



UNIVERSITY OF MASSACHUSETTS



The Green Directory 2014

Educational Resources for the Agricultural & Landscape Industries of Massachusetts

This guide will help you find the services and assistance offered by UMass Extension to the agriculture and landscape enterprises of Massachusetts.

UMass Amherst is committed to working with agricultural businesses to maintain and grow an economically and environmentally healthy Commonwealth.

Available online at
www.umass.edu/agland



THE COLLEGE OF
NATURAL
SCIENCES

**UMass
Extension**

CENTER FOR AGRICULTURE

Information Resources for Home Gardeners

UMASS

2014 UMass Garden Calendar
www.UMassGardenCalendar.org

Home Gardener Factsheets and Gardening Inquiries
www.umassgreeninfo.org/homegarden / Email: greeninfo@umext.umass.edu

Plant Diagnostic Laboratory (see page 23)
ag.umass.edu/diagnostics

Soil Testing Laboratory (see page 21)
soiltest.umass.edu

Tick Testing (see page 22)
www.umass.edu/tick

GARDEN HOTLINES

Western Massachusetts Master Gardener Association (413) 298-5355
www.wmmga.org / Email: AskWMMGA@gmail.com

Massachusetts Master Gardener Association (617) 933-4929
www.massmastergardeners.org / Email: mghelpline@masshort.org
Mon, Wed, Fri, 10 am - 2 pm

Barnstable County Master Gardener Program (508) 375-6700
(Barnstable County residents only)

BOTANIC GARDENS

Arnold Arboretum (617) 384-5235
www.arboretum.harvard.edu
Email: plantinformation@arnarb.harvard.edu
Mon, 1 - 3 pm

Tower Hill Botanic Garden (508) 869-6111 ext. 110
Wed, 2 -4 pm

OTHER

Massachusetts Audubon Wildlife Information Line (781) 259-2150
Especially helpful with questions about snakes and other wildlife.
Mon & Wed, 9 am - 5 pm; Fri, 10 am - 4 pm all year
wildlifeinfo@massaudubon.org

National Pesticide Information Center (NPIC) (800) 858-7378
Sponsored by the Environmental Protection Agency; offers impartial information about pesticides (products, poisoning, safety, health and environmental effects, etc.). Also provides services in Spanish.
Mon - Fri, 11:00 am - 3:00 pm (excluding holidays)
www.npic.orst.edu

USDA Wildlife Services (413) 253-2403
Technical assistance for wildlife damage & assistance in obtaining migratory bird depredation permits. Mon - Fri, 8:00 am - 4:30 pm

Water Testing
Howard Laboratories - howardlaboratories.com (413) 247-5533
Pro Lab Water Quality Testing - www.prolabinc.com (954) 384-4446

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This directory highlights the educational resources provided by the Agriculture and Landscape Program of University of Massachusetts Extension.

Our staff assist agricultural and horticultural professionals by providing educational programs and research-based information on environmentally sound management practices, particularly those that reduce pesticide use via the use of Integrated Pest Management (IPM).

www.umass.edu/agland

Agriculture and Landscape Program Staff

<i>Team Name & Staff</i>	<i>Program Focus</i>	<i>Location</i>	<i>Phone</i>	<i>Fax</i>	<i>E-mail</i>
Cranberry					
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RANDALL PROSTAK Educator	Pasture Weed Mgt. & Poisonous Plants	Bowditch Hall	413-577-1738	413-545-0260	rprostak@umass.edu
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Fruit

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Greenhouse Crops & Floriculture

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RUSSELL NORTON Educator	Sustainable Landscapes	Cape Cod Coop. Extension	508-375-6692	508-362-4518	rnorton@barnstablecounty.org

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Integrated Pest Management

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Soil & Plant Nutrition

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ROBERT WICK Faculty	Disease Diagnostics & Management	Fernald Hall	413-545-1045	413-545-2115	rlwick @umass.edu

Administration

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UMass Extension Newsletters

Cranberry Station Newsletter

Published periodically during the year, the *Cranberry Station Newsletter* presents timely information on cranberry pest management, horticulture, research findings, and current issues relevant to the industry. It also provides updates on available publications and upcoming meetings. Prepared by the UMass Cranberry Station faculty and staff. A hard copy is free to Massachusetts growers. All others can pay \$15/year. Sign up for the free email version or view it online at www.umass.edu/cranberry/pubs/newsletter.html.

We encourage all users to go green and sign up for the email version or view the newsletter online. To sign up for email or hard copy delivery, go to www.umass.edu/cranberry/pubs/news_signup.html or contact Deb Cannon at (508)295-2212 ext. 10 or dcannon@umass.edu for subscription information.

Crops, Dairy, Livestock, Equine Newsletter

Published quarterly, presenting information that crosscuts the various livestock industry areas (dairy, beef, sheep, goats, swine, and horses). Issues such as grazing, input cost control (crops, feeds, and nutrient management), and environmental quality (soil and water quality) are covered. It also presents results of ongoing research and outreach projects. Available online at extension.umass.edu/cdle. Contact Masoud Hashemi at (413)545-1843 or masoud@umass.edu.

Floral Notes

This bimonthly publication provides research-based information on greenhouse crops production, pest management, and related topics. It is available via email for \$5 for two years. To subscribe, contact Doug Cox at (413)545-5214 or dcox@umass.edu.

Hort Notes

For landscapers, grounds managers and other green industry professionals. Published monthly year round (12 issues). Alerts green industry professionals to emerging landscape insect and disease problems while providing timely Integrated Pest Management strategies. Emphasizes timely plant health care practices and problem-solving information. A calendar of events is included. Cost is \$20 per year. For a sample, contact Ellen Weeks (413)545-0895, eweeks@umext.umass.edu. For a subscription form, go to www.umassgreeninfo.org.

Garden Clippings

This monthly newsletter for home gardeners is published March through October with tips of the month and other timely information. A one-year subscription of eight issues is \$10 per year. Available for distribution by garden centers and landscapers to your customers at a bulk rate. For a sample, contact Ellen Weeks, (413)545-0895, eweeks@umext.umass.edu. For a subscription form, go to www.umassgreeninfo.org.

Berry Notes

Berry Notes is a comprehensive monthly publication that includes seasonally relevant information on small fruit production, pest management, marketing, and related topics. Short articles on recent research results are also often included. Information about all types of production practices including IPM, organic, and conventional management, is provided. Summer issues of *Berry Notes* often include pest alerts, scouting results, and reminders and/or checklists for important crop management activities (such as how and when to renovate strawberry beds).

