



**UMASS  
EXTENSION**



# Vegetable Notes

For Vegetable Farmers in Massachusetts

Volume 17, Number 22

December 15, 2006

## NEW ENGLAND VEGETABLE AND BERRY GROWERS' ASSOCIATION AND NEW ENGLAND COOPERATIVE EXTENSION PRESENT TWO WINTER MEETINGS

### **1. Friday, January 5, 2007**

**Days Inn 450 Memorial Drive, Chicopee, MA  
(next to Mass Pike Exit 5)**

9:30 AM Registration. \$10.00. There is no registration fee for members of NEV&BGA

10:00 Pest Management Update; What's New In Materials and Methods: Weeds, Rich Bonanno, University of Massachusetts; Diseases, Bess Dicklow, University of Massachusetts

11:00 Prospects for using Growth Regulators to Improve Strawberry Root Health, Richard Cowles, Connecticut Experiment Station. This is a report on a research project funded by NEV&BGA

11:30 Questions and Answers. This is a time for you to ask questions to be answered by Extension staff and your fellow growers. There will a list of questions you can use or ask your own.

NOON: Lunch. Lunch is \$16.00. To order lunch contact the Secretary by December 30, 2006. Call (413)665-3501 or email [howell@umext.umass.edu](mailto:howell@umext.umass.edu). (Look for confirmation) If you order lunch and cannot attend, please call to cancel. We will have to bill you for unpaid meals.

1:00 PM Small and Medium Sized Implements and Equipment, Howard Boyden, OESCO, Conway, MA

2:00 Business meeting

2:05 New Materials and Biocontrols for Insect Management in Sweet Corn– Ruth Hazzard. This research was supported by the New England Vegetable and Berry Growers' Association with a grant from the US EPA

2:45 More questions and answers

Note: There will be 2 hours of credit toward pesticide recertification.

### **2. Saturday, February 3, 2007**

**Eastern Massachusetts Extension Center  
240 Beaver St. Waltham, MA**

9:30 AM Registration. \$10.00. There is no registration fee for members of NEV&BGA

10:00 Phytophthora Update– Rob Wick, University of Massachusetts

10:45 On Farm Trials of New Perimeter Trap Crops for Butternut Squash. Ruth Hazzard and Lynne Adler. This research was supported by the New England Vegetable and Berry Growers' Association

11:15 Cost Effective Spray Programs for Pumpkins and Winter Squash– Rob Wick, Ruth hazzard and Rich Bonanno, University of Massachusetts

NOON: Lunch. Lunch is \$16.00. To order lunch contact the Secretary by December January 27, 2006. Call (413) 665-3501 or email [howell@umext.umass.edu](mailto:howell@umext.umass.edu). (Look for confirmation) If you order lunch and cannot attend, please call to cancel. We will have to bill you for unpaid meals.

1:00 PM Business Meeting and Election

1:20 Organic Production:

History of Organic Production – Joseph Heckman, Rutgers University; Demand for Organic Produce; Grower Panel– Skip Paul, Little Compton, RI and Doug Coldwell, Whately, MA; Soil Fertility Joseph – Heckman, Rutgers University; Becoming Certified – Don Franczyk

3:30 Adjourn

For more information or to preregister for one or both of these meetings, contact John Howell 413-665-3501 or email [jhowell@umext.umass.edu](mailto:jhowell@umext.umass.edu)

## SEED QUALITY

One of the most common recommendations for IPM is to “buy seed from reputable sources” or “buy seed certified as disease-free”. Over 1,500 microorganisms have been associated with the seeds of all types of crops. Other issues in assessing seed quality include germination, purity, and moisture content. A reliable seed producer produces high quality seed by cultural practices and chemical treatments

to minimize infection of the seed in production fields, appropriate harvesting and conditioning techniques to remove contaminants, and germination testing. Optimum germination capabilities of the seed are determined under ideal conditions; major constraints to germination include disease, mechanical injury, and damage from drying or sprouting. An analysis of purity determines the amount of weed or other crop seed present and the amount of inert material present, including broken or empty seed, soil, and scraps. The moisture content of seed can influence both storage life and germination following chemical treatment.

