



VEGETABLE IPM MESSAGE

AUGUST 15, 2002

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CROP CONDITIONS

Growers are reporting **DRY conditions** in every part of the state. As one grower put it, when even the ragweed is wilting, you know its dry. This week's heat wave combined with short rainfall for weeks past has worsened the drought condition. Farmers are splitting harvesting work with irrigating, and irrigation is the only way to save many fields. Reportedly, crops are still better off than last year because of early season moisture (according to NASS). Some growers are irrigating 24 hours a day in an effort to save some crops, however they may still find that quality and yields are poor. Surface water supplies (ponds and streams) are dwindling rapidly and slow to refill. Growers are pumping long distances (a mile of pipe – that's got to be a record!) and moving water from one source to another to reach critical fields. It's a good time to have fields next to a large river or a big pond. It's a good year to have trickle irrigation. It's time to choose which crops to save and when are the critical times to water. However, try to avoid puddling and leaks in irrigation systems; **Phytophthora** can get started in those spots, even in a dry year.

Meanwhile, bugs are threatening: **spider mites, aphids, caterpillars, and Japanese beetles.**

It's a difficult time to get adequate germination in fall plantings of lettuce and brassicas. Irrigate before seeding to bring the soil temperature down, provide for good soil/seed contact, and have enough moisture to germinate the seed. Then continue to irrigate during germination and establishment. Most vegetable seeds have a maximum

germination temperature of 95 degrees Fahrenheit; a few (turnip, squash) can germinate up to 100-105. However, dry soil under this week's sun is far higher than that. Some growers provide shade by putting flats indoors or installing shade cloth. But the most critical element is moisture.

For more information on trickle irrigation, growers can call John Howell at 413-259-1203. He is available for consultations by phone.

Despite all this growers are harvesting the full range of summer vegetables. Melons, tomatoes, peppers and eggplant love the heat.

When the newspapers call: disaster is good for news, but bad for customer demand. When I am called, I emphasize how hard farmers work to make sure they have a great crop, and how skillful they are in dealing with all possible contingencies. And how much good local food is available. And it's absolutely true!

--Stephanie DeGray, Ruth Hazzard

MASSACHUSETTS 18TH ANNUAL TOMATO CONTEST, MONDAY, AUGUST 19

The 18th Annual Massachusetts Tomato Contest will be held at City Hall Plaza in Boston in conjunction with the Farmers Market, on Monday, August 19. Sponsored by the New England Vegetable & Berry Growers Association in cooperation with the MA Department of Food & Agriculture, this friendly contest is designed to increase consumer awareness of local agriculture. From 9 to 10:15 AM will be

the registration, at 10:30 the tomatoes will be judged by a panel of experts, finally at 12:30 the awards will be presented.

The Tomato Contest Criteria consists of four categories: Flavor (10 points possible); Firmness/Slicing Quality (5 points); Exterior Color (5 points); Shape (5 points). Prizes for 1st, 2nd, and 3rd place will be tomato trophies for all four categories; top 7 will receive certificates in each category.

If you are unable to bring your entry(ies) to Boston City Hall Plaza, please contact one of the following representatives to confirm drop-off entry(ies). Southeastern MA: Dominic Marini (508) 378-2546, Noquochoke Orchards (508) 636-6230; Northeastern MA: Arena Farms (978) 369-3267, Bonnano Farm (978) 682-9563; Central MA: Gove Farm (978) 537-8640, The Warren Farm & Sugarhouse (508) 867-0174; Western MA: Round Hill Orchard (413) 562-4985. Drop is scheduled for Saturday, August 17th or Sunday, August 18th from 9 AM to 5 PM.

For more information please contact David Webber (617) 626-1754, or david.webber@state.ma.us. Participants will need to fill out a registration form, which we would be happy to fax to you. Please call Stephanie DeGray at (413) 545-3696.

DROUGHT UPDATE FOR MASS.

