



UMASS  
**EXTENSION**



# Vegetable Notes

For Vegetable Farmers in Massachusetts

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## **CROP CONDITIONS**

Largely dry conditions persist, despite a brief but welcome rain across parts of the state earlier in the week. The dry weather has, so far, succeeded in keeping late blight in check, with the initial two infections in western Massachusetts still being the only confirmed reports of late blight in the state. Late blight severity values continue to be low to none.

Downy mildew of cucurbits has been confirmed on pumpkins near Albany, NY. Previous reports from the northeast were restricted to cucumbers, which indicated that there was only one strain present in our area and only cucumbers and cantaloupe were at high risk. With this new report it appears that a strain that affects pumpkin and squash has arrived in the northeastern US. This puts all cucurbit

varieties at equal risk. There are still no reports of downy mildew in Massachusetts on crops other than cucumber, but at this stage we would have to assume that all cucurbit crops are at high risk.

On Tuesday, August 24, UMass Extension will host a twilight meeting on Deep Zone Tillage in Hadley, MA. Two growers who have been experimenting with the system will be on hand to discuss their experiences and equipment. Anu Rangarajan, Cornell State Specialist for Fresh Market Vegetables, who has years of research and on-farm experience in reduced till systems, will answer questions about cover crops, crop establishment, fertility, and weed control in both organic and conventional deep zone till systems. See the Upcoming Meetings section or the flier attached to the email version of this newsletter for more details.

## **BRASSICAS: FALL INSECTS AND DISEASES**

Many growers expand their Brassica production for fall, as these crops do especially well at cooler temperatures, and the harvest season can easily be extended through October or later. These crops get their start during the high temperatures and high humidity of August, then face cooler periods of high humidity and long leaf wetness as fall comes on. These conditions can result in significant disease pressure from August through harvest.

On the insect side, flea beetles can be extremely damaging in August when crops are getting started, and caterpillar pressure usually builds up with cabbage looper added to the mix. Cabbage looper has arrived in Massachusetts so watch for increased feeding damage in fall Brassicas. Thrips may invade the crop after onions are harvested. A late summer flight of cabbage maggot fly can cause damage to Brassica root crops. If one manages to navigate the crop through these pests successfully during August and the first half of September, then by late September insect pressure will decline!

Over the next two weeks we will give an overview of insects and diseases that affect fall Brassica crops.

### **INSECTS**

**Cabbage aphid.** Cabbage aphids tend to build up in fall Brassicas. These are gray-green aphids with a waxy coating that makes them appear whitish gray. Winged aphids arrive, and produce colonies of wingless nymphs that also reproduce.



*Aphids on a Brassica leaf*

Colonies tend to form in younger, upper leaves, in cabbage heads, between cauliflower curds, or in long-season Brassicas such as Brussels sprouts. Large colonies can stunt plants or cause curled leaves, and will contaminate harvested parts.

Natural enemies that attack aphids (predators, parasitic wasps, and a fungal pathogen) often keep colonies under control. If you find a small number of aphids, check again in a few days to see if numbers have declined or are increasing. Aphids can get out of control, and if numbers are building, insecticides may be needed. University of Connecticut recommends a threshold of 10% infested plants (ie, plants with aphids on them, whatever the number) in cabbage, broccoli, cauliflower and Brussels sprouts after heads or sprouts begin to form. It is important to bring numbers down before damage occurs.

There is a range of chemistries available among insecticides labeled for this pest: including pyrethroids and organophosphates, neonicotinoids, pymetozine, and insecticidal soap. Note plant-back restrictions and limits on which Brassicas are allowed. Always uses a spreader sticker to obtain better coverage and more insecticide persistence. Insecticidal soaps are capable of reducing cabbage aphid and are relatively easy on natural enemies. It is important for the material to contacts the pest at the time of application, as it has no residual activity once it has dried. Ensure good coverage of the undersides of leaves. Several applications may be needed.

**Cabbage root maggot** can cause root injury in fall turnips, rutabagas and daikon. Timing of controls is more difficult than in spring crops, and root crops are especially sensitive to injury since the root is marketed. The adult flies are typically active in late August or early September, but the precise flight period is not well known and not easy to detect. Yellow sticky cards can be used to detect adult flight. Periods of higher soil moisture and cooler temperatures will favor survival of eggs and larvae, and greater injury. Hot dry soils reduce egg survival.

The only labeled chemical control is chlorpyrifos (eg Lorsban 75 WG), which should be used preventatively as a banded spray at planting or directed to the base of the plant after transplanting, with 40-100 gal/A water.

