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Vegetable & Fruit Insecticide News for 2010-2011

Celeste Welty, Extension Entomologist, Ohio State University

New products:

Product	A.I.	Target pests	Crops	Date	Registrant
Scorpion 35SL	dinotefuran (same A.I. as Venom)	leafhoppers, whiteflies, bugs, some beetles	potato, lettuce & other leafy veg., cole crops, cucurbits, tomato & other fruiting veg.	May 2010	Gowan
Toutismo (1.17 + 2.33 SC)	flubendiamide (same A.I. as Belt) + buprofezin (same A.I. as Centaur, Applaud)	caterpillars	grapes, pome fruit, stone fruit	Nov. 2009	Nichino America
Velica (0.33+2.33SC)	flubendiamide (same A.I. as Synapse) + buprofezin (same A.I. as Courier)	caterpillars	tomato & other fruiting veg., lettuce & other leafy veg., cabbage & other cole crops, cucurbits	Aug. 2009	Nichino America
Onager 1EC	hexythiazox (same A.I. as Savey)	mites	grapes, pome fruit, stone fruit	Feb. 2008	Gowan

Products with registration expanded to additional crops:

Product	A.I.	Target pests	Crops	Date	Registrant
Hero 1.24EC	zeta-cypermethrin (same A.I. as Mustang Max) + bifenthrin (same A.I. as Brigade)	beetles, caterpillars, aphids, leafhoppers	now for use on grape, blueberry, brambles, radish & other root crops, potato, cucurbits, greens	May 2010	FMC
Voliam Xpress (0.835 + 0.417 EC)	lambda-cyhalothrin (same A.I. as Warrior) + chlorantraniliprole (same A.I. as Coragen)	beetles, caterpillars, leafhoppers, grasshoppers, stink bugs	now for use on sweet corn, legumes	May 2010	Syngenta
Voliam Flexi (20+20WDG)	thiamethoxam (same A.I. as Actara) + chlorantraniliprole (same A.I. as Coragen)	aphids, leafhoppers, whiteflies, caterpillars, some beetles	now for use on strawberry, mint	May 2010	Syngenta
Belay 2.13SC	clothianidin (same A.I. as Clutch)	aphids, leafhoppers, beetles, bugs, thrips	now for use on peach, pome fruit, grapes, tomato & other fruiting veg., cole crops, greens, cucurbits, lettuce & other leafy veg.	April 2010	Valent
Danitol 2.4EC	fenpropathrin	Japanese beetle, caterpillars	now for use on brambles	Mar. 2010	Valent
Rimon 0.83EC	novaluron	caterpillars, beetle larvae, immature whiteflies & bugs, immature thrips	now for use on blueberry, strawberry, peach, plum, beans, cucurbits, eggplant, pepper	Feb. 2010	Chemtura
Coragen 1.87SC	chlorantraniliprole	caterpillars	now for use on sweet corn, asparagus, legumes, potato, herbs, mint, spices, strawberry	Jan. 2010	DuPont
Altacor 35WDG	chlorantraniliprole	caterpillars	now for use on brambles	Jan. 2010	DuPont
Portal 0.4EC	fenpyroximate (same A.I. as Fujimite)	mites, whiteflies, leafhoppers, mealybugs, psylla	now for use on strawberry, grapes; also melons, tomato & other fruiting veg., pome fruit	Dec. 2009	Nichino America
Centaur 70WDG	buprofezin (same A.I. as in Courier)	scales, mealybugs	now for use on plum, cherry	Nov. 2009	Nichino America
Courier 40SC	buprofezin (same A.I. as in Centaur, Applaud)	leafhoppers and whiteflies	now for use on strawberry, cole crops, eggplant, pepper, celery, parsley, spinach	Oct. 2009	Nichino America
Avsant 30DG	indoxacarb	armyworms	now for use on blueberry, beets	July 2009	DuPont
Baythroid XL (1EC)	beta-cyfluthrin	leafhoppers, cutworms, flea beetles	now for use on beets	June 2009	Bayer
Zeal 72WP	Etoxazole	spider mite eggs and immatures	now for use on cucumber, stone fruit, mint	2009	Valent

New or improved formulations:

- ◆ Lorsban Advanced is a new Lorsban 4E.