The Massachusetts Drought Management Task Force meeting on July 25, 2002, continued the **Statewide Drought Advisory**, with particular concern for the Cape Cod and Southeast regions of the state. The Drought Advisory indicated a level of dry conditions across the state that warrant tracking by state, federal and local agencies. The advisory level is the second of five action levels related to drought conditions that are outlined in the MA Drought Management Plan. The five action levels of the Drought Mgmt. Plan are: Normal, Advisory, Watch, Warning and Emergency. We have reports that this has just been updated to “drought watch.”

Rainfall. The National Weather Service has forecasted normal temperatures and below normal precipitation for the months of August, September, and October.

- The Massachusetts water year 2002 (starting October of 2001) showed precipitation deficits through the end of July 2002 of five to nine inches.

- Most regions of the state received between 22 and 62 percent of the normal July precipitation with an overall value of 51% of normal for the state. Precipitation for the water year statewide is estimated as 79% of normal.

Surface Water: Stream flows (monitored by the US Geological Survey) are at below-normal levels for much of Massachusetts. July stream flow is reported below normal throughout the state. Stream flow declined rapidly during July and August as a result of below normal precipitation. Long-range forecasts are for continued dry conditions through October.

Water supply reservoirs improved across the state when we had above-normal rainfall between March and June. Yet, some remain below normal levels for this time of year. The Quabbin Reservoir, operated by the Metropolitan District Commission, is at 84.5%, remaining in the below normal system status. However, due to its large storage capacity, the system can withstand extended dry periods without affecting its ability to supply water. The Worcester Reservoir is reported to be at 79% below normal system status, and the Cobble Mt. Reservoir is at 71%.

Groundwater levels: The Massachusetts Department of Environmental Management reports that ground water levels have returned to the “overall” normal range in much of the Commonwealth with some areas in the central, northeast and southeast regions remaining below normal. The Cape and Islands continue to have below normal groundwater levels, a situation that has existed since June of 1999.

Current data from the United States Geological Survey (USGS) indicate a bleaker picture. USGS maintains a series of observation wells throughout the country where depth to groundwater is digitally recorded, up-linked to satellite and posted on their website. In Massachusetts there are nine observation wells and the website URL is:

http://ma.water.usgs.gov/ground_water/ground-water_data.htm.

The table below is a summary of a small part of the data from the website. It indicates that most (6 out of 9) of the wells are below normal levels (25% quartile), while three of the wells show normal (50% quartile) groundwater levels.

**DEPTH TO GROUNDWATER AT USGS OBSERVATION
WELLS IN MASSACHUSETTS**

Well Site	County	Historic Mean for August (ft)	Depth of GW.(ft) on August 13, 2002	Quartile in June	Quartile on August 13, 2002
Brewster	Barnstable	31.0	33.1	25	25
Lakeville	Plymouth	17.1	19.5	25	25
Duxbury	Plymouth	9.3	9.6	25	25
Norfolk	Norfolk	6.7	7.7	50	25 ↓
Pelham	Hampshire	14.5	17.8	25	25
Pittsfield	Berkshire	18.5	19.2 *	50	50
Acton	Middlesex	19.4	20.3	25	25
Wakefield	Middlesex	8.2	8.2	50	50
Wilmington	Middlesex	9.2	9.5	50	50

* Current Data not available. Data is from Aug. 8, 2002.
↓ Site dropped into a lower Quartile.

More drought information with links for many data-rich sites can be found at the **UMass Extension Drought Information** website at <http://www.umassdroughtinfo.org>. In addition, much of the information contained within this article may be found in the MA Department of Environmental Management, Report on Current Water Conditions in MA, August 8, 2002; main page is located at: <http://www.state.ma.us/dem/programs/rainfall/>.

