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College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

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a newsletter for commercial growers of fruit and vegetable crops

"We are what we repeatedly do. Excellence, then, is not an act, but a habit." Aristotle

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editor, Rick Weinzierl, 217-244-2126, weinzierl@uiuc.edu. The *Illinois Fruit and Vegetable News* is available on the web at: <http://www.ipm.uiuc.edu/ifvn/index.html>. To receive email notification of new postings of this newsletter, call or write Rick Weinzierl at the number or email address above.

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University of Illinois Extension Specialists in Fruit & Vegetable Production & Pest Management

Upcoming Programs

- **Illinois State Horticulture Society Summer Horticulture Day, June 12, 2008** ... at Tanner's Orchard, Route 40, Speer IL. For more information contact Don H. Naylor, Executive Secretary, Illinois State Horticultural Society, at 309-828-8929 or ilsthortsoc@yahoo.com. University of Illinois Extension contacts for this program are Mohammad Babadoost (217-333-1523; babadoos@uiuc.edu) and Elizabeth Wahle (618-692-9434; wahle@uiuc.edu).
- **Organic Apple Field Day, August 8, 2008** ... at the University of Illinois Dixon Springs Agricultural Center, Simpson, IL. More information will be available soon on the [Illinois Small Farms](http://www.illinois-small-farms.com) site at the [Sustainable Ag Tours](http://www.sustainable-ag-tours.com) page. This tour is being co-sponsored by the [Midwest Organic Tree Fruit Growers Network](http://www.midwest-organic-tree-fruit-growers-network.com).

Notes from Chris Doll

Southwestern Illinois has made up all of its 2007 moisture shortfall and then some. The Back-40 figures are 13.9 inches for May and 30.3 inches for the year. The May total was from 16 days of measurable rains and 3 days of traces of rain. So far in June, the total is 2.6 inches on 7 of 8 days, and more is on the way. Not much field work has been done, and it has been difficult to keep sprays on plants.

Through May 29, phenology schedules were running very late, but the last 10 days have been warm to the point that 286 DDs base 50F have been accumulated in that time. As a result, strawberry harvest speeded up rapidly, Labrusca grapes passed through full bloom, sweet cherries have begun to ripen, and thornless blackberries came into full bloom. Peaches and apples that were thinned early are gaining good fruit size. No epidemic-type pest problems have been reported, but apple scab and bacterial spot of peach have been observed. Fire blight has exhibited some of its unpredictable nature by causing severe shoot blight in some trees and light to none on many others. Apple pests have been under control, but some catfacing has been seen on peaches.

Local strawberry yields were good considering the weather problems. The new fungicides lived up to press clippings by giving excellent control of fruit rots. Fruit firmness was very good in spite of the wet weather. Since it has been a late harvest season, renovation of matted-row fields should be done as soon as possible. Nothing much has changed in the renovation suggestions of

recent years. Most likely, irrigation will be one of the critical aspects for success of the process, especially for the incorporation of the herbicides.

The saturated soils in this area and any others can have a detrimental effect on calcium levels in apple trees due to less uptake of calcium. It is time for the inclusion of calcium in cover sprays if that step has not already started. Research in eastern states has shown that calcium chloride is about as effective as you can get. Use at the rate of 2 pounds per 100 gallons or 4-6 pounds per acre. Some leaf injury might show during cool, wet springs or hot, dry summers, and if injury symptoms (leaf burn) appear, reduce the rate by 50 percent in the next spray.

Young peach trees should have sprouts removed from the trunk to direct growth into the upper branches. This can be coupled with pinching or removal of shoots in the center of the tree to stop vigorous upright growth from competing with the scaffold branches. Newly planted trees should have the scaffold branches selected and spread with clothespins or other spreaders.

"Herbicide washout" or breakdown has occurred where sterilant materials were applied early. Regrowth can be treated with another spray of contact plus residual materials as listed in the spray guide. If glyphosate is used as the contact material, keep the spray off leaves and fruits.

This is being written three days before the Illinois State Horticulture Society Summer Orchard Day at Tanners Orchard. The whole farm operation from the apple planting through marketing and sales is one worth seeing, so I hope to see many readers there.

