



UMASS
EXTENSION



Vegetable Notes

For Vegetable Farmers in Massachusetts

Volume 22, Number 18

September 1, 2011

IN THIS ISSUE:

Crop Conditions
Dealing with Flooded Fields
Sclerotinia White Mold
Know Your Roots
Fall Weed Management
Sweet Corn Report
Upcoming Meetings

CROP CONDITIONS

Growers are picking up in the aftermath of Tropical Storm Irene. Across the state the impact ranges from total devastation of fields and the crops in them and loss of farm infrastructure due to huge flash floods, to moderate rains and winds that left crops close to their pre-storm conditions. Of course, in Irene's terms rainfall of 5 inches became 'moderate' (though some areas received significantly less than that) compared to the 11-13 inches that drenched hilltowns. As everyone is well aware, severe flooding occurred in tributaries of the Connecticut River from Connecticut into Vermont. In MA, Franklin, Hampshire and Berkshire Counties suffered the most damage. Some farms lost large portions of their fall harvest. See article below regarding post-storm options if you had flooding or ponding in your fields. In advance of the storm growers brought in as much of their mature winter squash

and pumpkin crops as they could, and picked other crops that could be stored. Harvest of fall crops continues including onion, potato, squash, carrots, cabbage – although crops destined for storage, except for onion and winter squash, will wait for cooler weather.

Fall-grown crops are on the increase, so there are plenty of crops that still have a lot of growing ahead of them. Crops that are small will need additional fertilizer after these rains. If possible, cultivate to aerate the soil and sidedress with your normal fertilizer applications for bare ground crops or inject through the drip for crops on plastic. If the crops on bare ground are too large to sidedress, consider foliar applications of Urea (9 lbs/100 gal of water at 50-100 gal/A) or other foliar feed. Continue your normal pest management programs, as diseases are likely to be more severe after the storm and insects are still active. Corn earworm flights are very high and will affect the late season corn that remains. Phytophthora, Pythium, Rhizoctonia and Sclerotinia will be more prevalent after all these rains. Late blight has been confirmed on tomato in eastern NY and southern NH – this disease keeps creeping closer to Massachusetts, but thus far there are no confirmed cases in MA or CT. There are plenty of severe cases of early blight, Septoria leaf spot, bacterial canker, botrytis, and Fulvia leaf mold that have alarmed growers enough to send samples in for identification, but none have been late blight so far.

Take a break from harvesting on Wednesday September 14 to come to Southeast MA for an exciting farm tour at the Clegg family's Four Town Farm in Seekonk MA. This multi-generational farm operation has a lot of innovative projects for a full program. See flyer for more details. An October twilight meeting at Brookfield Farm in Amherst MA is in the works, featuring fall high tunnel greens and tomatoes, winter root cellar storage, and CSA operations. Stay tuned for more details.

FOOD SAFETY ADVICE TO COMMERCIAL GROWERS REGARDING FLOODED CROPS

Many growers across the state have fields that had flooding or ponding in the wake of hurricane Irene. Questions always arise as to what effect flood waters may have on the safety of crops. There is no easy answer. This article is a compilation of information from several sources to help growers understand how to report and seek assistance to mitigate crop losses, and how to decide what crops might be salvageable after the waters recede.

Flooding vs. ponding

Floods occur when water or runoff from surface waters such as rivers, lakes or streams overflows and runs into fields. Wa-

ter from heavy rainfall that pools on the surface of saturated soils is NOT considered flooding and is therefore not bound by FDA restrictions and guidelines regarding flooded crops. If water puddles in a field due to high rainfall, the chances of contamination are minimal.

Fields that were saturated with collected rainfall may suffer crop losses from several causes including plant death from being underwater or with roots in saturated soil, or outbreaks of plant disease.. Diseases are most likely to develop from pathogens that bloom in wet soil and warm humid air such as Fusarium, Sclerotinia white mold, black rot of squash, or *Phytophthora capsici*, and where crops are in contact with soil.