A map of groundwater levels can be found at: http://water.usgs.gov/cgi-bin/dailyMainW2?state=ma&map_type=real

-- *Stephanie DeGray, & Craig Hollingsworth, UMass Ext. Vegetable Program*

KEEP AN EYE OUT FOR SPIDER MITES

Keep an eye out for **spider mites** in the field and greenhouse on especially on nightshade and cucurbit crops and beans. Mites are favored by hot and dry weather. They are small, so a

hand-lens really helps a lot when scouting for them. Look on the underside of leaves that appear bleached out or stippled. High infestations can create a silk-like webbing. Treatment is warranted if mites are on new growth or throughout the planting, especially in later plantings that need to stay healthy for several weeks. To prevent further spread, consider ending harvest early and removing or tilling under residues as soon as harvest is completed. See *New England Veg Mgt Guide* for recommended insecticides.

BLOSSOM-END ROT IN TOMATOES

Dry conditions increase the likelihood of **Blossom End Rot** in tomato and pepper. Causes are similar in both crops.

Symptoms: Blossom-end rot is a physiological disorder that sometimes causes serious losses. The early symptoms, which often go unnoticed, appear as water-soaked lesions on the blossom end or bottom of the fruit. The affected tissue breaks down and the area becomes sunken, dark brown or black, and leathery. This can happen at any stage during fruit development.

Causes Of Blossom End Rot: Blossom End Rot is caused by a lack of sufficient calcium in the fruit tissues. The disorder begins when the demand for calcium in the fruit exceeds the supply. This can occur even when there is an ample supply of calcium in the soil, stems, and leaves of the plant. Calcium is an immobile element, which means that once it is located in one part of the plant, it cannot move to another. Actively growing parts of the plant such as developing fruit must have a continuous supply.

Field Conditions that can bring about Blossom End Rot include the following:

- **Drought Stress.** Moisture supply plays a critical part in calcium uptake and distribution within the plant. Calcium dissolves in water and moves from the soil into the roots and up the stems into the leaves and fruits. This water and calcium solution replaces moisture as it transpires (evaporates) from the leaves and fruits. The fruits have a high demand for calcium, but the leaves receive more because they have a

higher transpiration rate. Supplying water to plants after they come under drought stress only partially relieves the situation since most of the calcium moves into the leaves rather than the fruit. In order to avoid this condition, adequate levels of soil moisture must be maintained consistently during the growing season.

- **Root Damage.** Cultivating too close to plants or burning them with fertilizer can reduce nutrient and water uptake. Waterlogged soils also interfere with the proper functioning of roots and increase Blossom End Rot.

- **Staking and Pruning.** Staking or trellising and pruning of plants increase stress and can result in increased blossom-end rot.

- **Calcium (Ca) Deficiency.** The soil may have low levels of calcium. This can be determined by soil testing and can be corrected over a period of time by liming. Use limestone with a sufficiently high calcium content, as explained in the section on prevention.

- **Nutrient Imbalance.** The soil may be reasonably high in calcium but plant uptake may be inhibited by interactions with certain elements in the soil. Calcium is one of a group of elements called "cations" (positively charged ions). Competition from other cations such as K (potassium), Mg (magnesium), Na (sodium) and NH₄ (ammonium) can substantially depress calcium uptake by the plant.

Of these cations, ammonium tends to depress calcium uptake the most. Ammonium is sometimes used at side dressing. This can be a cause of Blossom End Rot.

Preventing Blossom End Rot: Blossom End Rot can best be reduced or prevented by advance planning and close attention to details:

- Adjust soil pH to 6.5 to 7.0.
- Lime not only to control pH, but choose liming materials that will achieve a proper balance of calcium and magnesium in the soil. In Massachusetts where the use of "hi mag" and dolomitic lime is popular, it is not uncommon to find that soils are high in magnesium and low to medium in calcium. The

condition can be corrected by using "hi cal" or calcitic lime. Follow soil test recommendations.

- Maintain potassium levels in balance with calcium and magnesium. The proper balance of these elements is determined by measuring the base saturation of the soil. A balanced soil will fall into the following ranges: potassium (K) 1 to 5 percent; magnesium (Mg) 10 to 15 percent; calcium (Ca) 60 to 80 percent. Percent saturation is measured in soil tests performed by the University of Massachusetts Soil Testing Laboratory. When potassium levels exceed 5 percent, calcium or magnesium will probably be recommended to insure adequate uptake of calcium or magnesium by the plant.

