetles say "yum-yum."

Descriptions of garden pests usually don't include the word finicky, but Colorado potato beetles like to limit their munching to plant leaves, particularly potato leaves. But for researchers, this poses a problem. How do you keep the little critters alive long enough to learn how to kill them? Potato leaves aren't a year-round delicacy in most parts of the United States.

"One difficulty in developing new means to control this pest has been the lack of an artificial food that the beetle will eat and is available year-round, unlike potato plants," says ARS microbiologist Phyllis A. Martin.

Now, Martin and her colleagues at the Insect Biocontrol Laboratory, in Beltsville, Maryland, have developed a freeze-dried diet palatable to the beetle. Earlier, the lab had formulated a diet the picky pest would eat—but only if it was freshly prepared right before feeding.

Freeze-drying, commonly used to make instant coffee and packaged food for astronauts and backpackers, preserves the diet after preparation. "The beetles readily eat a freeze-dried diet that has been rehydrated," says Martin. "This is really convenient and time-conserving because it allows for long-term storage of prepared food. Like other freeze-dried foods, this diet has an extended shelf-life, currently estimated to be at least 9 months."

A freeze-dried diet has other benefits, too. It provides a way to administer certain bacteria or fungi being considered for beetle control. Previously, to test these toxins, fresh potato leaves were required. But this slowed down the study.

"Research must be done in repetitions to gain enough data for statistical analysis," explains Martin. "We needed to use five insects per leaf to equal one repetition. But with the freeze-dried diet, using five insects equals five repetitions," thus five times more data.

In tests, researchers found that bacteria that killed beetles on leaves did not kill as many of them on the earlier, fresh, diet. But when fed the freeze-dried diet containing toxic bacteria, more insects died—and faster—than those fed the same bacteria mixed in fresh diet. According to Martin, the reason for this is that the bacteria must be added to fresh diet while it's in its liquid—and hot—state. But the heat kills the bacteria, which reduces toxicity. Bacteria added to the diet once it's cooled and solidified doesn't get evenly incorporated into the food, and the bugs will not get a lethal dose.

The new and convenient freeze-dried diet provides a way to test a wider range of bacterial and fungal controls for the Colorado potato beetle because the toxins can be safely added as the diet is rehydrated.

Finding ways to control Colorado potato beetles is vitally important to commercial growers. Both immature and adult beetles feed on leaves of eggplant and tomato as well as potato and have developed resistance to most available insecticides.

Phyllis A. Martin is at the USDA-ARS Insect Biocontrol Laboratory, Center Rd.,

Beltsville, MD 20705-2350; phone (301) 504-6331, fax (301) 504-8190.

By Sharon Durham, Agricultural Research Service Information Staff (Agricultural Research magazine, March 2004 issue)

Chemical News

EPA Sampling Shows Contamination Not Spreading.

EPA sampling in Chauncey, W. Va. has confirmed the presence of lead in a parking lot and dioxin in the sub-basement of an adjacent old power house. However, it also shows that the pollutants have not spread beyond those locations.

An initial round of samples taken in April 2003 detected a small patch of soil with elevated lead next to the building, and pooled water in the power house basement with elevated levels of dioxin. EPA took more samples in November 2003 to determine if lead and dioxin had migrated away from the power house building. The data did not show significant dioxin or lead outside the immediate locations where it was originally detected.

When the weather permits, EPA plans to perform additional sampling for pesticides that were reportedly buried in the Omar Elementary School ballfield.

By: David Sternberg, (215)-814-5548
(EPA Region 3 Press Release, Feb. 25-04)

Diazinon and garden product cancellation request

EPA is issuing a notice of receipt of requests by registrants to voluntarily cancel the registrations for all of their outdoor nonagricultural end-use products containing diazinon [O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate]. EPA intends to grant these requests by issuing a cancellation order at the close of the comment period for this announcement, unless the Agency receives substantive comments within the comment period that would merit its further review of these requests. It is EPA's intent that the cancellation of the outdoor nonagricultural end-use products will be effective on December 31, 2004. The Agency requests public comment on these voluntary cancellation requests, and is providing a 180–day comment period. DATES: Comments on the requested registration cancellations must be submitted to the address provided below and identified by docket identification (ID) number OPP–2003–0305. Comments must be received on or before June 7, 2004.
FOR FURTHER INFORMATION CONTACT: Stephanie Plummer, Special Review and Reregistration Division (7508C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460–0001; telephone number: (703) 305–0076; e-mail address: plummer.stephanie@epa.gov.
(EPA Dockets, Dec.10-2004)

- Based on request by Dow AgroSciences LLC, tolerances have been established for residues of the herbicide fluroxypyr in or on corn (sweet or field), sorghum, and grass hay/forage. (Federal Register, 12/31/03).

- BioSafe Systems recently announced the availability of a stabilized peroxide algaecide available for residential use (GreenClean®, EPA Reg. # 70299-4). The material can be used for ornamental ponds, fountains, and water gardens. It is also listed by the Organic Materials Review Institute. (The Grower, November-December 2003, via Chemically Speaking UF).

Events: **May 14-16, 2004**

West Virginia Master Gardener Conference - *A Heritage of Garden Delights,* Holiday Inn, Parkersburg, WV. Contact: H.R. Scott at 304/424-1960 or John Jett at 304/293-6131 ext. 4224. Registration Form