Non-chemical controls are in short supply. We do know that row covers, which can be used effectively in spring crops, do not seem to work well in fall root crops for two reasons: the growing conditions under the cover seem to reduce root growth and yield, and the exclusion of insect predators allows any aphids captured under the cover to multiply without limit!

**Onion thrips** can be a problem in August and September in fall Brassica crops such as broccoli, kale, collard, or cabbage. They may damage open leaves and cause scarring, rust or yellow-colored areas and generally reduced vigor in the plants. It appears that they are moving out of onions after that crop matures, in search of succulent, actively-growing Brassicas. Onions tend to dry down around the same time that late Brassicas are put out, so close plantings can be a source of high and damaging populations of thrips. The first signs of leaf injury are small slightly darkened areas on the underside of the leaf, where thrips scraped through the epidermis with their rasping mouthparts. These areas develop brown scar tissue as they heal over. With close inspection, the tiny, yellow or slightly orange thrips can be seen moving around on the leaf. Such damage spreads over the whole leaf, causing it to have a brown, roughened look. Overall, the plant declines in vigor. Cultural controls include separating alliums from Brassicas, especially fall crops; incorporate crop residue promptly; avoid planting either crop group near alfalfa or wheat.

Insecticides include: Broad-spectrum products include numerous synthetic pyrethroids (including Warrior, Pounce, Capture, Baythroid, Ammo, Proaxis, Mustang) and one neonicotinoid, imidacloprid (Admire Pro). Biorational or organic products include spinosad (Entrust, OMRI listed); spinetoram (Radiant SC); novaluron (Rimon 0.83EC, insect growth regulator, not for mustard greens); pyrethrin (PyGanic EC5.0, OMRI listed).



*Root Maggot Damage on Daikon*

**Caterpillars.** In August migratory flights of cabbage looper from southern states are more common. At the same time, imported cabbageworm numbers often increase in the late summer. This combination makes it critical to monitor crops closely. Check undersides of leaves for eggs and small larvae. As heads begin to form in cabbage, cauliflower and broccoli be sure to check the crop to avoid injury to the head. The cabbage looper is a heavy feeder that creates ragged, large holes in foliage, on both frame leaves and heads. Loopers are light green, smooth with wavy white or light yellow lines down the back and sides. Full-grown larvae reach 1 ½ to 2 inches. At rest or when disturbed, cabbage loopers of any size will raise the middle of their body in a characteristic “loop” shape. Eggs are round, light green or yellow, and laid underneath the foliage. Imported cabbageworm is fuzzy and sluggish, and makes a mess of the tender tissue at the center of the plant with holes and soft green excrement. Diamondback continues to feed throughout the season, but often stays on outer leaves. See



*Cabbage Looper*

June 17, 2010 Vegetable Notes for more details on caterpillars.

**Cross-striped cabbageworm** deserves special notice because it has expanded its range across southern New England. It has 2 to 3 generations per year and is most abundant on late-season plantings. Unlike the three major caterpillar pests on Brassicas, the cross-striped cabbageworm (CSC) lays its eggs in batches (3 to 25) rather than singly. Egg batches are yellow, flattened, and attached to the lower leaf surfaces. Larvae grow to 3/4”-long in 2 to 3 weeks. The caterpillars are light bluish-grey on top and green underneath, with numerous black bands across their backs and a yellow line down each side. Larvae produce small holes in leaves until only veins remain or target terminal buds and sprouts or may burrow into heads. Plants with larvae are often completely skeletonized. Adjacent plants may be left undamaged. Plow under debris after harvest and control wild mustard and Shepard’s purse to help minimize pest population. Spray if 5% of the plants are infested with CSC. Use selective insecticides to preserve parasitic wasps.



*Cross striped cabbage worms*

**Flea beetles** increase in number in early August, with the emergence of new summer adults from underground. They feed heavily on fall Brassicas early in crop growth. Flea beetle damage early in crop growth delays harvest and reduces yield. There may be a partial second generation where new eggs are laid and new adults emerge in fall, but most of population departs by early September to find overwintering protection in the field borders. Whenever possible, plant fall Brassica far away from spring Brassica crops. Avoid fields that have harbored Brassica weeds. Control damage with selective sprays to avoid suppressing natural enemies of aphids.

For all diseases and insects, see the New England Vegetable Management Guide for details on protective fungicides and insecticides.