Berry Notes includes announcements of meetings for small fruit growers, including locations, registration information, and directions. Pesticide applicator certification trainings are also posted. Email subscriptions are \$10 per year. Subscribe online at www.umassextensionbookstore.com/store.php?crn=224. For more information, contact: Sonia Schloemann, sgs@umext.umass.edu.

Fruit Notes

Fruit Notes is distributed to growers and researchers in 35 states in the US and 14 other countries. *Fruit Notes* focuses primarily on tree-fruit culture, but addresses small-fruit problems occasionally. Most reports are from current research at the University of Massachusetts and other universities. Subscription rates: \$25 per year for the print version and \$20 per year for the email version. Subscribe online at www.umassextensionbookstore.com/store.php?crn=224. All payments must be made in United States currency. Contact Wesley Autio at (413)545-2963 or [autio@umass.edu](mailto:auto@umass.edu).

Healthy Fruit

Healthy Fruit is a timely newsletter that includes information on tree-fruit horticulture, pest management, and related topics. The primary target reader is the commercial grower, but anyone growing fruit trees will benefit.

Healthy Fruit is published weekly or biweekly from April through September and periodically throughout the rest of the year. Meeting announcements, fact sheets and bulletins published during the year, and updates to the *New England Apple Pest Management Guide* are included with the *Healthy Fruit* subscription. The cost for subscription to *Healthy Fruit* is \$50 per year for the email version and \$70 per year for the print version. Subscribe online at www.umassextensionbookstore.com/store.php?crn=224. For more information, contact Wesley Autio, (413)545-2963, [autio@umass.edu](mailto:auto@umass.edu).

New England Grape Notes

New England Grape Notes is a periodic electronic newsletter published during the growing season with approximately 10 issues annually, distributed throughout New England. Each issue contains seasonally relevant information on grape production, insect and disease management, harvest parameters, upcoming meetings, and related topics. Information about all types of production including IPM, organic, and conventional management is provided. Email subscriptions are \$10 per year. For more information, contact: Sonia Schloemann, sgs@umext.umass.edu.

Vegetable Notes

Vegetable Notes is an eight-page newsletter for commercial vegetable growers and market gardeners, published weekly during the growing season and periodically during the winter months. From May to September, each issue features timely, field-based alerts and articles on management of crops, weeds, insects and diseases, fertility, soils, and cover crops. We focus on Integrated Pest Management for both conventional and organic systems, alternative crops and cropping systems, season extension, and post-harvest handling. Sweet corn trap captures for Massachusetts are reported weekly. Calendar updates include twilight meetings and field days throughout New England.

Winter editions of *Vegetable Notes* provide research reports and articles as well as announcements of conferences and educational programs in the region.

Vegetable Notes is now **ONLY** available in the email edition, which is free of charge. Subscribe online at www.umassvegetable.org.

For more information call the Vegetable Program office at (413)545-3696 or go to www.umassvegetable.org.

Conferences and Workshops

Pesticide Education Program Workshops

Contact Natalia Clifton, UMass Extension, at (413) 545-1044 or check www.umass.edu/pested for the schedule of 2014 workshops. Also listed on page 34.

The Ins and Outs of Biological Control

November 6, 2013

9:30 am - 3:00 pm

Publick House, Sturbridge, MA

Co-sponsored by the UMass Extension Greenhouse Crops and Floriculture Program and UConn Extension. Topics include Banker Plants, Trap Plant and Habitat Planters, Conserving Pollinators and Natural Enemies in Our Horticulture Businesses, It's a Bug Eat Bug World: Current Research on Biological Control, and Grower to Grower panel. Partial funding for this program is from a grant from New England Floriculture Inc., sponsors of the Northeast Greenhouse Conference. Cost: \$40.

Four pesticide contact hours available.

For more information, go to extension.umass.edu/floriculture or contact Tina Smith, UMass Extension, at (413)545 5306, tsmith@umext.umass.edu, or Leanne Pundt, UConn Extension, at 860-626-6240.

HACCP Certification Workshop

December 3-5, 2013

7:30 am - 5:00 pm

Campus Center, University of Massachusetts Amherst

This course covers the fundamentals of HACCP (Hazard Analysis Critical Control Point) taught by certified International HACCP Alliance instructors, with a particular emphasis on fresh-cut produce, beverages (including juice and cider), baked goods, and dairy products. The concepts will be reinforced by breakout group activities in which participants will have the opportunity to prepare a HACCP plan. All participants will receive an International HACCP Alliance certificate issued through the University of Massachusetts upon successful completion of the course.

Course topics will include: HACCP overview; prerequisite programs; overview of the seven principles; sanitations and SSOPs; biological, physical, and chemical hazards; conducting a hazard analysis; determining critical control points; establishing corrective actions; monitoring; verification and validation procedures; documentation practices and record keeping; regulatory issues; and auditor expectations.

Scholarships are available for farmers that would reduce the cost of this course to \$100. Contact Amanda Kinchla for a scholarship application at (413)545-1017, amanda.kinchla@foodsci.umass.edu.

For more details and to register, go to extension.umass.edu/vegetable.

New England Vegetable & Fruit Conference & Trade Show

December 17-19, 2013

Center of New Hampshire Radisson Hotel

Manchester, NH

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. Each morning and afternoon offers concurrent sessions which offer the latest research and innovative practices and include the perspectives of farmers, Extension staff, and researchers. Farmer-to-farmer sessions bring speakers and farmers together for informal, in-depth discussion on 'hot topics.' The extensive trade show offers over 100 exhibitors who cater especially to the needs of vegetable and fruit growers. Join over 1,000 growers from around New England, and don't miss this every-other-year event! Sponsored by the New England Vegetable and Fruit Extension Programs, the New England Vegetable and Berry Growers Association, and the Massachusetts Fruit Growers Association.

Registration, detailed program, and hotel contacts: www.newenglandvfc.org.

For more information see the website above or contact conference chair Jon Clements, (413)478-7219, jon.clements@umass.edu.

Better Process Control School

January 7-10, 2014

7:30 am - 5:00 pm

Campus Center, University of Massachusetts Amherst

This course will train food processors in the principles of acidification, and container closure evaluation programs for low-acid and acidified canned foods as required by FDA regulations in CFR 108, 113 and 114. The purpose of these regulations is to help ensure the safety of consumers by training producers. This course will satisfy both USDA and FDA requirements. Taught by faculty from the UMass Amherst Dept. of Food Science: Dr. Sam Nugen, Dr. Julie Goddard, Dr. McLandsborough and Extension Specialist Amanda Kinchla, M.S. bring together academic and industry experience as well as expertise in food microbiology, processing and packaging. Sponsored by UMass Extension, the UMass Dept. of Food Science, and the Grocery Manufacturers Association (GMA Science).