Seed-borne diseases impact vegetable production by reducing crop yield, reducing germination and seedling vigor, and transmission of pathogens into newly planted crops or fields previously uninfested by the pathogen. A pathogen in close association with seed is considered to be seed-borne and may be on the seed coat, between the seed coat and ovary, or within the ovary of the seed. Diseases, such as bacterial wilts, which become systemic in the plant, can travel through the plant into the seeds. Pathogens which can be seed-borne include viruses, bacteria, and fungi. Some examples of seed-borne diseases include Bacterial Leaf Spot of peppers (*Xanthomonas campestris pv. vesicatoria*), Bacterial canker of tomatoes (*Clavibacter michiganensis pv. michiganensis*), Black Rot of Brassicas (*Xanthomonas campestris pv. campestris*), Fusarium Wilt of basil (*Fusarium oxysporum f.sp. basilicum*), Black Leg of cruciferous crops (*Phoma lingam*), Alternaria Blight of carrots (*Alternaria dauci*), Lettuce Mosaic Virus, and Tomato Mosaic Virus.

Seed treatments to eliminate pathogens include chemical (fungicides) treatments, coating the seed with biocontrol organisms, disinfectants (bleach), and hot water treatment of seed. Hot water treatments have the advantage of eliminating internally borne pathogens, but also the disadvantage of sometimes negatively impacting germination. Seed may be injured if they are hot-water treated more than once, old, or of poor quality. Therefore, it is strongly recommended that a small portion of the seed be treated and tested for germination before treating the entire seed lot (be sure to include a control of untreated seed for comparison). Hot water treatment is suggested for seeds of eggplant, pepper, tomato, carrot, spinach, lettuce, celery, cabbage turnip, radish, and other crucifers. Seeds of cucurbits can be severely damaged by hot water treatment. Wrap seeds in cheesecloth or nylon and add weight to keep the seed submerged. It is important that the temperature of the hot water be maintained uniformly throughout the container and that the time interval not exceeded. After treatment, place seeds in cool water for 5 minutes and dry seeds thoroughly on a screen or paper towels at room temperature.

Table 1: Recommended Hot Water Treatments

Crop	Degrees F	Degrees C	Minutes
Brussels sprouts, eggplant, spinach, cabbage, tomato	122	50	25
Broccoli, cauliflower, carrot, collard, kale, kohlrabi, turnip, rutabaga	122	50	20
Mustard cress, radish	122	50	15
Pepper	125	51	30
Lettuce, celery, celeriac	118	47	30

Disinfection of seed with chlorine effectively removes pathogens only on the seed surface. Agitate seed in a solution of 20 % Chlorox (25 oz/100 oz water) for one minute. Use 1 gallon of disinfectant to one pound of seed. Rinse seed thoroughly in cold tap water for 5 minutes, dry, and test for germination as above.

Treatment of seeds with water suspensions, slurries, or powders containing biocontrol organisms can protect against root pathogens and improve plant performance. *Bacillus subtilis* sold as Kodiak™ and *Pseudomonas fluorescens* sold as Dagger G™ are examples of bacterial agents. *Gliocladium virens* sold as SoilGard™ and *Trichoderma harzianum* sold as Root Shield™ are examples of fungal biocontrol products. All these products have performed well in experimental trials, but have, in general, given inconsistent results in large scale trials.

Seeds are often treated with chemicals to prevent disease development after planting. Protective fungicides such as captan, chloroneb, mancozeb, and PCNB control pathogens carried on seed or present in the soil. Systemic fungicides such as carboxin, triadimefon, and metalaxyl inactivate pathogens in infected seeds. Apron™ and Allegiance™ are examples of systemic chemicals that can be applied to seed to control *Phytophthora capsici*.

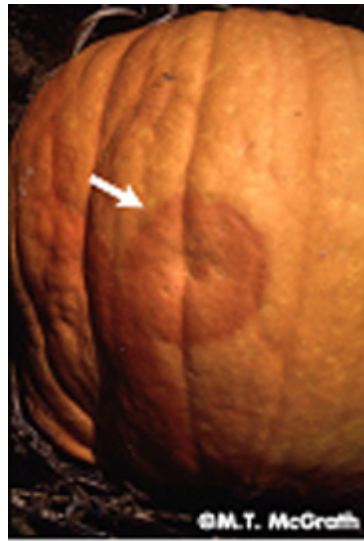
--M. Bess Dicklow, UMass Plant Diagnostic Clinic

## **FRUIT ROTS OF PUMPKINS**

Many pathogens- fungi, bacteria, and viruses- cause fruit rot, fruit spotting, and other fruit abnormalities in pumpkins that render them unmarketable. The vast majority of fruit rotting organisms are fungal, although several bacteria can also cause soft rots. Viruses lead to fruit deformities and wild discolorations. Successful management of pumpkin fruit rots depends on accurate identification of the causal organism so that the appropriate control measures can be employed.