Flood waters are more serious because they are likely to contain contaminants. Contaminants may include: raw sewage, raw manure, agricultural or industrial chemicals, heavy metals or other chemical contaminants. Microbial pathogens that could be in flood waters include bacteria, viruses, and parasites. These may come from upstream farms and rural septic systems, urban lawns, roadways, buildings and industrial sites, or overflow from municipal sewage systems. In flooded areas in the Connecticut River Valley and in the Berkshires, the periods when flooding was at its peak were also periods when municipal water treatment plants were overflowing and releasing sewage into the rivers. Likewise, water was also flowing over fields or barnyards with livestock. Thus *E. coli* contamination is a real threat in any flooded areas downstream.

The word contaminated is often used but remember that this word means that the crop would be unsalable because of a known food safety risk from microbial or chemical contaminants.

Reporting losses and seeking financial assistance

Before cleaning up or destroying crops in flooded fields, check with your crop insurance and/or local Farm Services Agency (FSA) representatives regarding exact documentation to certify losses, procedures for initiating claims, possible financial assistance.

Take photos of damaged field for visual documentation. Estimate crop value and degree of losses.

Contact your county FSA office and fill out a crop loss report. This benefits your region because it helps to document the extent of damage to crops in your county which will determine eligibility for federal disaster aid. It will benefit you by establishing what level of damage you sustained. You do not need to have crop insurance to be eligible for disaster aid should your county be eligible. The state FSA office can link you to counties: phone 413-253-4500 or find county office listings online. USDA Farm Service Agency's (FSA) will be submitting documentation for federal emergency assistance. One program that may become available is the Emergency Conservation Program (ECP) which provides emergency funding and technical assistance for farmers and ranchers to rehabilitate farmland damaged by natural disasters and for carrying out emergency water conservation measures in periods of severe drought.

If you have crop insurance, contact your crop insurance representative to arrange a visit from the crop adjustor to determine extent of losses.

Contact NRCS offices if you have technical questions on soil impacts or movement and placement of sediment (below).

FDA guidelines regarding harvest

The Food and Drug Administration has issued guidelines regarding harvesting crops from flooded fields. Because of the microbial and chemical contaminants in floodwater, the U.S. Food and Drug Administration (FDA) considers crops where the edible portion has come in contact with flood waters to be 'adulterated' and not to be sold for human consumption. Following FDA guidelines, growers should discard all crops that have edible portions that have come in contact with flood water.

A thirty-foot buffer (area to turn equipment) should be maintained between the crop and flood areas. To reduce the chances for cross-contamination do not drive through the flooded areas to harvest.

There may be some gray areas where growers may use their discretion.

Crops near flooded areas or those that were flooded without the edible part of the plant coming in contact with flood water (such as sweet corn or staked tomatoes) need to be evaluated on a case by case basis. If the edible portion did not contact



Partially flooded tomatoes

flood waters and can be harvested without contacting contaminated soil, then it may be considered safe, although further washing and disinfecting would be recommended.

Crops in which the edible portion develops after flood waters recede are not automatically deemed adulterated. This could include some fall vegetables that had only mild or short-term flooding and are early in their development, so that harvested portions will be growth that occurred after the flood.

If your well head was submerged, re-test your well water to make sure that only safe, potable water comes into direct contact with produce. For a list of Massachusetts lab that test of *E. coli* click here: http://extension.umass.edu/nutrition/images/stories/food_safety/gap_manual/Section_08/MA_Water_Quality_Standards_and_Testing_in_MA/MALabs.pdf

Practical and food safety considerations regarding harvest

If fields are flooded because of a stream or river overflow there is increased chance of contamination but it is not certain that there is a problem. If you suspect that a sewer, septic tank, manure pile, or some other direct contaminant is part of your flooding, then the affected part of the crop, especially those that are not cooked, should not be harvested because levels of *E. coli* will likely be high.