*-R Hazzard, Bess Dicklow, A. Cavanagh.*

## **ASPARAGUS PRODUCERS ELIGIBLE FOR ASSISTANCE**

A grower, of any size, who produces asparagus and can meet the USDA TAA for Farmers eligibility requirements (see below), is eligible for an intensive technical assistance training program, professional consultation in the development of a business plan, and a cash payment of up to \$12,000 to help implement the plan. Training to help asparagus producers increase profitability, improve production efficiency, consider marketing opportunities, evaluate alternative enterprises, and in general become more competitive, will be developed and provided by Extension Educators, Specialists, and industry experts. Training will be available on-line and in person-to-person workshop formats. Information on the Asparagus TAA

for Farmers program is available at any local USDA Farm Service Agency office or on the web at: <http://taaforfarmers.org> or (<http://www.fas.usda.gov/itp/taa/taa.asp> ), or by emailing or calling John Nelson at the WSU Western Center for Risk Management Education, [jgnelson@wsu.edu](mailto:jgnelson@wsu.edu), 509-477-2176.

**Eligibility Requirements:** Asparagus producers must provide documentation that they produced asparagus in the 2009 marketing year and during at least one of the three previous marketing years (2006, 2007, or 2008). Producers may also need to certify that their production or price declined from previous years. Interested family members or business partners may be listed as an alternate on the application form if producers are unable to attend training. Application deadline is Sept. 23, 2010.

## **PUMPKIN AND WINTER SQUASH HARVEST AND STORAGE**

Winter squash and pumpkin fruit sitting in the field face a daunting list of diseases and insects – not to mention possible passing hurricanes -- that could threaten fruit quality. Early harvest and careful storage is often preferable to leaving fruit in the field. This is especially true if you know that your pumpkins or squash are in fields that are infected with *Phytophthora* blight.

Since the pumpkin market lasts from Labor Day to Halloween, pumpkins may need to be held for several weeks before they can be marketed. When is it best to bring them in, and when to leave them in the field? If the vines are in good condition, the foliage can protect the fruit from sunscald. If foliage is going down from powdery mildew or downy mildew, this may help with ripening and make harvesting easier, but also increases the risk of sunscald or injury to pumpkin handles. There can be extra work involved in bringing fruit in early, especially for growers who normally have pick-your-own harvest, but we recommend that growers harvest as soon as crops are mature and store under proper conditions, if it is feasible. Attention to curing and handling will go a long way toward improving the life of winter squash and pumpkin fruit. If you need to hold fruit in the field for pick your own or any other reason, using a protectant fungicide (eg chlorothalonil) can help protect from black rot, powdery mildew and some of the other fruit rots.

What about pumpkin stems, ie, handles? In some cases, it's the handle that sells the pumpkin. Pumpkins may not be marketable if the handle is broken off or dried up. Ideally, if the timing is right, pumpkins would be cut one to two weeks prior to marketing. However, if they are harvested now they may sit much longer before being sold. The discussion of how early to cut handles is an old one with many different opinions. One view is that it is advisable to cut the handles from the vine to save them from advancing powdery mildew and reduce shrinkage. Whether or not handles shrink and shrivel after cutting is affected by plant stress, genetics (variety), moisture and temperature conditions, and disease. There are many diseases that can affect handles, including *Plectosporium*, *Fusarium*, Black Rot, and *Alternaria*. Again, proper curing and storage conditions are key.

Ideally, pumpkins should be harvested when fully mature, with a deep orange color and hardened rind. However, as long as pumpkins have started to turn color, they will ripen off the vine if held under the proper conditions. While not ideal, this may be preferable to leaving them in the field if conditions are not favorable. If necessary, pumpkins can be ripened in a well-ventilated barn or greenhouse. The best temperatures for ripening are 80-85 degrees Fahrenheit with a relative humidity of 80-85%. Night temperatures should not drop below the sixties. Even if pumpkins are ripe, a period of curing can improve storage life. The curing period should be about 10 days. During this process, the fruit skin hardens, wounds heal and immature fruit ripens – all of which prolongs the storage life.

Pumpkins should be stored in a cool, dry place. Ideal temperatures are between 50° and 60° F and relative humidity of 50 - 70%. Higher humidity allows condensation on the fruit with risk of disease, and lower humidity can cause dehydration. Higher temperatures increase respiration and can cause weight loss. Temperatures lower than 50 F cause chilling injury (see squash, below). In a greenhouse, temperature can be managed with ventilation on sunny days. Unless it is quite cool, heat is not likely to be needed if the house is closed up at night.