**Phytophthora Fruit Rot (*Phytophthora capsici*)**

Perhaps the most serious fruit rot in wet years, Phytophthora fruit rot begins as a water-soaked or depressed spot, most often on fruit undersides which are in contact



Phytophthora Fruit Rot (*Phytophthora capsici*)



Phytophthora Fruit Rot (*Phytophthora capsici*)

with the soil. The pathogen produces a white, yeast-like growth that contains many fruiting bodies (sporangia) and affected fruit may be completely covered. The disease can develop and spread rapidly with the correct environmental conditions and entire fields may be lost. Phytophthora persists in the soil for many years; no effective crop rotation interval has been determined. Saturated soil conditions are conducive to disease initiation and development. Manage soil moisture by sub-soil-

ing, avoiding over irrigating, selecting well-drained fields, and avoiding areas of fields that do not drain well. Destroying diseased areas at the start of disease development can be effective. Planting pumpkins into cover crop mulch has shown promise

in research trials. Chemical treatment options include seed treatments with metalaxyl (Allegiance) or mefenoxam (Apron XL LS) and fruit/foliar sprays with copper sulfate (CuproFix Disperris), cymoxanil (Curzate 60 DF), dimethomorph (Forum 4.18 SC), potassium salts of phosphorous acid (ProPhyt), or famoxadone plus cymoxanil (Tanos).

**Fusarium Fruit Rot (*Fusarium solani f.sp. cucurbitae*)**

Pumpkin fruits are attacked by Fusarium at the soil line and the severity of infection varies with soil moisture and the age of the rind when infection occurs. The pathogen can be seed-borne-both internally and externally. It does not survive for more than 1-2 years in seed and does not affect germination or viability of the seed. Fusarium produces abundant resting spores (chlamydo-spores) in the soil, but only persists there for 2-3 years. Cultivars vary in their resistance with larger pumpkins being generally

more susceptible. Wounding is not necessary for infection to occur. A four year rotation out of pumpkins will eliminate soil propagules and fungicide treated seed will reduce initial inoculum. Culling of unmarketable fruit can reduce the risk of spread during the post harvest period.



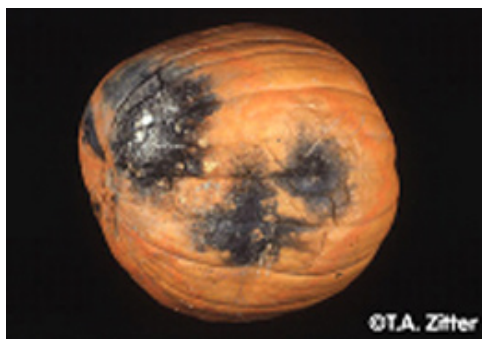
Fusarium Fruit Rot (*Fusarium solani f.sp. cucurbitae*)

**Black Rot (*Didymella bryoniae*)**

Also called Gummy stem blight when it occurs on other plant parts, Black Rot produces a distinctive black decay. Initially, a brown to pink, water-soaked area develops in which numerous, conspicuous black fruiting bodies are embedded. The pathogen is soil and seed borne and can overwinter in infected crop debris as dormant mycelium or chlamydo-spores. Both temperature and moisture influence disease development, but high relative humidity, rainfall and wetness duration are most critical. Wounding is not required for disease initiation, but wounding, striped cucumber beetles, aphid feeding, and powdery mildew infection enhance susceptibility. Control of Black fruit rot starts with control of gummy stem blight. Start with certified, disease-free seed. A



Black Rot (*Didymella bryoniae*)