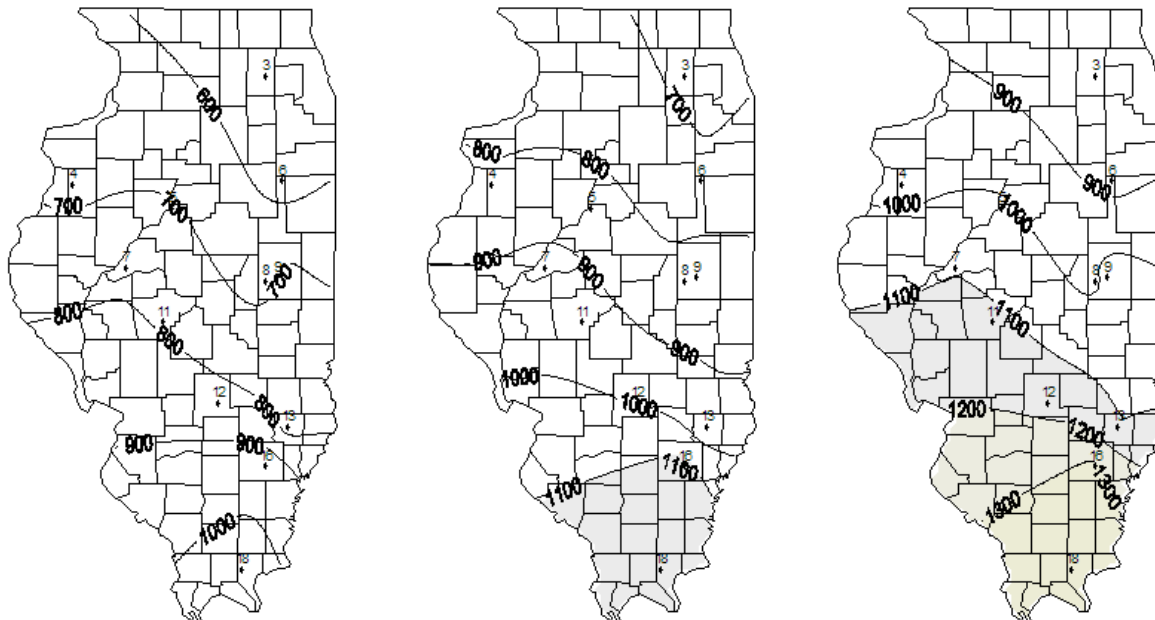
Chris Doll

Degree-day accumulations

Degree-day accumulations, base 50 degrees F, starting January 1.

Station	County	Base 50F DD Jan 1 – June 9, Historic Average	Base 50F DD Jan 1–May 29, 2008	Base 50F DD Jan 1–June 16, 2008 (Projected)	Base 50F DD Jan 1–June 23, 2008 (Projected)
1. Freeport	Stephenson	683	Missing	Missing	Missing
2. Dekalb	Dekalb	743	Missing	Missing	Missing
3. St. Charles	Kane	675	563	688	832
4. Monmouth	Warren	812	670	810	967
5. Peoria	Peoria	858	712	857	1019
6. Stelle	Ford	798	565	709	872
7. Kilbourne	Mason	973	787	932	1094
8. Bondville	Champaign	901	662	809	973
9. Champaign	Champaign	903	734	885	1053
10. Perry	Pike	924	Missing	Missing	Missing
11. Springfield	Sangamon	967	789	945	1119
12. Brownstown	Fayette	1056	834	993	1169
13. Olney	Richland	1048	774	932	1106
14. Belleville	St. Claire	1126	Missing	Missing	Missing
15. Rend Lake	Jefferson	1185	Missing	Missing	Missing
16. Fairfield	Wayne	1133	972	1139	1321
17. Carbondale	Jackson	1153	Missing	Missing	Missing
18. Dixon Springs	Pope	1209	1031	1191	1364

Degree-day accumulations summarized above for weather stations in the Illinois State Water Survey WARM data base have been summarized using the Degree-Day Calculator on the University of Illinois IPM site (<http://www.ipm.uiuc.edu/degreedays/index.html>). The list below includes only degree-day accumulations and projections based on a 50-degree F developmental threshold and a January 1 starting date, but other options that use different thresholds and specific biofix dates are available on the Degree-Day Calculator. The degree-day calculator is available as a result of a joint effort of current and former extension entomologists (primarily Kelly Cook) and Bob Scott of the Illinois State Water Survey. If you have questions about how to use the site, contact me or Bob Scott (rwscott1@uiuc.edu).