Often it is not feasible to harvest pumpkins early and store them until they can be marketed, and so they must be 'stored' in the field. If vines and fruit are healthy, storage in the field can be successful for a few weeks. If the vines die back, damage to the fruit from sun, disease and insects is more likely. In any case, it is important to scout for insects feeding on the fruit and handles, which may include squash bug nymphs or adults, or striped cucumber beetle. Control them if damage is evident. In fields that have a history of *Phytophthora* blight, *Fusarium* fruit rot, or black rot, field storage may

increase the incidence of these problems, particularly if we have a period of wet weather or a major storm while fruit is sitting in the field. This has been one of the causes of significant losses in recent years, and one reason that we recommend bringing fruit in as soon as it is mature.

Growers often plan to store winter squash for much longer than eight weeks. Fruit that are free from disease and haven't been subject to much chilling (below 50°F) should be selected for long-term storage. Fruit from fields where *Phytophthora* is present are not the best choice for storage.

Storage life depends on the condition of the crop when it comes in and your ability to provide careful handling and a proper storage environment. All fruit placed in storage should be free of disease, decay, insects, and unhealed wounds. When harvesting squash and pumpkins, it is important to handle the fruit with care to avoid bruising or cutting the skin. Despite its tough appearance, squash and pumpkin fruit are easily damaged. The rind is the fruit's only source of protection. Once that rind is bruised or punctured, decay organisms will invade and quickly break it down. Place fruit gently in containers and move bins on pallets. Use gloves to protect both the fruit and the workers. Removal of the stem from squash (butternut, Hubbard, etc.) will also decrease the amount of fruit spoilage because the stems frequently puncture adjacent fruit, facilitating infection.

A period of curing after harvest can help extend storage life of squash. This may be done in windrows in the field -- especially with a series of warm, dry days -- or by placing squash in a warm dry atmosphere (70-80°F) with good air circulation, such as a greenhouse, for up to two weeks. This pre-storage treatment permits rapid drying of the outer cell layers, and when combined with a dry atmosphere for storage inhibits infections that can take place at this time. Any clean cuts during harvest are likely to heal over and are no longer a source for injury or infection.

Take care to avoid subjecting squash to chilling injury. Chilling hours accumulate when squash or pumpkin is exposed to temperatures below 50°F in the field or in storage. Injury increases as temperature decreases and/or length of chilling time increases. Chilling injury is of particular concern with squash intended for storage because it increases the likelihood of breakdown. If squash has been exposed to chilling injury it should be marketed first and not selected for long-term storage. Remove squash from the field if temperatures likely to drop below fifty degrees for any length of time.

After curing, move squash or pumpkins to a dry, well-ventilated storage area. Pressure bruises can also reduce storage life, so avoid rough handling, tight packing, or piling fruit too high. Fruit temperature should be kept as close to the temperature of the air as possible to avoid condensation, which can lead to rot. Ideally, the storage environment should be kept at 55-60°F with a relative humidity of 50-70%. Lower relative humidity increases water loss, resulting in reduced weight, and if excessive, shriveling of fruit. High relative humidity provides a favorable environment for fungal and bacterial decay organisms. Under ideal conditions, disease-free pumpkins should have a storage life of 8-12 weeks and butternut squash up to three or four months. Even if it is difficult to provide the ideal conditions, storage in a shady, dry location, with fruit off the ground or the floor, is preferable to leaving fruit out in the field.

As you plan for storage and marketing, keep in mind that the market for pumpkins seems to get earlier every year. Fall decorative displays include pumpkins, and those displays begin showing up as Labor Day approaches. One of the best solutions to early-maturing pumpkins may be finding an early market.

*--R. Hazzard; many thanks to the following sources: J. Howell, A. Carter, and Robert Wick. University of Massachusetts; Dale Riggs & Robert Rouse, Pumpkin Production Guide, NRAES; Maurice Ogutu, University of Illinois Extension, in Vegetable Growers News, August 2004; and Liz Maynard, Purdue University; Andy Wyendandt, Rutgers Univ.*

## **BLOTCHY RIPENING IN TOMATOES**

Blotchy ripening and graywall have become problems on some tomato crops. Blotchy ripening gets its name because the fruit ripen unevenly, with patches that don't ripen or do so after the rest of the fruit are over-ripe. Graywall is aptly named because they walls or skin of the tomatoes appear somewhat gray in color. There is also a dark brown necrosis in the wall of the tomatoes which is apparent when cut. These two disorders are believed to same, but with different symptoms. There are varietal differences in susceptibility and the way the symptoms appear. On some varieties the symptoms appear as graywall, while on others they appear as blotchy ripening.