Farmers are invited to apply for a scholarship: UMass Extension and the Massachusetts Department of Agricultural Resources encourage farmers who grow specialty crops with an interest in value-added processing to apply for this scholarship opportunity to participate in the Better Process Control School. The primary objective of this scholarship is to increase the food safety processing skills of farmers interested in producing shelf stable low-acid and acidified specialty crops (examples include: acidified foods, glass container closures, retorting, etc.). All interested applicants are required to contact Amanda Kinchla, UMass Food Science Extension, at amanda.kinchla@foodsci.umass.edu or by fax: (413)545.1262.

For more details and to register, go to extension.umass.edu/vegetable.

Cranberry Management Update

January 15, 2014

7:30 am - 4:00 pm

Radisson Hotel, Plymouth, MA

Topics include recommendations for managing phosphorus loss during the harvest flood; Herbicides 101 - Pre, Post, and Target!, poison ivy and moss management; fruit rot management update; adjuvant technology; nutrient management; potential water and energy savings in frost cycling; cranberry fruitworm management and the latest compounds; and cranberry pollination. Cost: \$30 for early sign-up, \$40 after 1/6/14.

Four pesticide contact hours for category 30 (cranberry).

For more information and registration materials, go to www.umass.edu/cranberry or call the Cranberry Station at (508)295-2212.

Growing Spring Crops in Greenhouses

January 15, 2014

10:00 am - 3:00 pm

Cranberry Station, East Wareham, MA

Join UMass Extension faculty and staff for a day long educational program on commercial production of spring crops in greenhouses. Topics will include using plant growth regulators; identifying nutrition problems; and managing insects, mites and diseases on spring crops. This program is an excellent opportunity for new growers of greenhouse crops to learn about many aspects of greenhouse production and for existing growers to brush up on information. Cost: \$30 (includes lunch).

Three pesticide contact hours available.

For more information, go to extension.umass.edu/floriculture or contact Tina Smith, UMass Extension, at (413)545 5306, tsmith@umext.umass.edu, Geoffrey Njue, UMass Extension, at (508)295-2212 x47, gnjue@umext.umass.edu, or Russ Norton, Cape Cod Cooperative Extension at (508)375-6692, rnorton@barnstablecounty.org.

Winter Flower Growers Program

January 29, 2014

Mahoney's Garden Center, 242 Cambridge St, Winchester, MA

Full day educational program for greenhouse and floriculture businesses, co-sponsored by the UMass Extension Greenhouse Crops and Floriculture Program and the Massachusetts Flower Growers Association.

For more information, go to extension.umass.edu/floriculture or contact Tina Smith (413)545 5306, tsmith@umext.umass.edu.

Selected Topics for Tree Care Professionals

January 30, 2014

8:30 am - 12:30 pm

Topsfield Fairgrounds Bee Building
Topsfield, MA

Randy Prostack, UMass Extension Weed Specialist, in *Weed Management Topic for Arborists* will explore topics that tree care professionals should understand about weeds and weed management, including the impact of turf and landscape herbicides on tree health and the role of invasive plants and related regulations. Rick Harper, UMass Extension Assistant Professor, will present *Recovering Our Urban Forests: Update on Invasive Pests (& Invasive Practices)*. According to a recently published study performed by the US Forest Service, America's urban forests are declining at a rate of 4.0 million trees per year. Since it is well-documented that urban trees provide many environmental and economic benefits, the effects associated with this decline may be numerous and extensive. Rick will highlight research pertaining to important invasive pests (insects and diseases such as Emerald Ash Borer, Asian Longhorned Beetle, Dutch Elm Disease) their integrated management, as well as invasive practices commonly found impacting the health of our urban trees. Nick Brazee, UMass Extension Plant Pathologist, will look at *Armillaria Root and Butt Rot: can anything be done to slow or stop the fungus?* This fungus is one of the most destructive fungal pathogens of trees and shrubs in forest, landscape and urban settings. Potential management strategies will be discussed as well as management pitfalls that allow the fungus to thrive. Cost: \$75.

Three pesticide contact hours for categories 36, 40, and Applicator's License. ISA, SAF, CFE, MCA, MCH and MCLP credits have been requested.

For a registration form or more information, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895, eweeks@umext.umass.edu.

Invasive Plant Certification Program

A1 - February 20, 2014, 9 am to 2:30 pm

A3 - April 8, 2014, 9 am to 2:00 pm

A2 - March 18, 2014, 9 am to 3:00 pm

B - April 22, 2014, 9 am to 2:30 pm

Location: Doubletree Hotel, Milford, MA.

In the last several years, there has been growing interest in invasive plants and their management. While turf and landscape professionals might be very proficient in the development of a weed management program for turf and/or landscape, invasive plant management often reveals many new and unique challenges to these professionals. This 4-day program is intended to help participants meet these challenges when attempting to develop an invasive plant management program as part of their business. A certificate in Invasive Plant Management may be obtained by attending all four sessions and obtaining a passing grade in each. To earn the certificate, sessions A1 - A3 can be taken in any order, but must be taken prior to Session B: Developing an Invasive Plant Management Program. All sessions will be offered annually to facilitate earning the certificate over more than one year's time. All sessions may also be taken individually.

A1 Principles and Fundamentals of Weed Science

A critical first step in the development of a weed or invasive plant management program is a strong and complete understanding of several principles and fundamentals of the discipline of weed science. The session will cover the topics of weed biology, weed ecology, herbicide modes-of-action, herbicide timings and more. Cost: \$75. *Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.*

A2 State Regulations Pertaining to Invasive Plant Management

While landscape and turf professionals may be knowledgeable about the state regulations that govern the type of work they normally do, regulations that govern certain aspects of invasive plant management may be different. This session covers state regulations including the Wetlands Protection Act, the Rivers Protection Act, and pesticide regulations, including those specific to right-of-ways. Cost: \$75.

Three pesticide contact hours in categories 29, 36, 40, and Applicator's License.

A3 The Invasive Plant Issue and Invasive Plant Identification

An overview of the topic of invasive plants, focusing on why we should be concerned about them and enhancing your ability to readily identify invasive plants as well as their look-alikes. The work of the Massachusetts Invasive Plant Advisory Group, including its strategies, recommendations, and the recently released Early Detection/Rapid Response Priority List document, will be discussed. Cost: \$75. *Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.*

B Developing an Invasive Plant Management Program

This session will help participants develop and implement an invasive plant management program. Management tips and strategies will be discussed including herbicide selection and timing, non-chemical strategies and ways to avoid common program pitfalls. Cost: \$75.

Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.

For more information or a registration form, go to www.umassgreeninfo.org or contact the UMass Extension Landscape, Nursery and Urban Forestry Program at (413)545-0895 or eweeks@umext.umass.edu.