Degree-day accumulations, base 50 F, January 1 – June 9, 2008 (left), and projected through June 16 (center) and June 23 (right).

Rick Weinzierl (217-244-2126; weinzier@uiuc.edu)

Fruit Production and Pest Management

Oriental fruit moth and codling moth updates

Biofix dates for first flights of **oriental fruit moth** (OFM) are presented in the table below, along with degree-day (DD) accumulations based on a threshold of 45 degrees F. **(This is a key point, OFM phenology models use a threshold of 45 degrees F.)** Second generation flight is expected to begin approximately 950 DD (base 45) after the first generation biofix, and the DD accumulations in the table suggest that second generation flight is probably underway in the far south, beginning or about to begin in the area from Belleville through Calhoun County, and about a week to 10 days in the future around Champaign-Urbana. (Data are from Illinois State Water Survey weather stations.) For those Calhoun County growers who are using Isomate OFM Rosso pheromone dispensers to control OFM by mating disruption and are timing applications so that dispensers are in place as second generation flight starts, dispensers should be in place now.

<i>Oriental fruit moth</i>	OFM Biofix Date	DD Base 45 F, through June 9	DD Base 45 F, projected through June 16	DD Base 45 F, projected through June 23
Murphysboro (Dixon Springs weather data)	April 20	991	1188	1397
Brussels (Brownstown weather data)	April 21	865	1062	1275
Urbana (Champaign weather data)	April 25	725	914	1119

The best way to determine when to apply insecticides intended to control OFM is to base application timing on pheromone trap catches and degree-day accumulations. When OFM counts in traps begin to increase, **second** generation flight and egg-laying are underway (again this is expected at about 950 DD after **first** generation biofix). Published phenology models differ a little bit in estimating the timing of OFM life cycle events based on DDs, but at about 150 DD (base 45 F) after second generation biofix (or about 1100 DD after first generation biofix), hatch begins. So to prevent fruit entry by second generation larvae, insecticides such as Pounce, Imidan, Assail, Altacor, or Delegate need to be applied by 150 DD after second generation flight begins or by around 1100 DD after first generation biofix. Where Rimon is used in apples (it's not labeled on peaches), sprays should be applied sooner so that eggs are laid on spray residues ... so applications should begin as soon as traps indicate flight is underway. In general, recommended reapplication intervals for the insecticides used to control OFM are 14 days, with the determination of need based on continued observation of pheromone traps. At least 2 sprays per generation are usually recommended where OFM is an established pest.

Second generation OFM egg hatch should be expected to end about 1950 DD base 45 after first generation biofix (or 1000 DD after initial flight of second generation moths).

Biofix dates for codling moth at five Illinois locations are listed in the table below, along with degree-day accumulations (base 50F) and projections for weather stations near each location.

<i>Codling moth</i>	CM Biofix Date	DD Base 50 F, through June 9	DD Base 50 F, projected through June 16	DD Base 50 F, projected through June 23
Murphysboro (Dixon Springs weather data)	May 3	613	775	950
Belleville (Belleville weather data)	May 7	~506*	~649*	~812*
Brussels (Brownstown weather data)	May 9	466	628	806
Urbana (Champaign weather data)	May 16	394	548	718
Malta (DeKalb) (DeKalb weather data)	May 27	~235*	~364*	~516*

* Estimates include approximations for June 6-9; data for these dates are missing on the Illinois State Water Survey WARM site.

Developmental events for the codling moth based on degree-day accumulations are presented below. Remember that **“biofix”** refers to the date of the first sustained capture of **first-generation moths in traps**.

Codling moth development:

First egg hatch (for first generation larvae)	~220 DD ₅₀ after biofix
50 percent of first generation moths emerged	~240 DD ₅₀ after biofix
50 percent of first generation eggs hatched	~500 DD ₅₀ after biofix
99 percent of first generation eggs hatched	~920 DD ₅₀ after biofix
First moths of second generation emerge	~900 DD ₅₀ after biofix

(Table based on *Orchard Pest Management* by Beers et al., published by Good Fruit Grower, Yakima, WA.)