Leafy greens including lettuce, kale, collards, cabbage, cauliflower, spinach, mustard greens, and others are not salable after being flooded because they are full of mud. In this case, it is the mud and not a biological contaminant which is the problem. Also for these crops, contamination with *E. coli* will likely not be helped with time and these crops cannot be easily disinfected.

For fruiting vegetables such as pepper, tomato, eggplant, cucumber, summer squash, and zucchini, the decision to harvest and sell should be made on the basis of whether 1) portions of the crop remained above the floodwaters and 2) whether the crop can be washed clean of the mud and disinfected. *E. coli* levels decline under dry conditions. Thus, a few days of time with no further flooding will help reduce any *E. coli* levels that may be there. For any of the fruiting vegetables, a chlorine rinse or dip with 100-150 ppm chlorine can be used during the packing process to add an extra layer of safety.

Crops such as winter squash and pumpkins, if they survive a flood, will be highly susceptible to fruit rots. Time will pass before harvest and the only real issue may be the mud and your ability to wash it off. Taller crops such as sweet corn will have minimal issues with both mud and *E. coli*.

Growers need to use their best judgment and be vigilant of any direct contamination.

Remember that there are microbial contaminants there all the time, in soil and in many water sources. In Massachusetts, anything less than 126 cfu's *E. coli* is considered in the acceptable range for irrigation and consumption (CFU= colony forming units, a measure of microbial population density). Even potable water guideline in MA is less than 20 cfu's - not zero. (Note this varies by state; Vermont's guideline is zero). Thus microbial risk is important, difficult to assess, and site-specific!

The risk of crop breakdown due to disease is a major consideration. This is not only a food safety issue, but produce quality. How many have harvested eggplant, peppers or watermelon and let them set a day to find the fruit breaking down? Have you shipped a load that looked good and had it returned running out of the trailer? It is better to make sure the produce is sound before shipping than paying to have it returned. This risk is nearly as high for fields with ponding (no contamination from outside the field) as for flooding. Phytophthora is a major concern with vine crops and peppers. Anthracnose and early blight can develop in tomatoes after harvest.

If there is winter squash and pumpkins in the field ready to harvest, it may be advisable to let them set for a few days before picking up. That will give the bad fruit a chance to break down. That said, don't let mature fruit sit for long periods in the field – it is safer stored in bins, where you can have at least some control over the temperature, air circulation, and humidity. When harvested make sure the squash and pumpkins can dry off completely so there are no rot problems. Cure under ideal conditions. (See last week's issue for more on squash and pumpkin harvest and storage). Consider wiping the fruit with a chlorine solution (100-150 ppm) to reduce microbial load on the surface.

Impacts on soil and field cleanup

As floodwaters recede the sediment and erosion become visible and cleanup begins. However, before going on to the fields, be sure the soil has drained and is workable; working it too wet will exacerbate compaction problems. It is important that the sediment deposits are spread out evenly on the field before turning it under. An inch or two is not a problem, but if sediment is 6 inches or more, should be pushed around and evenly distributed before being incorporated. Silt can have benefits to soil – after all, flooding is why we have deep silt loams in river valleys - but it will be low in organic matter. Test soils after incorporation to determine further soil amendments that may be needed. When sediment is moved, it should not be dumped into wetlands; this is in violation state and federal wetlands regulations. Contact your local NRCS office regarding technical assistance and possible special funding for cleaning up.

To protect the soil from further erosion, it is advisable to plant a cover crop on fields that cannot be re-planted soon with an edible crop. Cover crops can also help suppress weeds, and improve overall soil health. At this time of year (early fall) small grains such as oats, wheat or winter rye are good choices, with or without hairy vetch for adding fixed nitrogen.