Mass Aggie Seminars Home Garden Series

March through May, 2014

Times and dates vary

Location varies with each seminar

The UMass Stockbridge School of Agriculture and the UMass Center for Agriculture again offers its workshop series on topics of general interest to homeowners and small scale farmers. This year's workshops include:

- Pruning Fruit Trees, A Hands-on Workshop
- Growing and Pruning Blueberries
- Grafting Apple Trees, A Hands-on Workshop
- Growing and Pruning Grapes
- The 100-Square-Foot, 25-Tree, 5-Variety Backyard Apple Orchard Fruiting Wall!
- Home Orchard Pest Management
- Soil Health Assessment in the Home Garden

Locations and costs vary. For a registration form or more information, go to www.umassgarden.com or contact Doreen York at (413)545-2254, dyork@umext.umass.edu.

Community Tree Conference Sustaining The Trees That Sustain Our Communities

March 11, 2014

9 am – 4 pm

Stockbridge Hall, UMass Amherst

This one-day conference is designed for managers and employees who work outdoors: arborists, tree wardens, municipal managers, DPW workers, city planners, surveyors, foresters and landscape architects. The University of Massachusetts Extension, the Mass. Dept. of Conservation and Recreation and the USDA Forest Service sponsor this annual conference.

Everyone who works outdoors--whether on the street, in a park or in a client's backyard--is exposed to a variety of issues every day. This year's conference will take a look at the benefits of trees, Greening Amherst: an update on urban forest management practices and policies, establishing trees: the ten-year plan, selling the care of mature trees, safe pesticide storage, handling and use, and the Asian longhorned beetle: a climber's perspective. This conference is designed for everyone working outdoors with trees in New England.

One and 1/2 pesticide contact hours for categories 36, 40, and 00 (licensed applicator). ISA, SAF, CFE, MCA, MCH and MCLP credits have been requested. Cost is \$65 for first registration, \$40/person for each additional registration from the same company.

For a registration form or more information, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895, eweeks@umext.umass.edu.

Greenhouse Plant Disease Diagnostic Workshop

March 19, 2014

9:00 am - 1:00 pm

Fernald Hall, UMass Amherst

This workshop, led by M. Bess Dicklow, UMass Extension Plant Pathologist, will be held in a laboratory at the University of Massachusetts campus. The program will begin with a lecture to review the basics of diagnostic plant pathology, followed by a hands-on workshop using diagnostic test kits and stations with microscopes to view pathogens of greenhouse crops. Pre-registration required, as space is limited. Cost: \$70.

Four pesticide contact hours have been requested.

For more information, go to extension.umass.edu/floriculture or contact Tina Smith, UMass Extension, at (413)545 5306, tsmith@umext.umass.edu.

Spring Kickoff for Landscapers: UMass Extension Landscape Education Day

April 3, 2014

10:00 am - 3:30 pm

Cranberry Station, East Wareham, MA

Every new year comes with its own challenges for successful maintenance of healthy and attractive landscapes. These challenges include variable and unpredictable weather, insect pests, weeds and changing regulations. Join UMass Extension Educators at the UMass Cranberry Research Station in East Wareham for a day of learning about the latest research-based information to help you kick off a successful landscape management season. Topics include new nutrient regulations and BMPs for nutrient management, timely info on insect pests of landscape and urban trees, developing a landscape weed management program, principles of ecological landscaping, and finding the right plant for the right place. Cost: \$75.

Two pesticide contact hours for categories 29, 36, 40, and Applicators License. ISA, MCA, MCH, MCLP and AOLCP credit requested.

For more information, go to umassgreeninfo.org or contact Geoffrey Njue, UMass Extension, at (508)295-2212 x47, gnjue@umext.umass.edu, or Russ Norton, Cape Cod Coop. Extension at (508)375-6692, rnorton@barnstablecounty.org.

Scouting for Early-Season Landscape Pests and Problems

April 23, 2014

4:30 - 6:30 pm

Stockbridge Hall, UMass Amherst

Kick off the 2014 growing season with hands-on scouting, identifying and even forecasting landscape pests and abiotic problems. Join Randy Prostack, Extension Weed Specialist, Nick Brazee, Extension Plant Pathologist, and Rick Harper, Extension Assistant Professor in Urban & Community Forestry, for a walk through the landscape as they discuss and demonstrate how to put IPM practices to work efficiently and examine some of the most common pest and cultural problems of woody ornamentals.

Dress for walking; workshop held rain or shine. Bring a clipboard, pencil and hand lens if possible.

Two pesticide contact hours for categories 36, 40, and Applicators License. ISA, SAF, CFE, MCA, MCH and MCLP credits have been requested. Preregistration required as space is limited; the cost is \$50/\$45 per person for three or more registrations from the same company (10% discount).

For a registration form or more information, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895, eweeks@umext.umass.edu.

Snow Mold Research Field Days

Late winter - Early spring, 2014 dates TBD*

Amherst Country Club - Amherst, NH

- Mix of Typhula blight and Microdochium patch is usually observed at this site.
- Trial to be conducted on creeping bentgrass/annual bluegrass putting green maintained at 0.185 mowing height.

Berkshire Hills Country Club - Pittsfield, MA

- Mix of Typhula blight and Microdochium patch is usually observed at this site.
- Trial to be conducted on a fairway maintained 0.5 inch mowing height.

Glens Falls Country Club - Queensbury, NY

- High disease damage from Typhula blight has been observed the past two years.
- Trial to be conducted on a fairway maintained 0.5 inch mowing height.

Val Halla Golf & Recreation Center, Cumberland, ME

- High disease pressure for Typhula blight is expected at this site.
- Trial to be conducted on a creeping bentgrass fairway maintained 0.5 inch mowing height.

**Workshop dates are dependent on snowmelt and prevailing disease conditions. Dates will be announced later this winter. To sign up to receive specific notification of dates and times by email, visit www.umassurf.org and click on "Mailing List."*

These field days provide an opportunity to see first-hand the results of the UMass Turf Program snow mold field trials for turfgrasses maintained at fairway height. Trials at golf courses will be used for testing snow mold products against a mixture of pink snow mold, *Microdochium nivale*, and Typhula Blight, caused by *Typhula* spp., under natural conditions. Identification of fungal species at each site will be confirmed using morphological characters and DNA techniques. For further information on the snow mold research trials, contact Dr. Geunhwa Jung at (413) 545-2243, jung@umass.edu, the UMass Extension Turf Program at (508)892-0382, or online at www.umassurf.org.

Weed Walkabout

May 29, 2014

5:00 - 7:00 pm

Elm Bank, Wellesley

Correct weed identification is an important first step in the development of an effective weed management program. Join Randy Prostack, Extension Weed Specialist, for a walk through the landscape for an up-close look at weed problems of woody ornamental plantings. Held rain or shine.