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Increasing Return Bloom in Apples for Next Year

Most apple growers in the Midwest are reporting higher than normal fruit set this year. A successful thinning program results not only in increasing fruit size but also in a balance in the energy reserve of the tree, enabling it to produce an adequate crop the following year. However, some cultivars, such as Braeburn, Fuji, Golden Delicious, Honeycrisp, and Pacific Rose, have strong tendencies toward biennial bearing, even when adequately thinned the previous season. Studies have shown that the developing seeds in the heavy crop year produce a large quantity of the natural hormone gibberellic acid (GA). Diffusion of GA from the seed into the developing buds is believed to inhibit flower initiation. GA treatment in the low crop year has been shown to reduce flower bud initiation for the flowering season. Chemicals that inhibit GA, either its synthesis or its action, have been shown to increase flower bud initiation. Ethylene, etrel, daminozide, and NAA have been shown to inhibit GA synthesis. Postbloom applications of NAA and etrel in the heavy cropping year have been found to inhibit gibberellin (GA) and increase return bloom in the off-year. In one study it was found that application of 150 ppm etrel at six weeks after bloom on Fuji increased return bloom by as much as 15%, while four applications of 5 ppm NAA, starting two months after full bloom, increased return bloom by about 14%. Combination of etrel and NAA resulted in a 32% increase (more than double the return bloom of either of the chemicals alone). Based on these studies, I suggest that you consider applying a combination of 5 ppm NAA and 150 ppm etrel at 6 to 12 weeks after full bloom to apple blocks that have heavy crops and to varieties that are prone to alternate bearing such as Braeburn, Fuji and Honeycrisp. Etrel will slow tree growth and may cause fruit thinning if applied too early.

Mosbah Kushad (217-244-5691; Kushad@uiuc.edu)

Impacts of Heavy Rains

I received a couple of phone calls last week about the effects of the heavy rain on fruit crops. Heavy rains should cause minimal damage on peach trees unless it persists for a very long time. However, because of the shallow nature of the root system of apple trees, some trees will look stress and a few may die if the root system remains submerged for a long time. It is also likely that some

of the leaves and fruits will drop from too much rain. The reason for the stress and leaf and fruit drop is that the root system of water-logged trees produces a chemical called 1-aminocyclopropane-1-carboxylic acid (ACC). ACC moves out of the root system into the top of the tree where it is converted into ethylene. Ethylene is the active ingredient in ethrel, which is used to thin fruits and reduce tree growth. It is also very likely that fruits that did not set adequate numbers of seeds will drop as a result of too much rain. Gala is a good example of a cultivar in which too much rain causes fruits that have few or no seeds to stop growing and eventually drop. Basically, it is a survival mechanism for the tree to get rid of some of its leaves and fruits when it is stressed.

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New Fungicide for Pome Fruits

Inspire Super MP 2.08SC is a new fungicide registered for use on pome fruit crops (apple, crab apple, loquat, mayhaw, pear, Oriental pear, and quince). Inspire Super MP contains 23.2% difenoconazole (2.08 pounds of active ingredient per gallon) and is a fungicide in FRAC group 3 (FRAC code 3). This fungicide is manufactured by Syngenta Crop Protection and can be used to control *Alternaria* blotch (*Alternaria* spp.), brooks fruit spot (*Mycosphaerella pomi*), cedar-apple rust (*Gymnosporangium juniperi-virginianae*), flyspeck (*Zygophiala jamaicensis*), powdery mildew (*Podosphaera leucotricha*), quince rust (*Gymnosporangium* spp.), scab (*Venturia inaequalis*), and sooty blotch (*Gloeodes pomigena*). Inspire Super MP is a fungicide with systemic and curative properties. It may be applied as a foliar spray in alternating spray programs or in tank mixes with other crop protection products. Inspire Super MP is a demethylation inhibitor (DMI) of sterol biosynthesis and therefore disrupts membrane synthesis by blocking demethylation. Fungal pathogens can develop resistance to products with the same mode of action when used repeatedly. It is recommended that growers apply Inspire Super MP tank-mixed with Vanguard WG. No more than 20 fl oz per acre of Inspire Super MP per crop per season should be applied. Inspire Super MP should not be applied within 72 days of harvest. More information on Inspire Super MP is available in the following website: <http://www.cdms.net/LDat/ld8HF000.pdf>.