Registration modifications:

- ◆ Altacor (chlorantraniliprole): PHI on apples and pears was shortened from 14 days to 5 days.
- ◆ Zeal (etoxazole): PHI on apples and pears was shortened from 28 days to 14 days.
- ◆ Onager (hexythiazox): PHI on grapes was shortened from 28 days to 7 days.
- ◆ Guthion 50WP Solupak (azinphos-methyl): limit per year for 2011 and 2012 is reduced to 3 lb/A for apple and pear, 1.5 lb/A for cherry, 2 lb/A for parsley. Guthion can not be used after 2012. Made by Makhteshim (MANA).

Products being cancelled:

- ◆ Endosulfan (Thionex): Date for use to end is 7/31/2012 for strawberry (annual), peach, plum, cherry, cabbage, kale, cucumbers, melons, summer squash, lettuce; 7/31/2013 for pear; 7/31/2015 for blueberry, apple, pepper, potato, pumpkin, sweet corn, tomato, winter squash; 7/31/2016 for strawberry (perennial).

New or anticipated pests:

- ◆ Spotted wing Drosophila on cherries, raspberries, blackberries, blueberries, strawberries, grapes, peaches, plums, apples. Detected in California in 2008, in Florida and Oregon in 2009, and in Michigan in 2010.
- ◆ Brown marmorated stink bug: on peaches, apples, grapes, sweet corn, tomatoes, peppers, other crops; moving into Ohio from the east
- ◆ Western bean cutworm on sweet corn; moving into Ohio from the west
- ◆ Swede midge on cole crops; moving into Ohio from Ontario and western New York
- ◆ Silverleaf whitefly on tomatoes; moving into Ohio on transplants from Florida

Recent 2ee labels for new or anticipated pests:

- ♦ Brown marmorated stink bug:
 - ♦ Danitol on stone and pome fruit, strawberry, blueberry, pepper, tomato, peas, cucurbits, cole crops.
 - ♦ Carzol on apple.
- ♦ Spotted wing Drosophila
 - ♦ Pounce on cherries.
 - ♦ Mustang Max on berries (black, rasp, blue), cherries, grapes.
 - ♦ Danitol on stone and pome fruit, grapes, strawberries, berries (black, rasp, blue).

Old pests that have been increasing or difficult to manage:

- ♦ Corn earworm in sweet corn
- ♦ Onion thrips on cabbage
- ♦ Woolly apple aphid in apples
- ♦ Dogwood borer in apples
- ♦ Oriental fruit moth in apples

Corn flea beetle situation – 2011

Table 1. Corn flea beetle index for individual Ohio locations for each year, 2000 to 2011, and for long-term average temperature.

Site	Corn flea beetle index ¹												
	Long Term Average	Year											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Pikeston	100	107	94	113	91	97	107	108	-	100	95	90	90
Jackson	99	105	93	110	90	96	106	106	98	100	94	88	91
Ripley	96	101	87	108	82	89	-	-	-	-	-	-	-
Oxford	94	101	86	110	85	93	102	104	-	-	-	-	-
S.Charleston	93	95	82	104	77	86	93	96	90	90	84	80	81
Columbus	92	96	88	-	83	-	95	103	91	93	85	84	85
Avon	88	-	-	-	-	74	96	97	89	89	81	-	-
Delaware	87	95	83	105	78	85	92	97	89	90	79	80	-
Caldwell	87	-	-	-	-	-	-	-	-	-	-	86	87
Kingsville	86	96	82	104	74	82	87	94	88	87	80	80	79
Wooster	85	96	83	105	76	84	91	96	89	88	80	80	77
Hoytville	81	90	76	102	72	81	84	91	84	84	80	86	74
Fremont	80	87	76	102	68	78	78	85	79	87	79	82	75
Celeryville	78	-	-	-	-	-	-	-	-	86	77	79	70

† Corn flea beetle index = average temperature of December + average temperature of January + average temperature of February.

Table 2. The percentage of Ohio locations in each category of Stewart's wilt prediction, based on corn flea beetle index calculated for 10 to 12 sites per year, 2000-2011.