Two pesticide contact hours for categories 36, 37, and Applicators License available. ISA, MCA, MCH, MCLP and AOLCP credit requested.

Preregistration required as space is limited; the cost is \$50/\$45 per person for three or more registrations from the same company (10% discount). For more information or a registration form, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895 or eweeks@umext.umass.edu.

Identification of Turf Damaging Diseases Workshop

Summer 2014 TBA

UMass Amherst

Accurate identification of turf damaging diseases is the first step toward effective management. UMass Turf Pathologist Geunhwa Jung will lead this half-day session focusing on the identification of turf diseases common in the Northeast. Lecture material will be coupled with hands-on and microscopic examination of specimens, and IPM considerations will be highlighted. Pre-registration is required for this program due to limited seating.

Pesticide recertification contact hours valid for licenses in all New England states will be available for category 37 (turf) and category 00 (licensed applicator).

For more information, visit www.umassturf.org or contact the UMass Turf Program at (508) 892-0382, mowen@umass.edu.

UMass TurfTalk subscribers will receive notice of posting of program agenda and registration information by email. To sign up, visit www.umassturf.org and click on 'Services', then 'E-Mail List'.

Identifying Freshwater Wetlands in the Landscape

June 5 & 19, 2014

9 am - 3:30 pm

French Hall, UMass Amherst

This workshop series is useful to land surveyors, foresters, landscapers, arborists, and anyone who needs to be able to identify the presence of freshwater wetlands in the landscape. Instructor: Dr. Deborah Picking, UMass Dept. of Environmental Conservation

Training I: Inland Wetland Plant Identification - Thursday, June 5, 2014

This introduction to inland wetland plant identification begins with an overview of the major characteristics of woody and non-woody vegetation used for identification in most plant keys. Guided exercises will be used in a classroom/ laboratory setting to practice keying out plant specimens collected from local wetland sources. An afternoon field trip to a local wetland will allow opportunity to practice identification skills in a natural setting. Related topics such as plant adaptations to wetland hydrology and the concept of "hydrophytic" vegetation will also be discussed. Cost: \$100. Required Text: *Field Guide to Nontidal Wetland Identification*, by Ralph W. Tiner, Jr. Cost: \$25 additional for text. (When registering, indicate if you need to purchase a copy of this guide.)

Training II: Identifying Inland Wetland Soils - Thursday, June 19, 2014

Participants will be introduced to some of the fundamental characteristics of soils that are used to identify hydric (wetland) soils in the field, including soil texture, color, horizon type and redoximorphic features. The afternoon will include a field trip to a local wetland where participants will examine plants and soils along a wetland/nonwetland gradient. Plant communities will be used to locate transitional wetland-upland areas in the landscape for further investigation of their soil characteristics. Participants should have taken Training Session I of this series or be able to identify wetland vegetation (by permission of instructor). Cost: \$100.

If registering for both sessions, total cost: \$190 (plus text). Pre-registration required, as space is limited. For a registration form, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895 or eweeks@umext.umass.edu.

Broadleaf Weed Identification Workshop

June 10, 2014

9 am - 3 pm

French Hall, UMass Amherst

Correct weed identification is an important first step in the development of an effective weed management program. Using a classroom presentation, potted weed herbarium and weed walk, UMass Extension Specialist Randy Probstak will help participants enhance their broadleaf weed identification skills. Feel free to bring a weed or two to identify. Workshop held rain or shine (lunch not provided). Grassy Weed Identification will be offered next in 2015. Cost \$95/person (pre-registration required, space is limited).

Five pesticide contact hours for categories 36, 37 and Applicators License available; MCLP, MCH and AOLCP credits requested.

For a registration form or more information, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895, eweeks@umext.umass.edu.

The Implications of The Blue-Green Water Paradigm on Agricultural Water Management

June 18-20, 2014

8:00 am - 5:00 pm

Tufts University, Medford, MA

Funding provided through a USDA NIFA grant. Held in cooperation with the Universities Council on Water Resources (UCWOR), the National Institutes of Water Resources (NIWR), and the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI).

The production of food and other forms of biomass for human uses is the largest component of the human freshwater budget. Addressing the millennium development goal of reducing by half the proportion of malnourished people in the world by 2015 is an extraordinary agricultural and water management challenge. The green-blue water paradigm introduced by Falkenmark and Rockström (2004) is now gaining widespread acceptance in the international and U.S. water management communities. The blue/green/gray framework has enormous implications for water-resource assessment, agricultural water management, hydrologic classification, ecohydrology, and water management.

Please join us to discuss these issues from a variety of views, including those of the academic, agency staff, Extension educators, and practitioners.

Our goal is to give Extension educators and agriculture practitioners (including Green Industries) a voice at the table. This is a three day conference, and we hope that many of you will join us for the duration. **We particularly need input and participation from growers, green industry professionals and Extension Educators on Thursday, June 19.** We seek to engage input from across the country. We will be using webinar technology to enable those from across the country to participate at "hubs" located at NIWR centers, particularly on Thursday.

Our discussion on blue/green/gray water management in agriculture will be one of four concurrent tracks at a larger conference focused on water sustainability.

For more information contact Paula Rees at rees@ecs.umass.edu

MNLA/MFGA Summer Conference and Trade Show

July 24, 2014

8:30 am - 3 pm

Savage Farms, Deerfield, MA

The Massachusetts Nursery and Landscape Association and the Massachusetts Flower Growers Association will again hold their joint Summer Conference in 2014. The day will offer horticultural education workshops by well known researchers and educators and a trade show.

Two pesticide contact hours for categories 29, 36 and Applicators License available. ISA, MCA, MCH, MCLP and AOLCP credit requested.

For more information, go to www.mnla.com or www.umassgreeninfo.org.

Fruit Twilight Meetings

April, May & June

Dates and locations TBA

Evening educational meetings will be presented in mid-April, May, and June, 2014. For more information, contact Wes Autio at (413)545-2963, autoio@umass.edu or go to extension.umass.edu/fruitadvisor.

Vegetable Twilight Meetings and Field Days

Dates and locations TBA

Throughout the year, the UMass Extension Vegetable Team offers educational programs and farm tours on vegetable farms in various locations across Massachusetts. We partner with other organizations and other commodity groups to highlight successful and innovative production and marketing practices for diversified farms. Details of dates and locations will be posted on www.umassvegetable.org, in *Vegetable Notes*. You may also contact the Vegetable Program at (413) 545-3696 or 577-3976 or at umassvegetable@umext.umass.edu.