Mohammad Babadoost (217-333-1523; babadoos@uiuc.edu)

Fire blight of apples



Fire blight: shoot blight



Fire blight: blossom blight

Due to the prolonged bloom period and extensive rainfalls, fire blight has already been observed in commercial orchards in Illinois. Blossom blight, fruit blight, and shoot infection are widespread in some orchards. Fire blight, caused by the bacterium *Erwinia amylovora*, is the most destructive disease of apples and pears in Illinois. Application of copper at the silver tip stage of flower bud growth and application of streptomycin during bloom (not more than four applications) are effective in managing fire blight of apples and pears. Streptomycin should also be applied immediately after hail damage and tissue-damaging storms. For more information on pathogen biology and disease epidemiology, check <http://veg-fruit.cropsci.uiuc.edu/new/apples18.asp>.

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Vegetable Production and Pest Management

Dual Magnum Registered for Use in Horseradish and Rhubarb

Dual Magnum (s-metolachlor), manufactured by Syngenta Crop Protection, has been registered for use on horseradish and rhubarb. Dual Magnum also has a registration for peas, green (snap) beans, and dry beans. It controls grasses (such as barnyardgrass, crabgrass, fall panicum, foxtail, and witchgrass) and small-seeded broadleaf weeds (such as waterhemp, amaranth, pigweed, galinsoga, and nightshade).

A preemergence application of Dual Magnum can be made to horseradish after planting but before crop emergence. Application rates for Dual Magnum for horseradish range from 1.0 to 1.33 pint/ acre depending on soil texture. Only a single application of Dual Magnum may be made per crop. Do not apply more than 1.33 pint/acre of Dual Magnum per crop. Dual Magnum should be used in combination with a broadleaf herbicide such as Goal or Spartan to expand the spectrum of weeds controlled; this also reduces the potential for resistance to PPO herbicides. Dual Magnum is a potential substitute for Outlook. Similar weed spectrums are controlled by both herbicides. Dual Magnum provides slightly better common lambsquarter and slightly poorer common purslane control than Outlook. A high rate of Dual Magnum (1.33 pt/ acre) is approximately \$20/ acre, while the high rate of Outlook (21 fl oz/acre) costs approximately \$28/ acre.

Dual Magnum may be applied at 0.67 to 1.33 pint/ acre to the soil surface in early spring before the emergence of rhubarb. The herbicide may be banded over the rhubarb row. Dual Magnum will not controlled perennial, biennial, or emerged annual weeds. Dual Magnum may be applied only once per year at a maximum of 1.33 pt/ acre. Do not harvest rhubarb within 62 days of an application of Dual Magnum. No other preemergence herbicides are labeled for use on rhubarb in Illinois.

John Masiunas (masiunas@uiuc.edu)

Web Site for Information on Quackgrass and Canada Thistle

Dan Anderson and John Masiunas have added web pages to the Agroecology and Sustainable Agriculture Program Organic web site on the biology, ecology, and management of quackgrass and Canada thistle. The quackgrass web page is <http://asap.sustainability.uiuc.edu/members/dananderson/documents/quackgrass>. Quackgrass is a noxious perennial cool season grass generally occurring in the northern portion of Illinois. The link to the UC Davis-developed Nature Conservancy web site provides an extensive summary of integrated approaches (including herbicides) to managing quackgrass. Once you have identified quackgrass in your orchard or vegetable planting, the UC-Davis Nature Conservancy web site is a good place to start learning about its management.

The Canada thistle web page is http://asap.sustainability.uiuc.edu/members/dananderson/documents/canada_thistle. Canada thistle is a noxious perennial broadleaf weed that spreads primarily through creeping root systems. One link is to “Canada Thistle Biology: Knowing Your Enemy;” we developed this information to help you understand the biology and ecology of this weed. The site also provides extensive information on integrated control strategies for Canada thistle. We also have a link to the use of Sudangrass cover crops to suppress Canada thistle. Our research found that Sudangrass provided 98% Canada thistle suppression for at least a year after growing the cover crop.