The exact cause of these problems is not known, but environmental factors and perhaps disease may trigger the symptoms. Anything that suddenly stops or slows plant growth may induce this problem. This can be an excess or lack of moisture, low or hot temperatures, a period of cloudiness, or a nutrient problem such as insufficient nitrogen or potassium. Tobacco mosaic virus (TMV) may also trigger these symptoms. Typically the symptoms appear about two or three weeks after the event.

Some of these environmental factors are beyond your control, but it is practical to maintain proper fertility and adequate soil moisture and prevent TMV.

–John Howell

## **SWEET CORN REPORT**

Where there is irrigation, corn plants are doing well. The eastern part of the state is suffering even more than the central and western parts of the state from the lack of rainfall and corn plants may be stunted with curled leaves. More and more early and mid season fields are being tilled under and ready for cover crops. The sooner that rye or oats is planted, the more nitrogen you will recover from the soil and hold over for next year. Cover crops planted in August develop larger, deeper roots and more canopy – providing better Nitrogen uptake, less leaching, and more protection of soil from erosion.

The second generation of European corn borer flight is over or dwindling down across the state. If you are still catching adults then there are still eggs being laid and hatch and feeding damage will occur. It may be necessary to spray for ECB if you are not spraying for CEW. Continue scouting if weekly flights are above 10 and spray when damage is 15% or greater in the field. It is also important to know that the ECB overwinters here in New England in corn stalks and stems of other host plants. If you are finished picking in a field make sure to chop stalks and till in the plant debris to cut down on next years population. Pepper growers can stop ECB sprays a week after counts drop below 20 moths per week.

Corn earworm is present everywhere, Hatfield called in with 206 moths caught this week! Southern New Hampshire is still in the hundred for the most part. The average trap capture for this week was 45 in Massachusetts. High day and night temperatures have not allowed spray schedules to be safely stretched out an additional day. Weather patterns have not brought any major new moth flights to the northeast in the past week however, CEW remains the driving force behind spray schedules in silking corn. If you

<b>Location</b>	<b>ZI</b>	<b>EII</b>	<b>Total ECB</b>	<b>CEW</b>	<b>FAW</b>
<b>CT Valley</b>					
South Deerfield	1	6	7	0	0
Sunderland	0	2	2	18	0
Hadley	0	0	0	25	11
Southwick	1	1	2	10	0
Hatfield	0	0	0	206	0
Feeding Hills	1	2	3	30	3
<b>Central &amp; Eastern MA</b>					
Dracut	0	2	2	56	8
Concord	0	1	1	12	3
Northbridge	0	1	1	5	4
Framingham	0	2	2	37	0
Spencer	0	0	0	6	0
Sharon	0	0	0	87	0
Still River	0	0	0	58	0
Lancaster	1	0	1	28	0
Littleton	1	30	31	60	5
Tyngsboro	0	2	2	60	5
Rehoboth	0	0	0	4	2
<b>Berkshires</b>					
Sheffield	5	1	6	36	0
<b>NH</b>					
Litchfield, NH	9	0	9	121	140
Hollis, NH	2	0	2	171	13
Mason, NH	0	0	0	91	0

Corn Earworm Threshold		
Moths/Night	Moths/Week	Spray Interval
0-0.2	0-1.4	no spray
0.3-0.5	1.5-3.5	every 6 days
0.6-1	3.6-7	every 5 days
1.1-13.0	7.1-91	every 4 days
Over 13	Over 91	every 3 days

have caught under 7 moths per week you can move to a five day spray schedule. Make sure to move your CEW traps into fresh silk so that your counts reflect current moth activity. Most growers rely heavily on synthetic pyrethroids such as Warrior for CEW control, but reliance on a single type of chemistry is not the best approach for any insect or disease pest. For rotation of insecticide chemistry, alternate synthetic pyrethroid products with Lannate (a carbamate) or a new insecticide, Belt SC (flubendiamide) which is used at 2 to 3 oz/A (1 dh, REI 12h, Group 28). Trials in mid-Atlantic states indicated that this new chemistry is very effective. Synthetic pyrethroids are generally cross-resistant; that is, if resistance to one pyrethroid is present in a population, then that population will also be resistant to other pyrethroids. Spinosyn products (Entrust, and Radiant) have efficacy against corn earworm at moderate pressure so could provide another rotation product under some conditions. The dry formulation (Entrust) that is allowed in organic production has been working well for growers, when used in an IPM program in organic fields. Organic growers should try using direct oil treatments for CEW control as well. See our Organic Control for CEW in Sweet Corn article published in the July 22, 2010 issue of Vegetable Notes for more information.