--Andrew Cavanagh, Rich Bonanno, Ruth Hazzard, UMass Extension. The article above also drew on summary of information compiled by Ginger Nickerson of the UVM Extension Center for Sustainable Agriculture. For her full article, please see <http://newfarmerproject.wordpress.com/2011/08/30/reporting-flood-losses-and-handling-produce-from-flooded-fields/> We also appreciate information provided by Tom Akin, NRCS State Conservationist, and Dick Burke, MA State FSA Director.

SCLEROTINIA WHITE MOLD

White mold is caused by *Sclerotinia sclerotiorum*, which causes disease on more than 360 different plant species including beans, tomatoes, cabbage, lettuce, carrots and peppers. The disease can cause severe losses to susceptible crops under favorable conditions. With the recent wet weather conditions have been favorable for the development of this disease.

Life cycle. *Sclerotinia* overwinters in the soil as sclerotia (small, black resting structures that look much like rat droppings) and can persist there for 5-8 years. The fungus is favored by cool, moist weather, high humidity, and long periods of soil and leaf wetness. Continuous soil moisture at field capacity for ten days or more stimulates growth of spore-producing bodies from sclerotia in the soil. Spores are released into the air and travel to host crops.

White mold generally develops after or during the flowering period in beans, during head fill in cabbage, or after fruit set in tomato. The fungus needs senescing or wounded tissue to begin the infection process. All aerial parts of the plants may be attacked, but senescing flowers or leaves in direct contact with the soil are most likely to be infected. Initial lesions are small, circular, water-soaked and light green, but rapidly increase in size. Affected tissues dry, turn brown, and may be covered with a white, cottony mycelium. In beans, the disease progresses through stems, leaves and pods. Infected but symptomless pods can develop symptoms after harvest. Sclerotia form in infected tissue and entire branches or plants may be killed.

Sources. Numerous weeds such as marsh elder, lambsquarters, pigweed, Canada thistle, sow thistle, and wild mustard are also hosts and can play a role in disease cycles. There are four primary methods that fields are infested with sclerotia. Often susceptible crops or weeds are infected by spores coming from adjacent infested fields. The fungus then produces sclerotia on those plants and some are returned to the soil when the field is harvested and the crop residue is incorporated. Wind transported soil or crop debris infested with sclerotia can contaminate adjacent fields. Tires and equipment caked with soil from an infested field can introduce sclerotia into a clean field. Surface irrigation water or rain water moving naturally between fields can also move sclerotia to previously clean fields. Seed contaminated with sclerotia can introduce the fungus into clean fields.

Management

Deep plowing and crop rotation are of limited value because of the wide host range of the pathogen and its ability to persist in the soil for extended periods. Sclerotia buried by deep plowing may subsequently emerge at soil surface with later plowings. Losses can be minimized by timely harvesting, rapid cooling, and storage under refrigeration. White mold is more severe where the plant canopy is dense; reduction in canopy density can be achieved by increases in row width, raised beds, plant spacing, cultivar selection, and careful attention to nitrogen levels.

- Reduce humidity and high moisture periods within the field by orienting rows in the direction of prevailing winds, avoiding excessive irrigation after petal fall, and timing irrigation to allow plants to dry before night-fall.
- Rotate with nonhosts for up to 8 years. Nonhosts include grasses, cereals, and onions.
- In fields with a history of White mold, apply fungicides at 1-10 % bloom (for beans). A second application may be necessary under heavy disease pressure. See the New England Vegetable & Berry Guide for recommendations for specific crops.
- For beans, a postharvest dip in 125 degree F water for 30 seconds can reduce development of white mold infections.
- Contans is a biological control that may be effective against Sclerotinia blight.

