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## **Predictions for Corn Flea Beetle and Stewart's Wilt on Sweet Corn**

By C. Welty, OSU Extension Entomology

Stewart's wilt is a bacterial disease that causes reduced yields, and when severe it can stunt or kill an entire planting of sweet corn. The disease is transmitted by the corn flea beetle. Yield is affected the most if plants are infected at the 3- to 5-leaf stage.

We expect fewer problems with Stewart's wilt on sweet corn in Ohio in 2009 compared to most years because Ohio has had a colder than usual winter, and the flea beetles that carry Stewart's wilt disease do not survive well in cold winters. A traditional rule for predicting severity of Stewart's wilt is to calculate a corn flea beetle index by adding the average temperatures (in degrees Fahrenheit) for December, January, and February. If the index is below 90, then wilt should be negligible. If the index is 90 to 95, then wilt should be light to moderate. If the index is 95 to 100, then wilt should be moderate to severe. If the index is over 100, then wilt should be severe. The rule does not make any adjustment for presence or absence of snow cover; the rule works reasonably well in most years regardless of snow cover.

The flea beetle index for the current winter shows that Stewart's wilt should be negligible in most of Ohio but should be a light to moderate problem in Southern Ohio. Flea beetle index values for 2009 for some Ohio locations are: 95 for Piketon, 94 for Jackson, 85 for Columbus, 84 for S.Charleston, 81 for Avon, 80 for Wooster and Hoytville and Kingsville, 79 for Fremont, and 77 for Celeryville.

This year's flea beetle index values are similar to those in 2004 and 2001. This year's values along with values for representative Ohio locations for the previous 11 years, are posted on the internet at: [http://bugs.osu.edu/welty/pdf/FleaBtleIndex98\\_09.pdf](http://bugs.osu.edu/welty/pdf/FleaBtleIndex98_09.pdf)

Sweet corn growers have cultural and chemical options for managing this disease. In a year like 2009 when the disease is predicted to be negligible in central and northern Ohio, cultural control alone should be sufficient. In southern Ohio, cultural control is strongly encouraged and could be supplemented by chemical control on farms with a history of problems with this disease.

Cultural control: The most effective management option for Stewart's wilt is to use resistant varieties. Some hybrids that are most resistant to Stewart's wilt are the SE bicolors Ambrosia and Encore, the SE yellows Miracle and Merlin, and the SE white Argent. A complete list of ratings from Illinois can be found on the internet at: <http://www.sweetcorn.illinois.edu/>

A short list of common hybrids can be found at:

<http://bugs.osu.edu/welty/pdf/ListSwCornHybridsSWR2007.pdf>

Chemical control of corn flea beetle is possible by commercial seed treatment with the insecticides Cruiser, Poncho, or Gaucho. Growers should contact their seed supplier to find out about availability of insecticide-treated seed. Both of these insecticides have systemic action when applied to seed or to soil in the root zone. Cruiser contains the active ingredient thiamethoxam. Poncho contains the active ingredient clothianidin. Gaucho contains the active ingredient imidacloprid (the same AI as in Admire and Provado). Tests done by Dr. Jerald Pataky at the University of Illinois showed that incidence of Stewart's wilt in susceptible varieties was reduced by about 70% by Gaucho. Severity of symptoms was also reduced by Gaucho. The degree of control by Gaucho was roughly equivalent to using a hybrid with one higher level of resistance, among four levels used to rate diseases. Gaucho is thus not a product that alone will control corn flea beetle and Stewart's wilt. Cruiser and Poncho are similar to Gaucho but have a broader spectrum of activity against soil insect pests.

In summary, the primary strategy that should be used to manage Stewart's Wilt is host plant resistance. The secondary strategy is insecticide. Cruiser or Poncho or Gaucho are the easiest insecticides to use since they come already on the seed. The second best insecticide option is Furadan 4F at planting; Furadan is still registered but will probably lose its registration in the near future. Other options are Counter or Thimet at planting, or waiting until seedlings emerge when they can be sprayed with Sevin, Pounce, or other non-systemic foliar insecticide.

## **Pesticide seed treatment available for vine crops** (C. Welty OSU Extension Entomology, )

FarMore DI400 is the name of a commercial seed treatment package that is now available for use on cucumbers, pumpkins, squash, and melons for disease and insect control. The name FarMore Technology is a registered trademark for several commercial seed treatments. In the name FarMore DI400, the D designates that it is for disease control and the I designates that it is for insect control. FarMore DI400 contains 3 fungicides, which are the active ingredients in Apron, Maxim, and Dynasty, as well as one systemic insecticide, which is thiamethoxam. Thiamethoxam is the active ingredient already familiar to us in Actara, which is used for foliar sprays; in Platinum, which is used in soil treatments; and in Cruiser, which is used in seed treatments on corn and beans.

We have been looking at thiamethoxam and other insecticide seed treatments on cucurbits for cucumber beetle control in Ohio for the past 4 years. We have data on pickling cucumbers, pumpkins, and zucchini. Although the results vary from trial to trial, the seed treatments have generally been performing as well as in-furrow soil treatment with products like Admire and Furadan. One question that we have tried to answer throughout these trials is: how long does beetle control last after planting treated seeds? Control was evaluated at several crop growth stages, both in field trials and in lab bioassays. Although the results varied from trial to trial, in general, we found that control is usually good through the second leaf stage, which is generally around two to three weeks after seeding, but control is not consistently lasting past the second leaf stage. Control is often poor by the fourth leaf stage, which is generally about three to four weeks after seeding. Keep in mind that beetle control is most important at the cotyledon stage, when plants are most susceptible to bacterial wilt disease, which is vectored by cucumber beetles.