Fall armyworm populations seem to be under control in fields where Radiant, Lannate and Avaunt were used. Warrior has been shown to be less effective in the past three years on heavy populations feeding in whorl stage corn. Recommended materials include Avaunt at 2.5-3.5 oz/acre in whorl stage corn. Radiant SC at 3-6 oz/acre can be used in silking corn where sprays are warranted.

- Amanda Brown

## **UPCOMING MEETINGS**

### **26th Annual Massachusetts Tomato Contest**

**Monday, August 23, 2010**

Please join us for the 26th annual Massachusetts Tomato Contest. This year's tomato contest will be held at the Boston City Hall Plaza Farmers' Market.

The event is sponsored by the New England Vegetable and Berry Growers Association in cooperation with the Massachusetts Department of Agricultural Resources. This friendly contest is designed to increase consumer awareness of local agriculture.

Schedule of Events:

9:00 am to 10:15 am – Tomato drop-off and registration

10:30 am – Judging of tomatoes by panel of experts

12:30 pm– Presentation of awards

If you cannot attend the contest on Monday, tomato entries can be dropped off Saturday August 21st or Sunday, August 22nd at a number of locations across the state. Tomatoes that are dropped off will be brought to Boston for judging. See [http://www.mass.gov/agr/markets/tomato\\_contest.htm](http://www.mass.gov/agr/markets/tomato_contest.htm) for more details and a list for drop-off sites.

### **Deep Zone Tillage Twilight Meeting & Grower Discussion**

**August 24, 2010, 5pm-7:30 pm**

**Cemetery Rd., Hadley, MA**

Meet with Alan Zuchowski and Wally Czajkowski, who have both acquired zone building equipment and have been experimenting with Deep Zone Tillage (DZT) in sweet corn, vine crops and other crops. Hear the ups and downs of their experience, see the equipment, and visit some experimental fields. Both are enthusiastic about the system. Anu Rangarajan, Cornell State Specialist for Fresh Market Vegetables, who has years of research and on-farm experience in reduced till systems, will answer questions about cover crops, crop establishment, fertility, and weed control in both organic and

conventional zone till systems. UMass extension personnel will be on hand to talk about their research into how this system affects soil and soil-borne diseases, and how you can try DZT on your farm next year without having to invest in expensive equipment. Plans for DZT next season start this fall with your choice of cover crops!

We will meet at the field on Cemetery Rd, in Hadley., MA 01035. Look for signs where West St turns north off Rte 9, then turn left on Cemetery Rd and watch for signs and equipment. Park on the side of the road. For more information contact Andy Cavanagh at 413-577-3976.

One pesticide applicator contact hour will be available.

### **Weed Control & Crop Performance Twilight Meeting**

**September 1, 2010; 5-7 pm**

**URI Agronomy Building and Fields, Plains Road, Kingston, RI 02881**

Professor Rebecca Brown will discuss the results of current research at URI, focusing primarily on weed control and crop performance in cover crop/reduced tillage systems. She will also present results of variety trials on various vegetables including: tomatoes, peppers, potatoes, cucumbers

Participants will receive a sit-down supper as well as 1 hour of pesticide credits (applied for).

Cost: \$15 per person at the door. Make checks payable to URI. PLEASE RSVP to Kristen Castrataro by August 23rd: (401) 874-2967 or (401) 256-7393 or [kcas@uri.edu](mailto:kcas@uri.edu) to ensure there is enough food for everyone.

### **Northeast Greenhouse Conference and Expo 2010**

**November 3 - 4, 2010**

**DCU Center, Worcester, MA**

New England Floriculture, Inc., invites you to attend The Northeast Greenhouse Conference & Expo in Worcester, Massachusetts and join other growers and retailers for the largest nationally recognized floriculture industry show in New England.

For registration and details, please see: <http://www.negreenhouse.org/>

*Vegetable Notes. Ruth Hazzard, editor and Amanda Brown and Andrew Cavanagh, assistant editors. Vegetable Notes is published weekly from May to September and at intervals during the off-season, and includes contributions from the faculty and staff of the UMass Extension Vegetable Program, other universities and USDA agencies, growers, and private IPM consultants. Authors of articles are noted; author and photographer is R. Hazzard if none is cited.*

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