- When side-dressing nitrogen, avoid using ammonium which can interfere with calcium uptake. Urea converts to ammonium and should be avoided as well. Nitrate forms do not interfere with calcium uptake. Calcium nitrate supplies a small amount of calcium as well as nitrogen.

- Maintain adequate soil moisture levels uniformly during the growing season. Be careful to avoid wet-dry cycles.

- Use mulches to conserve moisture and reduce moisture stress.

- Foliar applications of calcium chloride are of little value because most of the calcium is absorbed by the leaves and stays there. Only that which is absorbed through the fruit epidermis will be of value. Growing fruit needs a constant supply of calcium, which would require frequent applications.

- Growing tomatoes on the ground creates less stress than staking or trellising. The basket weave system probably creates an intermediate stress level.

- Fruit with Blossom End Rot should be removed when first noticed so the plant's energy is not wasted on culls.

John Howell

PEPPER

Continue regular sprays for **European Corn Borer**, as flight remains strong across the state. Of course, many growers do not experience ECB damage in their peppers, possibly due to

low pressure locally on their farm – a good reason to have your own traps!!

Days to harvest intervals provide a challenge in bell peppers. Long-residual or systemic insecticides also have long days to harvest intervals. One strategy is to pick the field in sections, and spray each section of the field just after picking.

Green Peach Aphids will generally stay under control unless natural enemies are knocked out by broad-spectrum sprays. Often we are getting more help keeping aphids under control than we realize. Permethrin (Pounce, Ambush, 3DH) has a well-documented side effect of causing aphid outbreaks, which lead to sooty mold on fruit. Orthene is very effective against both ECB and aphids but has a 7-day DH interval. Spintor at 3 oz per acre (weekly, 1DH) and Bt products (biweekly, 0 DH) provide good rotation materials when a short days to harvest is needed. See *New England Veg. Mgt Guide* for more details. Fulfill is a new aphid material with a long residual.

LATE BLIGHT REPORTED IN SOUTHERN MAINE: BE ON THE LOOKOUT

Tomato and potato growers should be on the lookout for **Late Blight**. Late blight has been found in a field of tomatoes in Cumberland County of southern Maine. The consistently cool and rainy weather in southern Maine two weeks ago, followed by hot humid weather, was ideal for initiation and growth of late blight. Last summer late blight was found in tomato at several locations in western Massachusetts in late August and early September.

Symptoms: Usually the first symptoms are indistinct water-soaked spots on the leaves, which when conditions are right enlarge rapidly into pale green to black lesions that cover the whole leaf. In moist weather the undersides may be covered with a gray to white mold. (If you do not see the mold, you can take some leaves and put them in a plastic bag overnight to see the moldy growth). Quickly the infected foliage shrivels and dies. Petioles and stems are also affected and shrivel. In Tomatoes, black areas form on the young fruit and quickly the whole fruit turns black.

Disease cycle: The pathogen survives the winter only in plant tissue that does not freeze. In the south it can live in tomato debris and tomato seedlings bought from the south can be a source of infection. In the north the pathogen survives in potato tubers. Cull piles and volunteer potatoes are the major source. In the spring the fungus begins to grow in the tissue of the sprouting potatoes and produces sporangia, which can be wind blown long distances. The sporangia germinate on potato or tomato leaves and in cool weather produce masses of zoospores (swimming spores that can move in a film of water). Cool, damp weather followed by warm weather is ideal for late blight. Sometimes the damage comes on so quickly it looks like frost damage.

Control: Early season controls: Cull potatoes should be destroyed by composting or freezing. Eliminate volunteer potato plants. Late season controls: A preventative fungicide program is recommended. See previous newsletter for suggested materials. For organic growers, fixed copper sprays will slow down the spread of the disease. New tissue must be covered. If Late Blight is seen in your area it would be wise to be on a 5 day spray schedule. If Late Blight is found in your field, it is advised to plow under the crop. Call 413-545-1045 to consult with the UMass disease diagnostic clinic.