Stewart's wilt prediction (based on corn flea beetle index)	Long Term Avg	Percentage of Ohio sites in each category											
		Year											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Severe (index >100)	16%	36%	0%	100%	0%	0%	27%	36%	0%	0%	0%	0%	0%
Moderate to severe (index 95 - 100)	73%	45%	0%	0%	0%	18%	18%	36%	11%	18%	9%	0%	0%
Light to moderate (index 90 - 94)	16%	9%	18%	0%	18%	9%	27%	18%	22%	27%	9%	9%	20%
Negligible (index <90)	55%	9%	82%	0%	82%	72%	27%	9%	67%	55%	82%	91%	80%

Flea Beetle Index ^{1,2}	Predicted severity of Stewart's Wilt ^{1,2}	Variety recommendation ^{1,2}	Insecticide recommendation ^{1,2}
<90 ^{1,2}	Negligible ^{1,2}	Resistant or susceptible varieties can be grown, but should be scouted to verify that flea beetles are not present. ^{1,2}	On resistant or susceptible varieties, use insecticide option 4. ^{1,2}
90 to 94 ^{1,2}	Slight to moderate ^{1,2}	Resistant varieties are recommended. Susceptible varieties can be grown but should be supplemented by insecticide. ^{1,2}	On resistant varieties, use insecticide option 4. On moderate or susceptible varieties, use insecticide options 1, 2, or 3. ^{1,2}
95 to 100 ^{1,2}	Moderate to severe ^{1,2}	Resistant varieties are strongly recommended. Susceptible varieties can be grown but must be supplemented by insecticide. ^{1,2}	On resistant varieties, use insecticide option 4. On moderate or susceptible varieties, use insecticide options 1 or 3. ^{1,2}
>100 ^{1,2}	Severe ^{1,2}	Resistant varieties are strongly recommended. Susceptible varieties are likely to perform poorly even if treated with the best insecticide. ^{1,2}	On resistant varieties, use insecticide option 4. On moderate or susceptible varieties, use insecticide options 1 or 3. ^{1,2}

Insecticides for corn flea beetle control:

Option 1: Buy sweet corn seed that has been commercially treated with a systemic insecticide. Buy seed treated with Cruiser 5FS (thiamethoxam), Poncho 250 (clothianidin), or Gaucho 480 (imidacloprid). This is the easiest way to apply insecticide because it is already on the seed when bought. These treatments are effective for flea beetle control until the 5-leaf stage.

Seed treatment is advantageous on varieties rated as moderate or susceptible to Stewart's Wilt, especially in a summer after a relatively warm winter. 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. Gaucho also reduced the severity of symptoms. The degree of control by Gaucho was roughly equivalent to using a hybrid with one higher level of resistance, among the four levels used when rating the disease. Gaucho alone will not control corn flea beetle and Stewart's wilt on susceptible varieties. Cruiser and Poncho are similar to Gaucho but have a broader spectrum of activity against soil insect pests.

Option 2: Use Concur or Latitude as a hopper box seed treatment. These are systemic insecticides that are formulated as dry talc-based products. Concur is imidacloprid + metalaxyl. Latitude is imidacloprid + carboxin + metalaxyl. These are effective for flea beetle control until the first true-leaf stage.

Option 3: Use a systemic soil insecticide at planting, in furrow or as a drench banded over the row. Furadan 4F (carbofuran) is the best choice. The other choices are Counter 15G or 20CR (terbufos) or Thimet 20G (phorate), but these are not usually as effective as Furadan for control of corn flea beetle. The products provide systemic protection for about 2 to 4 weeks.

NOTE: THERE IS NO ADVANTAGE TO USING MORE THAN ONE OF OPTIONS 1, 2, AND 3 TO CONTROL CORN FLEA BEETLE IN THE SAME PLANTING.

Option 4: Wait until seedlings emerge when they can be scouted for presence of flea beetles. Scout two or three times per week until the 7-leaf stage, preferably on calm sunny warm days when beetles are most likely to be found on corn plants. The threshold for susceptible varieties is 6 beetles per 100 plants. The threshold for resistant varieties is 2 beetles per plant and >25% of seedlings severely damaged by beetle feeding injury. If the threshold is exceeded, then spray with Sevin, Diazinon, PennCap-M, Lannate, Lorsban, Pounce, Asana, Mustang, Capture, Warrior, or Proaxis. The foliar sprays are not usually as effective as the systemic seed or soil treatments, especially when flea beetle populations are heavy. The foliar products provide protection for about 7 days. Control of corn flea beetle is not needed after the 7-leaf stage.

Early Crop Report by Brad Bergefurd

Sweet corn under plastic was planted this week. Tomatoes that were planted in high tunnels a month ago are now beginning to show bloom. Harvest of tunnel grown lettuce, swiss chard, parsley, green onions, collard greens and mustard greens continues (these plantings have been being harvested since last November). Hail storms last week damaged field garlic, plastic strawberries, field collard and turnip greens that had been overwintered under floating row covers.