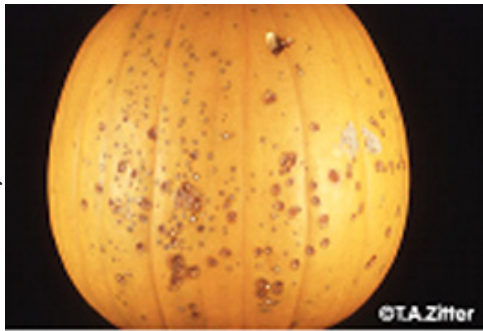
Black Rot (*Didymella bryoniae*)

two year rotation out of cucurbits can reduce field inoculum. Crop debris should be plowed under promptly after harvest. Control of Powdery mildew can significantly reduce

black rot infection of pumpkins. Fungicides registered for Powdery mildew on pumpkins include myclobutanil (Nova 40 W), triflumizole (Procure), and pyraclostrobin plus boscalid (Pristine). Powdery mildew populations rapidly develop resistance to fungicides; be sure to alternate fungicide treatments among chemical class and to include a broad spectrum protectant (chlorothalonil, copper) in your program. Nova and Procure have a narrow spectrum of activity; control of Black Rot requires different fungicides such as azoxystrobin (Quadris, Armistar), thiram, or Pristine.

**Scab (*Cladosporium cucumerinum*)**

This pathogen attacks all parts of the plants, but is most serious because of the disfiguring scab lesions that develop on fruit. The disease is widespread in North America and can occur annually if rainfall is abundant and temperatures cool. The spores (conidia) are borne in long chains, are easily dislodged, and spread long distances on wind. On foliage, the first sign of the disease is pale-green, water-soaked lesions which turn gray and become angular. On fruit, spots first appear as small sunken areas which can be mistaken for insect injury. The spots may ooze a sticky liquid and become crater-like as they darken with age. Dark green, velvety layers of spores may appear in the cavities and secondary soft-rotting bacteria can invade. Severity of symptoms varies with the age of fruit when it becomes infected.



Scab (*Cladosporium cucumerinum*)

C. cucumerinum overwinters in infected squash and pumpkins vines, but may also be seedborne. Spores produced in the spring can infect in as little as 9 hours, produce spots by 3 days, and produces a new crop of spores by 4 days. The disease is favored by heavy fog, heavy dews, light rains, and temperatures at or below 70° F. Start with disease-free seed or treat with a seed fungicide. Do not save your own seed if the disease is present. Select well-drained fields with good air circulation to promote rapid drying of foliage and fruit. Rotate out of cucurbits for 2 or more years. During cool, wet weather fungicide sprays may not be entirely effective because of the rapid disease cycle. Spray intervals may need to be shortened to 5 days under these conditions. Fungicides registered on pumpkins for scab control include maneb and chlorothalonil (Bravo).

**Plectosporium Blight (*Plectosporium tabacinum*)**

Like Scab, Plectosporium Blight is most damaging when it appears on the fruit. Pumpkins, yellow squash, and zucchini are the most susceptible of the cucurbits. Lens to diamond shaped, white to tan, lesions occur on stems, leaf veins, petioles, peduncles, and fruit. Severe stem and petiole infections can result in death of leaves and defoliation. Infected stems are dry and brittle. On fruit, the pathogen causes white, tan, to silvery russetting; individual lesions can coalesce to form a continuous scabby layer. Plectosporium survives in crop debris and is favored by warm, wet weather. No resistant cultivar of pumpkins has been reported. Rotation with non cucurbit crops can reduce disease. The fungus is readily controlled with protectant fungicides such as chlorothalonil (Bravo), maneb, and trifloxystrobin (Flint).

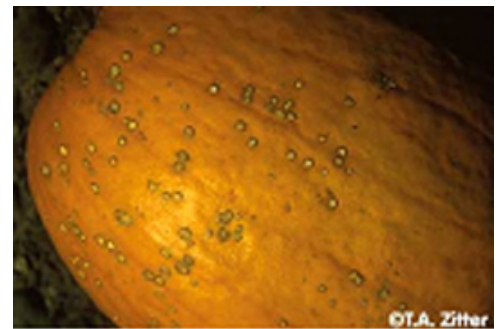


Plectosporium Blight (*Plectosporium tabacinum*)

The list of fungi that can cause fruit rots is long and also includes Alternaria Rot (*Alternaria alternata*), Anthracnose (*Colletotrichum orbiculare*), Blue Mold (*Penicillium* species), Crater Rot (*Myrothecium roridum*), Pythium Cottony Leak (*Pythium* species), and Rhizopus Soft Rot (*Rhizopus stolonifera*).