--Adapted from Eric Sideman, Technical Advisor, MOFGA

TOMATO

Disease development is variable. Field reports that range from ‘unusually little **Early Blight**’, to ‘rampant **Bacterial Canker**’. Bacterial diseases may be kept in check with copper or possibly with Messenger. Avoid airblast sprayers, which do a great job of spreading bacteria through the field. TOM-CAST disease forecasting for Early Blight and **Septoria Leaf Spot** recorded warm nights and long leaf wetness periods (13-14 hours) with DSV’s accumulating at 2-3 per day, and reaching 15 in 9 days.

White mold (Sclerotinia) has appeared in several greenhouses. Careful removal and destruction of infected plants is important

after harvest to minimize spread of the Hard Black Sclerotia. found inside infected stems.

**DSV VALUES: July 31 – August 15, 2002
SOUTH DEERFIELD RESEARCH FARM**

Date	DSV's/Day	Date	DSV's/Day
July 31	3	August 9	0
August 1	3	August 10	1
August 2	2	August 11	2
August 3	3	August 12	3
August 4	2	August 13	2
August 5	2	August 14	3
August 6	1	August 15	2
August 7	1	Days to reach 15 DSV's	9
August 8	1	Cumulative DSV's since May 24	120 DSV's

-- Stephanie DeGray, R Hazzard, D, Riggs, V, Grubniger

ADVERTISING COST SHARING

The Department of Food & Agriculture is sponsoring a cost-share funding program for regular members of NEVGBA from Massachusetts. Cost share funding is available for 50% of newspaper ads that are run from June through October, with a maximum of \$500 per grower. Ads must be for MA grown small fruits and vegetables with 20% of the ad containing the “MA Grown & Fresher” logo.

If you would like further information regarding the program, please contact NEVGBA at (508) 378-2546.

CRUCIFERS

Cabbage Looper is here, along with **Diamondback Moth** and **Imported Cabbageworm**. You can recognize this heavy feeder by larger, ragged holes in the leaves, its lanky frame that reaches up to 1.5 inches, and looping habit like an inchworm. This is a migratory moth, much like Corn Earworm, so you won't see the moths arriving – just the

caterpillars. Be sure to catch cabbage, Chinese cabbage and broccoli **before** heads form – at the beginning of head formation. You may not mind the holes in the leaves, and plants can survive it, but your customers will not be pleased with worms in the heads.

COVER CROPS: SOURCES FOR HAIRY VETCH SEED

Sooner or later we'll have enough soil moisture to plant winter cover crops. It's time at least to order seed and make plans. If you interested in planting hairy vetch and are looking for an inexpensive source, we have come across a number of options.

Ernst Conservation Seeds, out of Meadville, PA, is selling hairy vetch seed at \$0.50/lb. Contact: www.ernstseed.com; 1-800-873-3321.

Welter Seed Co. out of Southeastern Iowa, is selling hairy vetch seed at \$0.70/lb. Their variety is called Haymaker Plus and the recommended rate of use is 30lb/acre. Contact: 1-800-470-3325

--Pam Westgate, Stephanie DeGray

CUCURBITS

Fruit set, and fruit maturity, shows gaps as a result of aborted fruit set during the heat waves this summer. Some pumpkin and winter squash is nearly mature. If vines go down early, **sunsald** may be a problem. However, new fruit set is still going strong in some fields.

Vines are showing signs of **heat stress** (crispy, wilted, yellowed leaves, white streaks on stems), **Bacterial Wilt** (brown margins or interveinal areas, wilted vines and leaves), or **Powdery Mildew** (white fuzzy growths on upper or lower surfaces). **Watch for Downy Mildew** which can bring vines down quickly. Look for pale green areas or yellow angular spots with a corresponding downy, purplish fungal growth on the underside. Contact the disease clinic if you think you have this disease; it can hit the whole region at once.