John Masiunas (masiunas@uiuc.edu)

Phytophthora Blight of Cucurbits

Phytophthora blight, caused by *Phytophthora capsici*, is a very destructive disease of cucurbits in Illinois. In 2007, this disease caused total crop losses in many cucurbit fields in the northeastern part of the state. To minimize damage caused by Phytophthora blight, a combination of measures should be practiced. The most effective practice in controlling *P. capsici* is preventing the pathogen from being moved into a new field. The following practices can help to manage Phytophthora blight in cucurbit fields. (1) Select fields with no history of Phytophthora blight. (2) Select well-drained fields. (3) Avoid excessive irrigation. (4) Do not irrigate from a pond that contains water drained from an infested field. (5) Scout the field regularly for the Phytophthora blight symptoms, especially after major rainfall, and particularly in low areas of fields. (6) When symptoms are localized in a small area of the field, disk the area. (7) Discard infected fruit, but not in the field. (8) Phytophthora blight of cucurbits in Illinois can be controlled by using fungicides. Seed treatment with mefenoxam (Apron XL LS at the rate of 0.64 fl oz/100 lb seed) effectively protects seedlings of cucurbits until 5 weeks after sowing. If you are going to plant cucurbit seed in a field with history of Phytophthora blight, do not hesitate to treat your seed with mefenoxam. Weekly applications of mandipropamid (Revus at 8 fl oz/acre) plus a copper compound (i.e., Kocide-3000 or Cuprofix Disperss) alternated with cymoxanil + famoxadone (Tanos at the rate 10 oz/acre) plus a copper compound, or alternated with

dimethomorph (Forum at the rate of 6 fl oz/acre or Acrobat at the rate of 6.2 oz/acre) plus a copper compound, or cyazofamid (Ranman 400SC) can effectively reduce development and spread of Phytophthora blight in cucurbit fields. Application of these fungicides must begin at the first sign of the disease and be continued throughout the season if conditions are conducive for development of the disease. For additional information on Phytophthora blight of cucurbits, refer to <http://veg-fruit.cropsci.uiuc.edu/new/Cucurbits.asp>.



Damping-off of a pumpkin plant, caused by *Phytophthora capsici* Babadoost



Phytophthora fruit rot of pumpkins and squash Babadoost

Mohammad Babadoost (217-333-1523; babadoos@uiuc.edu)

Striped cucumber beetle

Earlier this week Dan Fournie reported that striped cucumber beetles had been a problem on cucumbers recently. It may be a bit late to offer recommendations to growers in the southern part of the state, but for central and southern IL growers, here are a few important reminders ... this is the insect that carries the pathogen that causes bacterial wilt of cucurbits, a disease that's particularly devastating to cucumbers and muskmelons. Controlling beetles to prevent wilt is warranted when numbers exceed 0.1 to 1 per plant. (This range results from the variation in prevalence of the disease last summer and fall and the portion of overwintering beetles that carry the bacteria ... these levels vary from season to season and from place to place.) Insecticides that are effective against striped cucumber beetles include in-furrow systemics applied at planting or transplanting (Furadan or Admire) and a number of foliar sprays. See page 82 of the [2008 Midwest Vegetable Production Guide for Commercial Growers](#) for a listing of insecticides and rates. In organic production systems, floating row covers can be used to prevent cucumber beetles from reaching plants and transmitting bacterial wilt. Row covers must be removed at bloom to allow pollination, but early-season protection delays and reduces losses to bacterial wilt.



Striped cucumber beetle on a pumpkin seedling.

Rick Weinzierl (217-333-6651; weinzier@uiuc.edu)

Corn Earworm Trapping

Dan Fournie of Collinsville started operating his corn earworm moth trap on the night of June 9th, and this morning (June 10) there were a LOT of moths in it already. That must mean it's time for the annual sermons on worm control in sweet corn. I'll begin with information on monitoring in this issue and follow up with details on insecticides in issue number 8.

First, however, an offer to growers who would like to begin using a trap to monitor earworm flights ... I have at least three new Hartstack traps (like the one pictured below) that I'll loan to three Illinois growers who would like to try them out for a season. (And I'll supply the lures.) If you're interested, contact me at the phone number or email address below.