**Bacterial Fruit Rot (*Xanthomonas campestris* pv. *cucurbitae*)**

Disease outbreaks of Bacterial leaf spot have been sporadic and occur mainly in warm, humid seasons. Symptoms appear similar to those caused by Angular Leaf Spot, (*Pseudomonas syringae* pv. *lachrymans*), although this bacterium fails to produce the milky exudates that characterize Angular Leaf Spot. Initial lesions on fruit are small, slightly sunken, circular spots with a tan center and dark brown border. The appearance of fruit symptoms varies with the age of the rind and amount of moisture present. The epidermis may split; the spots



Bacterial Fruit Rot (*Xanthomonas campestris* pv. *cucurbitae*)

enlarge, and become sunken. The bacteria can penetrate into the flesh causing fruit rot and other secondary bacteria may invade. The pathogen is seedborne, but there is no evidence of survival in soil. The disease is common in the summer when temperatures are high and occurs frequently after heavy rainfall. Seed treatments with hot water (50° C for twenty minutes) or 10 % Chlorox reduces the number of bacteria, but does not completely eliminate them. Avoid overhead irrigation and working the fields when they are wet. Rotate out of cucurbits for two years. Repeated applications of copper as a protectant may be helpful; however, it is generally ineffective once an epidemic has begun.

### Viruses

Viruses affecting cucurbits include cucumber mosaic (CMV), squash mosaic (SqMV), watermelon mosaic 1 (WMV-1), watermelon mosaic 2 (WMV-2), and zucchini yellow mosaic (ZYMV). All these viruses, except SqMV are transmitted by aphids in a non-persistent manner. SqMV is seedborne and is spread primarily by spotted and striped cucumber beetles. The virus within the seed can not be eliminated with hot water or chemical treatments. Control consists of pathogen-free seed and controlling cucumber beetles. Virus diseases cause reductions in plant growth and yield and mottling, distortion, and fruit abnormalities that make the pumpkins unmarketable. There are no chemical treatments and control of aphids will not reduce, but may actually increase, transmission of the other cucurbit viruses. Rogue infected plants and destroy them away from cucurbit fields. Eliminate weed hosts.

--Prepared by M. Bess Dicklow, UMass Plant Diagnostic Clinic

## **BLACK ROT OF CRUCIFERS**

Black Rot caused by *Xanthomonas campestris* pv. *campestris* is one of the most devastating diseases of cruciferous crops which can result in high losses of yield and quality. It occurs worldwide and infects all species of Brassica. Symptoms can appear at any growth stage as yellow, V-shaped lesions that extend toward the base of the leaf resulting in wilt and necrosis. The pathogen may move into the petiole and spread up the stem or into the roots and become systemic. As the disease progresses, the veins of infected tissues turn black and the normal flow of water and nutrients is impeded. Symptoms on root crops may not be visible on foliage, but blackened veins appear in the roots. On leaf crops, infection may spread into the leaves of the head. Black Rot is often followed by invasion of soft-rotting organisms.

*Xanthomonas campestris* pv. *campestris*, a bacterial disease, plugs the water-conducting tissue of the plant with xanthan, a mucilaginous sugar. Its most important means of transmission is on seed and as little as 0.03% infection can



Crucifer Black Rot on cabbage

cause epidemics. The bacteria can persist in infected plant debris for up to two years; it survives in the soil for 40-60 days. It is favored by warm temperatures and symptoms may not appear in the seedbed, allowing infected plants to be transplanted into the field. It is spread within the field by splashing water, wind, equipment, people, and insects. *X. campestris* pv. *campestris* can be spread long distances by infested seeds and transplants.

### Management:

- Select seed that has been certified as disease-free.
- Treat seed with hot water to eradicate the bacteria. Treat seed for 15- 30 minutes at 50° C, dry, and test for germination. This process must be done carefully and it is recommended that a small sample of seed be tested for the effect on germination first.
- Fumigate or steam sterilize soil in seedbeds and use clean, sterilized seed flats.
- Locate seedbeds where cruciferous crops have not been grown for 4 years and avoid areas that receive run-off from areas previously planted to crucifers.
- Avoid dense seeding rates which can prolong periods of leaf infection and favor pathogen spread.
- Monitor transplants and promptly remove and destroy infected seedlings.
- Do not trim seedlings as the bacteria are easily spread by contaminated tools.
- Practice a three year rotation and control cruciferous weeds.
- Do not work fields when they are wet and avoid overhead irrigation.
- Do not locate cull piles near fields or storage areas.