Landscape and Forest Tree and Shrub Disease Workshop

September 2014 TBA

9 am - 3:30 pm

Fernald Hall, UMass Amherst

Join Nick Braze, UMass Extension Plant Pathologist, for this workshop where participants will gain hands-on experience with many important landscape and forest diseases of trees and shrubs. The UMass-Amherst campus offers a wide variety of ornamental and forest trees and shrubs of all ages. Selected diseases will range from leaf spots, needle casts, root rot, stem cankers, rusts, anthracnose and more. An introductory lecture will review the basics of diagnostic plant pathology followed by a walking tour of campus. The day will end with a laboratory session using microscopy to view many of the pathogens seen earlier in the day. Cost: \$100. Pre-registration is required, as space is limited. Lunch is on your own, morning coffee will be provided.

Five pesticide contact hours for categories 29, 36, and Applicators License available. ISA, MCA, MCH, and MCLP credit requested.

For a registration form or more information, go to www.umassgreeninfo.org or contact UMass Extension at (413)545-0895, eweeks@umext.umass.edu.

Northeast Greenhouse Conference

November 5-6, 2014

Location TBA

The first greenhouse conference was in 1972 and it has grown into a tradition. The Northeast Greenhouse Conference is a biennial event for greenhouse growers, garden retailers, allied trade, educators and students. Two full days with over 30 educational sessions will feature a wide range of topics on greenhouse culture, new product trends, plant nutrition, retail marketing, pest and disease management, biological control and business management. There will be concurrent sessions which will offer the latest research and innovative practices by industry experts, nationally recognized speakers, growers and Extension staff. Visit more than 120 exhibitors during dedicated tradeshow time to gather information on products and services that will benefit your greenhouse business. Join over 1,500 other growers from throughout the Northeast.

For more information contact Tina Smith (413)545-5306, tsmith@umext.umass.edu or Geoffrey Njue (508) 295-2212 ext. 47, UMass Extension Greenhouse Crops and Floriculture Program, or go to www.nogreenhouse.org.

Green School

November - December 2014
Twice weekly, 9 am - 3:30 pm
Location TBA

Presented by the Landscape, Nursery and Urban Forestry Program and the Turf Program, Green School is a comprehensive educational training program for Green Industry professionals, which provides instruction on the relationship of horticultural fundamentals to environmental quality and instills a sense of environmental stewardship in participants. Knowledge of plants and plant systems as well as integrated pest management (IPM) is the basis of the curriculum.

The 60-hour training program focuses on management of the landscape as a whole, and is appropriate for garden center managers and employees, private or municipal grounds managers and personnel, landscape and lawn care operators, nursery operators and personnel, and professional gardeners. Horticulture professionals learn about basic plant management with emphasis on IPM concepts and the optimization of pest control through proper cultural management of turf, woody ornamentals, and other related specialties.

Participants can choose one of four specialty tracks: Landscape Management, Turf Management, Arboriculture, or Sustainable Vegetable Production. Topics will be taught by University of Massachusetts Extension educators and UMass Amherst faculty, as well as other professionals recognized in their areas of expertise in the Northeast. Classes are held several days per week from 9:00 a.m. to 3:30 p.m. Applications for the next class will be accepted starting June 2014.

For an application or further information, go to www.umassgreeninfo.org or contact the Landscape, Nursery, and Urban Forestry Program at (413)545-0895 or Mary Owen, UMass Extension Turf Program, at (508)892-0382. To receive advance notice of the 2014 schedule and registration information by email when it becomes available, sign up at www.umassgreeninfo.org and click on 'Services', then 'E-Mail List.'

UMass Winter School for Turf Managers

January - February 2015

This highly acclaimed certificate program immerses students in a full-time, seven week course of study, focused solely on the management of fine turf and taught by UMass faculty, staff and distinguished guests. Winter School is an excellent choice for professionals who seek to expand their knowledge and practical skills. The program is especially suited for those who desire to take their career in turf management to the next level, but are unable to schedule a two or four-year degree program. The course is also appropriate for career changers who want to enter the field of turf management. The UMass Winter School for Turf Managers has been offered since 1927 and was the first program of its kind. The course provides 32 hours of intensive, expert instruction each week, covering general turf management, physiology, pest management (insects, diseases, and weeds), soils, fertilizers, irrigation, personnel management, and much more. Enrollment is limited, and close-knit classes offer the opportunity to form lasting relationships with peers and memories that will last a lifetime.

Pesticide recertification contact hours valid for licenses in all New England states will be available for category 37 (turf) and category 00 (licensed applicator).

Applications for the 2015 course will be available in Summer 2014. For more information, contact the UMass Winter School for Turf Managers at (413) 545-5202, or visit www.umassurf.org.

UMass Turf Research Field Day

Summer, 2015

8:30 am - 1 pm

UMass Joseph Troll Turf Research Center, South Deerfield, MA

The UMass Turf Research Field Day is moving to an alternate year schedule. Participants will have the opportunity to meet and speak with UMass Turf Program staff and to view projects underway. Current turf research includes studies on the biology and integrated management of turf-damaging disease and insects, short- and long-term weed management, fertility, wear tolerance and drought management, as well as a range of National Turfgrass Evaluation Program fine turf trials. Field Day will also feature displays and demonstrations from turf industry vendors. A barbecue lunch will be served.

Pesticide recertification contact hours valid for licenses in all New England states will be available for category 37 (turf) and category 00 (licensed applicator).

For more information, contact the UMass Extension Turf Program at (508) 892-0382, email fieldday@umassurf.org or visit www.umassurf.org. UMass TurfTalk subscribers will receive notice of posting of program agenda and registration information by email. To sign up, visit www.umassurf.org and click on 'Services', then 'E-Mail List'.

At-A-Glance Calendar of UMass Extension Events



See more info on Conferences & Workshops beginning on page 9 or go to www.umass.edu/agland.