EGGPLANT: VERTICILLIUM, FLEA BEETLES, LOTS OF FRUIT

Eggplant harvest is well underway and eggplant loves the heat. **Flea Beetles** are still active in eggplant (note: these are not the same species as on brassicas). Watch for **CPB, Potato Leafhopper**, and **Spider Mites**. **Verticillium Wilt** has been found in eggplant. This is following a one-year rotation to non-host crops, in the same field where we observed Verticillium in eggplant two years ago. Symptoms resemble those of Fusarium Wilt. The symptoms usually appear after fruit set, but this fungal pathogen can reduce production by 60 to 100% if the symptoms appear early in plant development. The first symptoms usually appear on the bottom leaves, which wilt and become yellowish. Eventually, leaf margins curl, turn brown, and may drop from plant. The plant appears dehydrated. Plants that become infected early are stunted.

The disease affects the plant by causing the vascular tissue to become woody and prevents the translocation of nutrients. A cross section of the stem will reveal a brown, woody tissue surrounding the pith.

Resistance is the most effective control, and has been bred into most tomato varieties, but not into eggplant or pepper.

Eggplant is highly susceptible.

Controls focus on reducing the inoculum in the soil. The fungus survives in debris from infected plants and also has long-lived structures that persist in the soil. Rotations of 3-4 years have been shown to reduce infections in potato.

Rotations with non-host crops such as corn or grass, and rotate away from eggplant, tomato, and pepper.

Remove crop debris, including both above ground plant parts and roots. The roots are the main source of the infecting spores, so special attention should be given to removal of the roots. Plants should be pulled from field after harvest.

-- M. Verson & R. Hazzard

SWEET CORN

It's a tough time for growing corn. Dry tips and wormy ears are becoming more of a problem at harvest time. The quality of corn is extremely variable. With bug pressure high at all crop stages, with extremely hot days and extremely dry soils, with water sources drying up, with heat causing harvests to bunch up, its getting harder to put out a top quality crop. Corn fests are underway and help encourage customer demand. Let's hope we can fill the demand.

Whorl stage corn: Scout for **Fall Armyworm**. Spray if >15% have active feeding and a caterpillar. Old damage with no worm in site suggests the culprit reached full size and went down into the soil to pupate. Feeding damage can reduce yield.

Pretassel and green tassel: Scout for **Fall Armyworm** and **European Corn Borer**. Spray if the counts, together, are >15% of plants infested.

Silks: Spray at an interval dictated by the level of **CEW** flight (see table below).

CORN EARWORM THRESHOLDS

Moths/Night	Moths/Week	Spray Interval
0 - 0.2	0 - 1.4	No spray
0.2 - 0.5	1.4 - 3.5	6 days
0.5 - 1	3.5 - 7	5 days
1.0 - 13.0	7 - 91	4 days
Over 13	Over 91	3 days

Fall Armyworm moths have been busy throughout the state and the results are obvious in the number of ragged leaves and piles of frass in whorl-stage and early tassel corn. This moth migrates into the state from the south, just like Corn Earworm. Typically FAW numbers are spotty and variable at different locations – more so than CEW. Right now, it seems that FAW has made its way all around the region. Captures of 44 -77 moths (see below) are **very high**. All growers should scout any corn that is in whorl or has emerging tassels. Where you see ragged feeding damage and sawdust-like pellets of excrement, you will likely find the caterpillar feeding inside the whorl or the opening tassel. These are smooth-bodied, brown and tan caterpillars with a dark head capsule (look for

the inverted white Y on the head – as you stare at the worm head-on). By comparison, European Corn Borers are light-bodied, smaller, with a black or rusty red head capsule. Corn Earworms have a golden head capsule, and may be green, pink or yellowish and are slightly hairy. **FAW should be cleaned up before the ears start to form.** Once ears develop, Fall Armyworm caterpillars move down from the tassel and bore through the side of the ear and settle in to feed. They are large, heavy feeders that make a big mess of the ear – like Corn Earworm, but in the side as well as the tip. Organic growers should use foliar BT sprays before silking; tip treatments will *not* take care of FAW and ECB in the side of ears.