- Promptly incorporate crop residues after harvest to speed decomposition.

#### **Chemical Recommendations:**

acibenzolar-S-methyl (Actigard 50 WG): 1 oz/A (7 dh, REI 12h). Suppression only. Apply preventively in sufficient water to ensure adequate coverage. Do not apply Actigard to plants that are stressed by drought, excessive moisture, herbicide injury, etc.

cupric hydroxide (Kocide 4.5LF): 0.6 to 1.3 pt/A (0 dh, REI 24h). Apply as soon as disease appears on a 7-10 day schedule. Tank mixes with Maneb or manex may improve disease control, although not all crucifers are on the Maneb or manex label. Do not apply in a spray solution of less than 6.5 as phytotoxicity may occur.

cuprous oxide (Nordox 75WG): 2/3 to 2 lb/A (0 dh, REI 24h). Apply as soon as disease appears on a 7-10 day schedule.

--Prepared by M. Bess Dicklow, UMass Plant Diagnostic Clinic

## **UPCOMING EVENTS, PROGRAMS AND MEETINGS**

### **Massachusetts**

#### **1. Integrated Pest Management and Weed Management for Herbaceous Perennials**

**January 16, 2007**

**Sturbridge Host Hotel, Sturbridge, MA**

**9:00 AM – 12:30 PM**

Sponsored by University of Massachusetts Extension, University of Connecticut Extension and Northeast SARE

IPM strategies to control key insects, diseases and weeds for the major types of perennials produced as well as new and emerging pests and diseases. - whether you are propagating perennials, growing them in your greenhouses, producing container-grown perennials outdoors or selling perennials from your retail garden center/farm stand.

Registration is \$20 per person and includes educational materials and refreshments. Financial support is being provided with a grant from Northeast SARE. Three pesticide recertification credits.

Contact Tina M. Smith, University of Massachusetts, 413-545-5306, [tsmith@umext.umass.edu](mailto:tsmith@umext.umass.edu) or Paul Lopes, University of Massachusetts, 508-295-2212 ext. 24, [lopes@umext.umass.edu](mailto:lopes@umext.umass.edu)

Or visit: [http://www.umass.edu/umext/floriculture/upcoming\\_events.html](http://www.umass.edu/umext/floriculture/upcoming_events.html)

#### **2. Local Grower & Supplier Seminar**

**Free Local Products Seminar**

**Sponsored by Whole Foods Market**

**Wednesday January 17, 2007 and**

**Thursday January 18, 2007**

**Guiding Star Grange #1 401 Chapman St. Greenfield, MA**

Whole Foods Market is actively searching (foraging!) for local vendors to partner with in creating the future of natural food retailing. Specifically we're looking for local producers who are passionate about the highest quality, most unique organic and natural foods that are made in the communities we serve. Join us for this free two-day conference as we address such topics as: Our growth and yours; How to become a Whole Foods Market Vendor; What Whole Foods Market Quality Standards mean; How you can change my production/ingredients to meet the standards; What kinds of products is Whole Foods Market looking for; Creating an empowered culture; Environmental options for your business; Effective packaging, marketing and media relations; What it takes to compete and succeed in the marketplace.

To apply, email: [na.newitems@wholefoods.com](mailto:na.newitems@wholefoods.com) or call: Susan Phinney 1-617-492-5500 ext. 3232

Apply today! space is limited to 150

#### **3. 2007 NOFA-Mass Winter Conference**

**Saturday January 20, 2007**

**Bancroft School in Worcester**

Keynote by Vern Grubinger, Director of Sustainable Agriculture, University of Vermont "The Effects of Climate Change on Agriculture in the Northeast"

35 workshops on crops, gardening, farm management sustainable lifestyles, organic land care, livestock, renewable energy and more!