One advantage of seed treatment is convenience compared to in-furrow or foliar spray applications. There is also an environmental benefit of a lower rate of active ingredient per acre. If we look at thiamethoxam and compare seed treatment which uses 0.75 mg of active ingredient (a.i.) per seed versus in-furrow application of 11 fluid ounces per acre of Platinum, we find that this is about 34 times less a.i. for pumpkins, which are typically seeded at 3000 seeds per acre. This is about 2 times less a.i. for pickling cucumbers, which are typically seeded at 58,000 seeds per acre.

FarMore is available on seed purchased from Rupp Seeds, Seminis, Harris-Moran, and several other selected seed companies as listed on Syngenta's Farm Assist website: [http://www.farmassist.com/prodrender/index2.asp?nav=resources&ProdId=943&sub=seed\\_companies](http://www.farmassist.com/prodrender/index2.asp?nav=resources&ProdId=943&sub=seed_companies)

## **It's Organic, But Does That Mean It's Safer**

By Kim Seversen and Andrew Martin. Abridged from an article in The New York Times. Pg D1. Wednesday, March 4, 2009.

Most of the chicken, fruit and vegetables in Ellen Devlin-Sample's kitchen are organic. She thinks those foods taste better than their conventional counterparts. And she hopes they are healthier for her children. Lately, though, she is not so sure.

The national outbreak of salmonella in products with peanuts has been particularly unsettling for shoppers like her who think organic food is safer. The plants in Texas and Georgia that were sending out contaminated peanut butter and ground peanut products had something else besides rodent infestation, mold and bird droppings. They also had federal organic certification.

"Why is organic peanut butter better than Jif?" said Ms. Devlin-Sample, a nurse practitioner from Pelham, N.Y. "I have no idea. If we're getting salmonella from peanut butter, all bets are off."

Although the rules governing organic food require health inspections and pest management plans, organic certification technically has nothing to do with food safety. "Because there are some increased health benefits with organics, people extrapolate that it's safer in terms of pathogens," said Urvashi Rangan, a senior scientist and policy

analyst with Consumers Union, the nonprofit publisher of Consumer Reports. "I wouldn't necessarily assume it is safer"

But many people who pay as much as 50 percent more for organic food think it ought to be.

By 2002, to determine who would be allowed to use the green and white "certified organic" seal, the Department of Agriculture deputized as official certifiers dozens' of organizations, companies and, in some cases, state workers.

These certifiers, then, are paid by the farmers and manufacturers they are inspecting to certify that the standards have been met.

Depending on several factors, the fee can be hundreds or thousands of dollars. Manufacturers who buy six or seven organic ingredients to make one product are especially dependent on the web of agents. If agents do a thorough job, the system can be effective. But sometimes it falls apart.

Texas officials last month fired a state worker who served as a certifier because a plant owned by the Peanut Corporation of America – the company at the center of the salmonella outbreak was allowed to keep its organic certification although it did not have a state health certificate.

A private certifier took nearly seven months to recommend that the U.S.D.A. revoke the organic certification of the peanut company's Georgia plant, and then did so only after the company was in the thick of a massive food recall.

The private certifier, the Organic Crop Improvement Association, sent a notice in July to the peanut company saying it was no longer complying with organic standards, said Jeff See, the association's executive director. He would not say why his company wanted to pull the certification.

A second notice was sent in September, but it wasn't until, Feb. 4 that the certifier finally told the agriculture department that the company should lose its ability to use the organic label. He said his organization finally decided to recommend suspending the organic certification after salmonella problems at the plant were exposed.

To emphasize that reporting basic health violation is part of an organic inspector's job, Ms Robinson, acting director of the agriculture department's National Organic Program, last week issued a directive to the 96 organizations that perform foreign and domestic organic inspections that they are obligated to look beyond pesticide levels and crop management techniques. For example, while we do not expect organic inspectors to be able to detect salmonella or other pathogens, Ms Robinson wrote, their potential sources should be obvious from such evidence as bird, rodent, and other animal feces or other pest infestations.

Jane Baker, director of sales and marketing of CA Certified Organic Farmers, a non-profit certifying organization in Santa Cruz, CA and one of the largest and oldest in the country said "But let's not confuse food safety controls with the organic side of things."

Arthur Harvey, a Maine blueberry farmer who does organic inspections, said agents have an incentive to approve companies that are paying them. "Certifiers have a considerable financial interest in keeping their clients going," he said. Meanwhile, consumers are becoming more skeptical about certification, said Laurie Demeritt, president of the Hartman Group, a market research firm. Some shoppers want food that was grown locally, harvested from animals that were treated humanely or produced by workers who were paid a fair wage. The organic label doesn't mean any of that. "They're questioning the social values around organics," Ms. Demeritt said. The Organic Trade Association, which represents 1,700 organic companies, wants to shore up organic food's image.

"Supporters of the National Organic Program think additional money in the recent farm bill will help improve its reach. Dr. Merrigan, deputy agriculture secretary from Tufts University, helped design the national organic standards, and is seen as a champion of organic farmers and someone who can help clarify and strengthen federal food laws.

Emily Wyckoff, who lives in Buffalo, buys local food and cooks from scratch as much as possible. Although she still buys organic milk and organic peanut butter for her three children, the organic label means less to her these days – especially when it comes to processed food in packages like crackers and cookies.