Corn Earworm (CEW) trap catches have increased in most locations. What this means is you need to protect your corn with fresh silks since that's where CEW adult moths lay eggs. When the eggs hatch (in 2.5 to 3.5 days in the heat), the CEW larvae move right into the top of the ear. There is a small window to control the larvae before they get into the protected area of the ear. Small acreage growers can protect the ears by using the Zea-Later hand applicator within 6 days of ears first silking to apply corn or soybean oil plus B.t. For foliar sprays, be sure to keep up with tight spray intervals and start at fresh silking. When more than 70 to 80% of the silks are brown and dry, you can stop spraying that field. Dry silks are not attractive to the adult CEW moths.

In most locations, **European Corn Borer (ECB)** trap numbers are remaining high as well. **Corn Aphids** are building slowly in some fields. Scout your fields and if you find over 50% of your plants have corn aphids than a control may be call for. Warrior is pretty good at controlling Corn Aphid. When spraying Warrior for Corn 'Worms' an additional spray for Aphids is usually not needed. If using a soft product like

Spintor, Aphid predators will usually do a good job keeping down Aphid populations. Also be on the lookout for **Corn Sap Beetles**. These are small black beetles, pointy at both ends about a quarter inch long. They sometimes can get into silks and the top of the ear when they are around in high numbers.

Vegetable IPM Newsletter, Ruth Hazzard, Editor and Stephanie DeGray, Assistant Editor.

Where trade names or commercial products are used, no company or product endorsement is implied or intended. Always read the label before using any pesticide. The label is the legal document for product use. Disregard any information in this newsletter if it is in conflict with the label.

Sweet Corn Trap Captures & Scouting Data August 9 - 15, 2002							
Town	Date	ECB Z1	ECB E2	TOTAL ECB	CEW	FAW	% PT
		Iowa	New York				
Berkshire Region							
N. Bennington, VT	August 8 **	43	18	61	0	-	-
Sheffield, MA	August 15	13	2	15	8	-	-
Conn. River Valley North to South							
Walpole, NH	August 14	1	2	3	1	2	47
Plainfield, NH	August 14	4	6	10	0	2	9
Westminster, VT	August 14	0	53	53	1	0	1
South Deerfield	August 15	31	37	68	26	77	-
Whately	August 13	16	97	113	(peppers)	-	-
Sunderland	August 15	8	16	24	-	-	-
Hatfield	August 15	2	16	18	6	-	6
Hadley #1	August 15	56	11	67	-	-	-
Hadley #2	August 15	16	25	41	12	12	-
Feeding Hills	August 14	1	5	6	10	7	40
East/Central MA, North to South							
North Andover	August 9 **	1	38	39	12	0	20
Ipswich	August 15	5	6	11	30	1	30
Dracut	August 15	1	24	25	2	-	-
Lancaster	August 15	7	7	14	12	0	-
Still River	August 14	2	3	5	1	-	-
Concord	August 12	1	20	21	4	1	52
Leicester	August 13	7	0	7	0	0	-
Northbridge	August 13	7	9	16	3	7	55
Belchertown	August 14	8	2	10	2 *	3	-
Dighton	August 15	1	9	10	62	-	-
Rehoboth	August 15	17	0	17	47	-	-
Sharon	August 15	1	21	22	110	44	-
Abbreviations:							
ECB Z1: European Corn Borer Z (Iowa, I) strain; ECB E2: European Corn Borer, E (New York, 2) strain.							
CEW: Corn Earworm; FAW: Fall Armyworm.							
% PT: Percent of pre-tassel corn (unsprayed) with ECB or FAW caterpillars present, based on scouting 50 to 100 plants.							
* Trap fell over. ** NOTE captures are from last week.							