For more information contact Winter Conference Coordinator, Jassy Bratko, [jassyhighmeadow@yahoo.com](mailto:jassyhighmeadow@yahoo.com) or 978-928-5646. Also visit <http://www.nofamass.org/conferences/w2007/index.php> for more information and directions.

#### **4. Winter Flower Grower Program**

**January 23, 2007**

**J.P. Bartlett Co., Sudbury, MA**

**10:00 AM – 3:30 PM**

**Open houses at area greenhouses from 8-10 AM.**

Sponsored by Massachusetts Flower Growers Association and University of Massachusetts Extension Floriculture Program.

Program highlights include a Respirator Fit testing workshop from 9 – 10 AM (1 pesticide credit), Don Campbell on sorting out renewable energy systems for your business

and Judy Sharpton and a panel of retailers on improving your garden center/farm stand design to increase sales. All growers and farmers are invited.

J.P. Bartlett Co. specializes in wholesale geranium production.

For more information on these programs contact:

Tina M. Smith, University of Massachusetts, 413-545-5306, [tsmith@umext.umass.edu](mailto:tsmith@umext.umass.edu) or Paul Lopes, University of Massachusetts, 508-295-2212 ext. 24, [lopes@umext.umass.edu](mailto:lopes@umext.umass.edu)

Or visit: [http://www.umass.edu/umext/floriculture/upcoming\\_events.html](http://www.umass.edu/umext/floriculture/upcoming_events.html)

### **5. Massachusetts Department of Agricultural Resources Offers 2007 “Tilling the Soil of Opportunity” An In-depth Business Planning Course for Massachusetts Agricultural Enterprises**

Registrations are now being taken for the course to be held Jaunaury 24, 2007 through April 4, 2007 on Wednesday Afternoons from 2-5PM (10 sessions). This course is located at the Franklin County Community Development Corporation’s facilities in Greenfield, MA.

The course is limited to twelve Massachusetts-based agricultural enterprises that have been operating for at least two years.

Created in 1998 by a nationwide team of 15 business writers and ag consultants, NxLevel©’s “Tilling the Soil of Opportunity” was further revised after testing with farmers. The course uses 35 hours of classroom time, individualized technical assistance and confidential financial planning to walk you through creation of a business plan that can help guide decision making on your farm. Over 240 Massachusetts farmers have successfully taken this course. Many have also commented that the farm-to-farm networking during the class was one of the biggest ongoing benefits. Some of the course groups are still getting together on their own.

Features of the Massachusetts Course:

- Your nationally certified Course Instructor will be supported by a Program Manager familiar with your region and the available local resources.
- After the course, you will receive additional individual technical assistance in topic areas most needed to complete your plan.
- Guest speakers will be drawn from local agricultural businesses and business service providers to personalize the key principles of many sessions.
- The business plan you will create in this course can sim-

plify your eligibility for federal, state and local assistance programs.

- This course qualifies as a “Borrower Training Program” for the USDA Farm Service Agency, and can enhance your efforts to secure funds from any lender.

Some courses will include extra features such as computer training and extra sessions on special topics, depending on class needs and schedules

### **6. Massachusetts Department of Agricultural Resources**

#### **Offers 2007 “Exploring Your Small Farm Dream” at Mount Wachusett Community College in Gardner Four Evenings: March 7, 21 April 4, 18, 2007**

Are you, or is someone you know considering starting an agricultural enterprise in Massachusetts?

The Explorer Program is intended for those who are considering farming as a business. Its purpose is to help pre-venture, aspiring farmers learn what it would take to start and manage their own commercial agricultural businesses, and decide whether this is a path they really want to take. Explorer makes use of four guided group sessions, an acclaimed workbook, instructors experienced in starting ag businesses, and extensive supporting resources. It was created as a decision-making tool to help you establish the clear vision and goals you will need to guide a new agricultural venture. It will help you identify and assess personal motivations, business and farming skills, and available resources. The goal of Explorer is to help you decide whether starting an agricultural business is right for you and, based on that decision, to help you plan practical next steps.

Please join a congenial group of your peers at Mount Wachusett Community College in Gardner for four evenings March 7, 21 April 4, 18, 2007. This course is sponsored by the Massachusetts Department of Agricultural Resources (MDAR) Agricultural Business Training Program, in cooperation with the Explorer creator, the New England Small Farm Institute (NESFI) in Belchertown – with additional support from Mount Wachusett Community College.