Your Spring Outlook from Accuweather.com

The AccuWeather.com forecast for Spring 2011 calls for more wild weather for the U.S. The biggest concerns center around expectations of an active severe weather season, the spreading of a severe drought and a high wildfire danger, and, as always, threats for flooding.

Paul Pastelok, leader of the AccuWeather.com Long-Range Forecasting Team, warned that this spring's severe weather season will be more active than normal, meaning there could be a higher-than-average number of tornadoes and severe thunderstorms in the eastern part of the country.



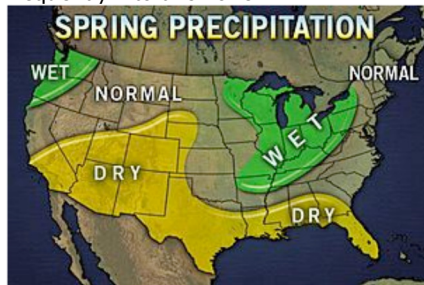
Note that while temperatures are expected to average near or slightly below normal in the Northeast and mid-Atlantic, this spring will feel much cooler as compared to last year, when the regions experienced record warmth in March and April.

Severe Weather Season More Active than Normal

The zone of greatest concern for above-normal severe thunderstorm activity this spring, according to Pastelok, lies from Arkansas and Missouri into Tennessee and Kentucky, areas that have been targeted already by several severe outbreaks the last week of February.

He added that this zone could shift north-northeastward into Ohio, Indiana and Illinois later in the spring.

The factors pointing to increased severe weather activity in this zone include clashes that will take place between warm air across the southern tier of the nation and colder air to the north. A major player will also be the presence of moist air from the Gulf of Mexico, which is expected to be drawn most frequently into this zone.



What to Expect This Spring in the East

In contrast to the unrelenting colder-than-normal conditions that gripped the East December through the first half of February, Pastelok said there will be more back-and-forth between cold shots and warm-ups from here on out.

What will perhaps be most noticeable for people across the Northeast and mid-Atlantic is the fact that this spring is expected to be much cooler than last year's, which featured record warmth in March and April and above-normal warmth in May.

In the interior Northeast, Pastelok cautioned that a longer period of colder weather could make a comeback from the second into the third week of March.

It will be cold enough to support snow in the interior Northeast during this time. Therefore, storms that move through areas from upstate New York into New England could add to the snowpack across the region.

Pastelok said that the cold shots should start relaxing in the East later in March or early April, though there is concern for some cooling from the Great Lakes into the mid-Atlantic in May.

In the Northeast, temperatures are generally expected to average out near or slightly below normal for the season. Near-normal precipitation is expected throughout much of the region as well, though areas near the Great Lakes are forecast to be wetter than average.



The Ohio River Valley is a bit of a different story for the spring season, as most of the area's snowpack has already melted or been washed out in recent weeks. The only remaining snow cover is confined mainly to the extreme northeastern portion of its catch basin.

In addition, Pastelok has a concern for mesoscale convective systems (MCS) in the Plains and Great Lakes, as well as the Mississippi and Ohio valleys.

An MCS is a complex of severe thunderstorms that becomes highly organized to the point that it can resemble an extratropical cyclone. An MCS can cause substantial rainfall, strong straight-line winds and tornadoes.



The Best Weather(WX) Apps for your Mobile Device

Speaking of spring weather and severe storms, my vegetable video blog is up and running for another season. My first Video Vegetable Note for this year is ♦Best Weather Apps for your Mobile Device♦. With your iphone, ipad, tablet, etc. keep an eye on the sky from your car, truck or even if you are in the field. With one or several of these apps you can plan your spring planting season around bad weather. More important, you can use apps to keep yourself and family safe from severe weather. In this video see what a tornado signature looks like on radar. Recorded live while it was happening. <http://vegnet.osu.edu>

★ Bob's Video Vegetable Notes

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Do you need a refresher course in pumpkin production, we have 2 video podcasts: Part 1: Background, origin, and basic culture (13 min) and Part 2: weed control, insects and diseases (17 min).

Learn about the western bean cutworm in sweet corn (Identification, scouting and control) (about 10 minutes).

We hope to have more video and audio podcasts available in the future with such topics as insect or other pest updates and since you can subscribe to the feed you will always be up to date. Check it out.



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