-Adapted from Howard, R.J. et.al., eds.1994. Diseases and Pests of Vegetable Crops in Canada. Canadian Phytopathological Society.554 pp. and the National Sclerotinia Initiative (<http://www.whitemoldresearch.com>)

CHECK CROP ROOTS

As the summer winds on into fall, now is a good time to take a closer look at your growing crops. Whether we are talking about a field of corn or of tomatoes, roots are the base for production. At this point in the growing season, all of these crops will be at their maximum root mass as the crop works to finish off the yield. The on again off again (mostly off again) rains that we have been having this year have certainly posed a challenge to many crop root systems. Roots are responsive to the environment. New roots can be started or initiated within 24 hours of a change in the soil environment. For example, most of the summer has seen dry punctuated by occasional rains. The root systems of most plants slowed or stalled in growth during the hot dry weather, but once the rain came the plants responded quickly. Roots exist in a much more complex environment than the shoot or upper part of the plant. Shoots deal with weather and are in the open air while roots deal with daily weather but exist and grow in the soil, a complex arrangement of mineral particles, organic matter and air or water filled spaces. The density, pH, water content or nutrient content of the soil, can vary greatly within the area exploited by a root system. That smooth soil surface hides a wealth of variability.

At one time it was believed that plants grew roots as the rest of the plant grew during the spring and the plant used those very same roots throughout the summer until it died in the fall. Gradually it came to be understood that roots generally need actively growing surfaces or root tips for nutrient uptake. Further careful measurements have shown that roots are constantly growing, dying and sloughing off the plant. For example the finest lateral roots only live about 2 weeks. This constant growing and dying of roots changes the soil close to the root system, creating a localized environment that is better for root growth and other living organisms like bacteria. Studies have shown that roots only need 10 percent of their root surface at any point in time. So why does the plant commit that many resources to roots? The extensive root system allows the plant to take nutrients and water from other areas within the soil profile, so once a location has been stripped of nutrients the root system can access them elsewhere.

Late summer is a good time to get out with your shovel to take a close look at your roots. A good root system is consistent and well developed through the soil profile - you should not see a concentration in a small area or a witches broom effect. A larger root system picks up maximum soil nutrients and water increasing the amount available for building yield. So before this summer is over take a few hours to get to know your crop's roots – they may be trying to tell you something.

- Anne Verhallen, Soil Management Specialist, OMAFRA, Ontario

FALL WEED MANAGEMENT ADVICE

Weed management is still important at the end of the season. There are three main activities that need to be completed. They are: fall field scouting, preventing weed seed production, and controlling perennial weeds.

End of Year Weed Scouting.

It is worthwhile to take the time to check fields for weed problems at this time of year. A quick scouting can identify problems that will be expensive to solve if they get out of control and can provide clues that will help in designing a weed management program for next year. Mapping weedy spots, and keeping some kind of permanent record of weed surveys, can help you evaluate your weed management over the years. Make a map of each field and fill in the following information:

How Many? How dense are the weeds? If weeds are very dense, they may be having an impact on yields. This is especially true if these weeds emerged early in the season, when competition is greatest. If weeds were actively growing during the period of greatest crop growth, consider changing the weed management program.

Which Weeds? Identifying weeds can help identify potential problems before they get out of hand, and can help you decide if you need to modify your weed control program. Weeds like yellow nutsedge, field bindweed, and quackgrass are spreading perennials, which have underground parts that enable them to spread throughout whole fields. Because these weeds can be very damaging, and are very difficult to control, they are worth “nipping in the bud”. In addition, keep an eye out for annual weeds that are new to a field or are increasing in numbers. Some weeds can be very difficult to control in some or all of the crops in your rotation. Galinsoga, for example, is hard to control in cole crops, peppers, and squash. Nightshades are difficult to control in tomatoes for growers who rely on herbicides for control, because they are in the same family as tomatoes. Velvetleaf is hard to control in sweet corn.

What worked? It is also useful to look at the whole field and evaluate the effectiveness of your weed control efforts. If some weeds are generally escaping, identify them. They may point to weaknesses in your herbicide or cultivation program. If mostly grasses, or mostly broadleaves are escaping, it may require an adjustment of either the rates or the timing of grass or broadleaf herbicides. You may also find the New England Vegetable Management Guide useful. This manual contains a chart listing the effectiveness of vegetable herbicides on most of the common weeds in New England. Use this guide to find an herbicide labeled for your crop that might give better control than the one which was used.