For a Registration Form, please contact:

Rick Chandler, MDAR, 25 West Experiment Station, UMass, Amherst, MA 01003 Email: [rhandler@umext.umass.edu](mailto:rhandler@umext.umass.edu)

Our enhanced version of the course includes 35 hours of classroom time, individualized paid technical assistance and confidential financial planning. We walk you through creation of a business plan to help guide decision making on your farm. Many graduates have commented that the farm-to-farm networking during the class was one of the biggest ongoing benefits.

Session titles include: Take Stock of Your Resources; Basic Planning and Research; The Legal Terrain; Manage from the Ground Up; Bring Your Product to Market; Reap the Benefits of Market Strategies; Get Your Budgets in Line; Analyze Cash Flow and Financial Statements; Cultivate Your Money Resources; and Harvest Your Future Using Your Plan.

For additional information and an application form, contact: Rick Chandler, ABTP Director  
Massachusetts Dept. of Agricultural Resources  
25 West Experiment Station  
University of Massachusetts  
Amherst, MA 01003  
e-mail: [rhandler@umext.umass.edu](mailto:rhandler@umext.umass.edu)

### **Connecticut**

#### **1. Connecticut Vegetable & Small Fruit Growers Conference**

**Thursday, January 18, 2007**

**Tolland County Agricultural Center in Vernon**

Contact Jude Boucher, Vegetable Crops IPM Program Coordinator for times, dates and additional information. Cooperative Extension System, 24 Hyde Ave., Vernon, CT 06066, (860) 875-3331.

### **Pennsylvania**

#### **1. 2007 Mid-Atlantic Fruit and Vegetable Convention Wednesday January 30, 2007 to Saturday February 1, 2007**

**Hershey Lodge and Convention Center, Hershey, PA**

“The Family Farm - Competing in a World Marketplace” will be the theme of the 2007 Mid-Atlantic Fruit and Vegetable Convention. Dr. Ann Dugan from the University of Pittsburgh, will make the Convention’s keynote presentation on the opening day, January 30. About 1,800 fruit and vegetable growers and other industry persons from throughout the mid-Atlantic region and beyond will be gathering at the Hershey Lodge and Convention Center in Hershey, Pennsylvania, for the Convention which will conclude on February 1. Registration is open to all interested commercial fruit and vegetable growers and allied industry personnel. Visit: <http://www.pvga.org/> for more details.

#### **2. Pennsylvania Association for Sustainable Agriculture 16th Annual Farming for the Future Conference Wednesday January 31- Saturday February 3, 2007**

Visit <http://www.pasafarming.org/conferences/confinfo.htm> for more information

### **New Jersey**

#### **1. NJ Vegetable Growers’ Assn. Meeting and Trade Show**

**January 16-18, 2007**

**Taj Mahal, Atlantic City, NJ.**

Contact: 856-797-1686, [www.njveggies.com](http://www.njveggies.com).

### **New York**

#### **1. New York State Vegetable Growers Association Empire State Fruit and Vegetable Expo Wednesday February 14 and Thursday February 15, 2007.**

The Empire State Fruit and Vegetable Expo has the information that you need for your farm business. Two days full of educational sessions will be featured at the Expo on Wednesday, February 14 and Thursday, February 15. An all-day indepth session on agricultural labor will be the focus at the Becker Forum on Tuesday, February 13. Practical sessions that employers and employees can benefit from take place in the trade show on both Wednesday and Thursday. All this and more will occur at the Oncenter Convention Center in Syracuse, NY as vegetable and fruit growers from around New York State and the Northeast gather to gain insight and information on a variety of aspects of their agricultural businesses.

For general Expo information, please contact Jeff and Lindy Kubecka, New York State Vegetable Growers Association, PO Box 70, Kirkville, NY 13082, 315-687-5734, email [nysvga@twcny.rr.com](mailto:nysvga@twcny.rr.com) or visit <http://www.nysaes.cornell.edu/hort/expo/>.

For information on exhibiting, please contact Dan Wren, Lee Trade Shows, at 800-218-5586 or email [dwren@leepub.com](mailto:dwren@leepub.com).

*Vegetable Notes, Ruth Hazzard, editor and Kate Reidel, Assistant Editor. 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. .*

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