2013

- Nov 6 The Ins and Outs of Biological Control Sturbridge
- Dec 3-5 Hazard Analysis Critical Control Point (HACCP) Certification Workshop Amherst
- Dec 17-19 New England Vegetable & Fruit Conference & Trade Show Manchester, NH

2014

- Jan-Feb Turf Winter School Amherst
- Jan-Nov Pesticide Applicator License Exam Training various
- Jan 7-10 Better Process Control School Amherst
- Jan 15 Growing Spring Crops in Greenhouses E. Wareham
- Jan 15 Cranberry Management Update Plymouth
- Jan 29 Winter Flower Growers Meeting Winchester
- Feb 5-7 New England Grows Boston
- Feb 20 Principles & Fundamentals of Weed Science *(Part 1, Invasive Plant Certification)* Milford
- Mar 11 Community Tree Conference Amherst
- Mar 18 State Regulations Pertaining to Invasive Plant Management *(Part 2, Invasive Plant Cert)* Milford
- Mar 19 Greenhouse Plant Disease Diagnostic Workshop Amherst
- Mar TBA Mass Aggie Seminars various
- Apr 3 Spring Kickoff for Landscapers: UMass Extension Landscape Education Day E. Wareham

Apr 8	The Invasive Plant Issue & Invasive Plant ID (Part 3, <i>Invasive Plant Certification</i>)	Milford
Apr 22	Developing an Invasive Plant Management Program (Part 4, <i>Invasive Plant Certification</i>)	Milford
Apr 23	Scouting for Early-Season Landscape Pests and Problems	Amherst
Apr TBA	Mass Aggie Seminars	various
Apr TBA	Snow Mold Research Field Days	various
Apr TBA	Fruit Twilight Meeting	TBA
May 29	Weed Walkabout	Wellesley
May TBA	Mass Aggie Seminars	various
May TBA	Fruit Twilight Meeting	TBA
June 5	Inland Wetland Plant Identification	Amherst
Jun 10	Broadleaf Weed Identification Workshop	Amherst
Jun 18-20	Blue, Green and Gray Water Use in Agriculture	Medford
June 19	Identifying Inland Wetland Soils	Amherst
Jun TBA	Fruit Twilight Meeting	TBA
Jul 24	MNLA/MFGA Summer Conference & Trade Show	Deerfield
Jul TBA	Identification of Turf Damaging Diseases Workshop	Amherst
Jul TBA	Vegetable Twilight Meeting	TBA
Aug TBA	Vegetable Twilight Meeting	TBA
Sep TBA	Landscape and Forest Tree and Shrub Disease Workshop	Amherst
Nov 5-6	Northeast Greenhouse Conference	Worcester
Nov-Dec	Green School	Marlborough
2015		
Jan-Feb	Turf Winter School	Amherst
Aug TBA	Turf Research Field Day	South Deerfield

Online Updates: First Alert Messages

• Greenhouse Updates and Email List

Greenhouse managers: Receive timely reports about what's happening with pests, nutrition, marketing and other issues that affect your greenhouse business. University Extension Specialists post updates to our website www.negreenhouseupdate.info based on site visits and conversations with growers. As new information is added, an email sends a reminder and provides a direct link to the website. To be added to the email list contact: Tina Smith, tsmith@umext.umass.edu or call (413)545-5306.



Visit UMass Extension Greenhouse Crops and Floriculture on Facebook.
Link from: extension.umass.edu/floriculture.

• Turf Management Updates and TurfTalk Email List

Turf managers: Keep current with the latest Northeast regional turf management information by logging onto the UMass Extension Turf Program web site, www.umassturf.org. During the growing season, UMass Extension Turf Specialists post Management Updates on a regular basis. These messages cover disease outbreaks, insect population status, cultural strategies for managing turf, and other timely information.

Subscribe to the *UMass TurfTalk* email list, and you will be immediately notified when a new Management Update is posted to the website. You will also be notified of upcoming events and educational opportunities. The subscription is free, and it only takes a few moments to get started. For instructions on how to subscribe to the list, please visit www.umassturf.org, click on "Services", then "E-Mail List".

• The Landscape Message

The Landscape Message is an educational newsletter that informs and guides horticultural professionals in the management of our collective landscape. Scouts compile and record environmental and phenological data for locations throughout Massachusetts to aid in the monitoring of plant and pest development, the planning of management strategies, and the creation of site-specific records for future reference. Detailed reports from Extension specialists on growing conditions, pest activity, and cultural practices for the management of woody ornamentals, trees, and turf are regular features.

The Landscape Message allows landscapers, arborists, turf managers, nursery growers, garden designers and other practitioners to be in touch with local trends and challenges. The following information is commonly available for turf and landscape plant materials:

- Weather and general conditions reports
- Insect activity and population development
- Disease occurrences and potential disease problems
- Growing degree day reports
- Phenology information for key indicator plants
- Cultural problems and solutions
- Pest management strategies, including Integrated Pest Management

Approximately 24 messages are published each year. A new message is available weekly during the heart of the growing season, bi-weekly in mid to late summer, and monthly in the fall/winter.

Subscribe to our e-mail list to receive notification in your inbox when each new message is posted: go to www.umassgreeninfo.org and click on 'Services'. Subscribers also receive advance notice of postings of program agendas and registration information by email. For more information, call (413)545-0895.

UMass Extension offers a variety of soil test options. Among them are:

SOIL

Routine Soil Analysis - \$ 10.00; includes pH, Exchangeable Acidity, Extractable Nutrients (P, K, Ca, Mg, Fe, Mn, Zn, Cu, B), Extractable Aluminum, Cation Exchange Capacity, Percent Base Saturation. Also included, Extractable Lead.

Optional Additional Analysis for Soil:

Soil Organic Matter - \$ 5.00; determination of Percent Soil Organic Matter by Loss on Ignition

Soluble Salts - \$ 5.00; a measurement of the Electrical Conductivity of a 1:2 (soil:water) extract

Soil Nitrate - \$5.00; Measurement of nitrate nitrogen (NO₃-N) using an ion specific electrode

Soil Texture - \$ 70.00; determination of USDA Textural Classification by combined Hydrometer Analysis of silts and clay and Dry Sieving of sands, presented in Tabular Format. (Can be used to determine Alternate Percolation rate for Title V requirements.)

Optional Additional Analysis for Soil Texture:

Sieves for Determination of Title V Sand (for new Septic Construction) - \$ 10.00

Grain Size Distribution Graph - \$ 10.00

SOILLESS GREENHOUSE MEDIA

Saturated Media Test - \$15.00; provides pH of Water Saturated Media, Electrical Conductivity and Nutrient Content (Nitrate-N, Ammonium-N, P, K, Ca, Mg, Zn, B, Mn, Cu, and Fe)

COMPOST

Standard Compost Test - \$ 45.00; includes pH, Extractable Nutrients (P, K, Ca, Mg, Fe, Mn, Zn, Cu, B), Extractable Aluminum, Equivalent Base Percentages, Organic Matter, Total Nitrogen, C/N ratio, Nitrate-N, Ammonium-N, Electrical Conductivity, Percent Moisture, Bulk Density.

Basic Compost Test - \$ 25.00; Includes pH, Organic Matter, Total Nitrogen, C/N ratio, Electrical Conductivity, Percent Moisture, and Bulk Density.

PLANT TISSUE

Plant Tissue Test (with Nitrogen) - \$ 25.00; determination of the Total Tissue P, K, Ca, Mg, Na, Zn, Cu, Mn, Fe, and B. Analysis by ICP Spectrometry of dry-ashed sample in 10% HCl, as well as Total Nitrogen by catalytic combustion.