Corn earworms overwinter in the pupal stage in the soil. Although this insect overwinters with at least some success in some areas of the state in some years, it also migrates in from the south on weather fronts every year. Moths are almost always active in the Collinsville area by late May and early June, but in much of the state the period of first activity (and the first need to control them) can vary from June through August. Although control may be necessary in one portion of the state at a particular time, it may be unnecessary in many other locations. Consequently, it really is essential to establish a monitoring program to determine spray needs. Unfortunately, scouting for foliar damage or larvae on the surface of plants is not an option. Corn earworm moths lay their eggs singly on silks, and larvae move down the silk channel immediately after they hatch from the eggs (and hatching can occur in as little as 2 _ days during hot weather). On corn, larvae do not feed on any exposed parts of the plant (leaves, husks, etc.), so the only practical way to kill them (short of having planted BT sweet corn, which does not provide 100 percent control) is with a contact insecticide applied to the silks. Larvae crawl across the residues on the silks, and the insecticide is taken up through the cuticle.



Left: Corn earworm larva. Right: Hartstack trap.



Corn earworm moth (Kansas Department of Agriculture).

Effective monitoring programs depend on the use of pheromone-baited traps that catch male corn earworm moths and indicate that adults of both genders are present and eggs are being laid. Previously we have recommended using either a wire Hartstack trap (pictured above) or a nylon version of the same general design marketed by Scentry and several regional distributors. We've long known that paper sticky traps are ineffective at monitoring corn earworm moths, and there's growing evidence that the Scentry nylon cone traps may not work well enough. Several years ago the Scentry traps were shown to catch fewer moths than the Hartstack traps in trials completed in the northeastern U.S., and results from monitoring work done in 2006 show that the nylon traps also may fail to detect light but still significant flights when the wire Hartstack traps do catch moths. Consequently, I now recommend that all sweet

corn and seed corn producers use the wire Hartstack trap. (Data to support this recommendation came from a regional monitoring effort coordinated by Bill Hutchison of the University of Minnesota and conducted by several entomologists and horticulturists who participate in the Great Lakes Vegetable Workers Group.) Traps should be baited with Hercon "zealures," and the lures need to be replaced every 2 weeks. Earworm control is necessary when moth flight is ongoing and fresh silks are present. If traps are catching more than a few moths (3 to 5 per trap per night) when silking begins, sprays should be applied within 2 days after first silk -- insecticide residues must be on the silks to kill larvae immediately after they hatch from eggs and before they enter the silk channel.

A Midwest supplier of the Hartstack trap for earworms is Bob Poppe, Route 1, Box 33, Lexington, IL, 61753 (309-723-3201). Lures are available from Great Lakes IPM (10220 Church Road NE, Vestaburg, MI 48891; 989-268-5693; 989-268-5911; 800-235-0285; FAX: 989-268-5311) and Gemplers (1-800-382-8473). The wire Hartstack trap is not cheap ... think in the \$200+ range for the trap plus shipping, and think higher numbers if the traps must be shipped a long way. But before you let the price tag make you balk, consider ...

- These traps will last for many years (I have a couple that are over 20 years old) ... as long as you don't run over them with tractors or other vehicles.
- Along with a few dollars for lures every year and daily monitoring of moth counts, they provide you with guidance that can keep you from spending thousands of dollars unnecessarily or losing thousands of dollars worth of sweet corn sales. If you spray 10 acres of sweet corn even twice a week for 3 weeks before earworms are present and require control, that's 6 applications at (conservatively) \$12.00 per acre for each application ... multiplied by 10 acres, that's \$720 (plus the loss of time not spent doing something more necessary). Multiply that by a 20-year life span for the trap, and the total exceeds \$14,000. I think that pays for the trap and the lures. Viewed in a different way, if high trap counts lead you to spray more often in order to get the control you really need, you market more corn. For a fresh-market producer who sells sweet corn at \$4.00 per dozen, a yield of 1,000 dozen per acre is worth \$4,000. Preventing a 5 percent loss by spraying extra when needed saves \$200 per acre in sales. Multiply that by 10 acres and 20 years, and the total reaches \$40,000 ... that, plus keeping your customers from complaining about wormy corn, certainly pays for the cost of a trap and a package of lures every year.

I rest my case ... buy a Hartstack trap and use it.

More on insecticides for earworm control in the next issue.

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Less seriously ...

Diane Handley of the Illinois Specialty Growers Association forwarded these (and others). I don't know their source, but they definitely give rise to ideas about more innovative marketing displays.



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