Where are the weeds? Weeds in the rows or planting holes are much more damaging to crop yields than between-row weeds. Weeds in rows may be an indication that cultivation equipment needs adjustment, or cultivation needs to be done earlier.

Preventing Weed Seed Production.

Annual weeds produce incredible amounts of seeds. Annual grasses normally produce 3,000 to 5,000 seeds per plant, small seeded annual weeds such as pigweed and lambsquarters can produce 100,000 to 250,000 seeds per plant, and larger seeded broadleaf weeds such as velvetleaf and smartweed can produce 5,000 or more seeds per plant. Perennial weeds can also produce seeds or other reproductive structures. For example, one yellow nutsedge plant can produce 2000 tubers. Perennial weed management is covered below. Once fields are harvested, they should be tilled or disked as soon as possible to prevent seeds from maturing. Be especially concerned with weeds that are new to a field or are in abundant supply. If time is short, one alternative is to mow the weeds. This will remove the primary seed stalk but will also encourage lateral branching. Eventually, however, these branches will produce seeds and must be destroyed.

Perennial weed management.

The best time to control perennial weeds is in the Fall. All perennial weeds have storage structures (tap roots or rhizomes) below ground that enable these plants to survive the winter and regenerate themselves the following year. Fall tillage of perennial weeds will kill top growth and fragment the storage organs but will not kill the weed. Frequent tillage will, over a long period of time, control perennial weeds but, in most cases, this is not practical.

Perhaps the best control technique for perennial weeds is an application of glyphosate (Roundup) before the plant goes dormant. Perennial broadleaf weeds such as bindweed or dandelion should be sprayed while they are still actively growing which is usually before a hard frost. Perennial grasses, such as quackgrass, can be sprayed as late as mid-November.

Use 10 to 20 gallons of water per acre when spraying Roundup. Two quarts of the herbicide will provide much better control at 10 gallons of water per acre than at 40 gallons of water per acre. Spraying on a mild afternoon following a cold or cool morning is best to encourage translocation of the herbicide to the below-ground storage structures. Disking or tilling two weeks after application will also improve control of the weeds.

Many growers fight perennial weeds such as quackgrass in corn fields year after year because their primary goal in the Fall is to plant a cover crop. This is usually followed by a Spring application of Roundup which provides top kill but does not kill the whole weed. Applying Roundup at the proper time is the only way to achieve good control. Delaying the seeding of a cover crop may be a necessary evil in the fight against perennial weeds.

In conclusion remember to scout and map your fields, prevent weed seed production, and apply Roundup at the right time to control perennial weeds.

--Rich Bonanno, UMass Extension Weed Specialist

SWEET CORN REPORT

The sweet corn season is winding down for the majority of growers in New England. Hurricane Irene left some twisted stalks and standing water in fields with late season corn. Any corn that is still out there is still in danger of infestation from corn earworm and fall armyworm. Earlier fields are plowed and cover crops are in.

The European corn borer flight appears to be over for the season but remember that the moths overwinter in crop debris so chop up your stalks to get a head start on control for next year. Pepper growers should be able to stop any further ECB sprays now, if they have not already done so.

Corn earworm trap counts jumped this week as expected. Earworm is still a threat to late corn, with a high of 95 moths caught in a week in southern New Hampshire. For some that are within a week of picking their latest corn, the last spray for corn earworm has already been made. For sweet corn that you expect to pick in September or early October, continue corn earworm sprays, but extend the spray intervals by one or two days, to adjust for lower temperatures. That interval may be lengthened if the maximum temperatures are 80 degrees F or below for two or three days. Cool night temperatures reduce moth activity, flights will continue to decline, and insects hatch and growth will slow down.

Fall Armyworm counts were also high in southern New Hampshire. If you still have corn that is pre-silk you may want to do a scout for new FAW damage and spot treat any infested areas. Damage is easy to spot, with ragged feeding and holes in the leaves and a lot of frass in the tassel or in the silks if the caterpillars have moved down the stalk.

Fall Armyworm counts were also high in southern New Hampshire. If you still have corn that is pre-silk you may want to do a scout for new FAW damage and spot treat any infested areas. Damage is easy to spot, with ragged feeding and holes in the leaves and a lot of frass in the tassel or in the silks if the caterpillars have moved down the stalk.

We would like to say thank you to all those who have contributed weekly trap counts to Veg Notes. Your time and effort is greatly appreciated! Thank you; Jim Mussoni, Jim Golonka, David Rose, Paul Willard, Bruce Howden, George Hamilton, Laura and Charlie Tangerini, Jim Ward and Ilan Harris, Brookfield Farm, Sarah Berquist and Nora Seymour.

Location	Z1	EII	Total ECB	CEW	FAW
CT Valley					
Sunderland	4	0	4	37	0
Hadley	0	2	2	30	1
Feeding Hills	1	0	1	45	2
Hatfield	0	0	0	21	0
Berkshires					
Sheffield	0	0	0	38	0
Central & Eastern MA					
Concord	3	5	8	47	1
Northbridge	0	0	0	48	0
Spencer	0	1	1	28	0
Lancaster	0	0	0	40	0
Rehobeth	0	0	0	34.5	0
Tyngsborough	0	0	0	46	0
NH					
Litchfield, NH	0	0	0	86.5	16
Hollis, NH	0	0	0	95	16

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

As the 2011 season comes to an end you may want to consider how your own on-farm scouting program could benefit you next season. As you may have noticed, trap captures and field infestation levels can be very different from one location to the next. By monitoring flight patterns and caterpillar activity on your own farm you may be able to save yourself some time, money and stress. For information and resources on how to do implement a sweet corn scouting program on your farm, contact us at brown@umext.umass.edu or visit the University of Massachusetts Vegetable Program website at: www.umassvegetable.org and download a copy of the Using IPM in the Field, Sweet

Corn IPM Scouting Guide.

UPCOMING MEETINGS

Massachusetts Raw Milk Dairy Days

September 10 and Sunday, September 11

Eleven Massachusetts dairies that sell raw milk will open up their farms for tours and other activities on Saturday, September 10 and Sunday, September 11. Visit your local dairy and learn why raw milk tastes so good and why it's so good for you! Meet your farmers and their cows and get to know where your food comes from. See <http://www.nofamass.org/programs/organicdairy/dairyday11.php> for a list of dairies and schedule, or email winton@nofamass.org.

Twilight Meeting at 4-Town Farm in Seekonk MA

Time: Wednesday, September 14, 2011, 3:30 pm to 7:00pm

Location: 4-Town Farm, 90 George St., Seekonk, MA 02771

The full program will include: Deep Zone Tillage, Season extension using minimally heated tunnels and greenhouses, Commonwealth Quality certification, Using the NEWA pest forecasting system with an on-site weather station, Equipment, Postharvest and storage for fall crop. Pesticide applicator recertification credits will be offered. Refreshments will be served. See flier for directions and details.

For pre-registration or more information contact Andy Cavanagh at 413-658-4925 or acavanagh@psis.umass.edu. Pre-registration is encouraged but walk-ins are welcome. Attendance is free.

New England Vegetable & Fruit Conference & Trade Show

December 13-15 2011

Center of New Hampshire Radisson Hotel, Manchester, NH

www.newenglandvfc.org

The premier fruit and vegetable conference in New England will once again offer three full days with over twenty educational sessions that cover all of the major vegetable, berry, and tree fruit crops, as well as various special topics.

More details including registration materials will be posted at www.newenglandvfc.org. For more information contact Jon Clements, (413)478-7219, clements@umext.umass.edu.

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.

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.