Plant Tissue Test (without Nitrogen) - \$ 18.00; determination of the Total Tissue P, K, Ca, Mg, Na, Zn, Cu, Mn, Fe, and B. Analysis by ICP Spectrometry of dry-ashed sample in 10% HCl.

NOTE: Other tests may be available upon consultation and prior arrangement with the lab.

Visit soiltest.umass.edu for a current list of services, pricing and order forms.

UMass Soil & Plant Tissue Testing Lab

West Experiment Station - 682 North Pleasant Street

Amherst, MA 01003-9302

(413)545-2311

soiltest@umass.edu

Parking meters for clients are available next to the building.

Tick-Borne Disease Analysis

Contact: **Dr. Craig Hollingsworth**, (413)545-1055, chollingsworth@umass.edu

UMass Extension, in cooperation with researchers at UMass Amherst, assesses ticks for their disease potential. We assess each tick to identify species, life stage, and whether the tick shows signs of feeding. Using polymerase chain reaction (PCR), each tick is tested for the presence of DNA of specific disease pathogens. We test for the presence of the pathogens for the primary diseases spread by deer ticks (Lyme disease, anaplasmosis and babesiosis) as well as pathogens carried by other ticks in the Northeast. In addition to Lyme disease, anaplasmosis, and babesiosis, testing is also available for bartonellosis, Southern tick-associated rash illness, tularaemia, human monocytotropic ehrlichiosis, and ehrlichiosis. A fee is charged for this service, depending on which test is ordered.

Diagnostic Fees

Tick ID and Lyme Disease - \$40

Tick Assessments (these tests can be ordered individually for \$50/each)

Anaplasmosis, Babesiosis, Bartonellosis, Southern Tick-Associated Rash Illness,
Tularaemia, Human Monocytotropic Ehrlichiosis, Ehrlichiosis

Specific information for submission can be found at the UMass Extension Tick Assessment Laboratory web site at www.umass.edu/tick.

Analysis begins on the Tuesday of each week and results are generally reported by email by the end of the week. If a person has been infected by a tick bite, symptoms may begin to occur even before the results of tick testing are available. *People should not wait for tick testing results before seeking medical advice should any symptoms develop.* Send tick samples to UMass Extension Tick Assessment, Agricultural Engineering Building, 250 Natural Resources Way, Amherst, MA 01003.

USDA Good Agricultural Practices (GAP) Training for Vegetable and Berry Growers

www.youtube.com/UMEXTAgLand

Recent contamination outbreaks for tomatoes and spinach have raised concerns about the safety of fresh produce. UMass Extension and the Massachusetts Department of Agricultural Resources (MDAR) are pleased to present a USDA Good Agricultural Practices (GAP) Training Program for growers and other fresh produce handlers.

At the training, you will learn more about the costs and impact of diseases and outbreaks caused by food-borne pathogens; strategies for controlling potential microbial food safety hazards before planting and throughout all phases of production - planting, production, harvesting and postharvest handling; and the USDA Third Party Audit process. Participants will also receive a manual filled with GAP resources and a CD loaded with templates needed to maintain records to verify USDA GAP that can be customized for your farm. At the end of the session, attendees will receive a certificate of participation.

For more information contact Dr. Richard Bonanno, Ph.D., UMass Extension Educator, rbonanno@umext.umass.edu.

For online training modules, go to www.youtube.com/UMEXTAgLand.

The University of Massachusetts Amherst recognizes the importance of reliable and prompt diagnosis of plant problems for the turf, floriculture, fruit, vegetable, nursery, urban forestry and landscape industries. We serve farmers, horticulturists, landscape contractors, turf managers, arborists, nurseries, and others in agriculture and the green industries. The lab also assesses ticks for Lyme and other tick-borne diseases as a service to the public.

To ensure that we continue to provide the most reliable service, all of our plant diagnostics expertise has been integrated into one location on the UMass Amherst campus. The members of the diagnostics team of the UMass Extension Plant Diagnostic Lab are able to call upon each other's expertise to make fast and accurate diagnoses. Each diagnosis includes a written report with pest management strategies that are research based, economically sound, and environmentally appropriate for the situation.

Notes for Diagnostic Sample Submission

- **A completed diagnostic sample submission form is required for each specimen** (or particular problem). Diagnostic forms for various types of samples, along with instructions, are on the following pages. Remember that accurate diagnosis requires **both** a representative sample and sufficient information about the cultural practices and environmental conditions associated with the problem. The information you record on the form can be more important to the diagnosis than the sample itself! Photos of the problem are also extremely helpful. *No sample will be diagnosed without a completed form.*
- **There is a fee per specimen** (or particular problem) payable to the University of Massachusetts, and the appropriate fee must accompany each sample. The UMass Extension Plant Diagnostic Lab will call and/or send a written report when a conclusion has been reached on the diagnosis or identification. Detailed management recommendations are included with disease, insect, and weed diagnoses.
- **You may obtain copies of the forms on the following pages, by calling the lab at (413) 545-3208 or at ag.umass.edu/diagnostics.**

Diagnostic Fees

Floriculture/greenhouse crop diseases	\$50
Fruit diseases	\$50
Landscape and turf insect ID.....	\$50
Landscape and turf weed ID.....	\$25
Nematode assay all other crops except turf.....	\$50
Turf disease analysis.....	\$75
Turfgrass ID	\$25
Turf nematode assay	\$75
Vegetable crop diseases	\$50
Woody plant disease analysis	\$50

Address packages to: UMass Plant Diagnostic Lab

101 University Drive, Suite A7 - Amherst, MA 01002

(413)545-3208 - fax (413)545-4385

Use exact address to ensure delivery.

Parking for clients is free and easily accessible to the first floor lab.

ag.umass.edu/diagnostics

Floriculture Diagnostics

Contact: **M. Bess Dicklow**, (413)545-3209, mbdicklo@umext.umass.edu
Dr. Robert Wick, (413)545-1045, rlwick@umass.edu

Contact M. Bess Dicklow (413)545-3209, Tina Smith (413)545-5306, or Geoffrey Njue (508) 295-2212 x47 to determine if sending a specimen is necessary or to inform the lab that one is being sent. Microscopic and laboratory identification of fungi, bacteria, viruses, and nematodes are routinely carried out. Samples can be hand-delivered (if possible) or sent overnight mail, UPS, or Federal Express. Along with your sample, include a completed *Vegetable & Floriculture Diagnostic Form* (page 26 or go to www.umass.edu/agland/diagnostics). Be as complete as possible; accurate diagnosis depends on sufficient information about cultural practices and environmental conditions. Collect specimens that show a range of symptoms, avoiding rotted or decayed specimens. **Please avoid Friday samples;** Friday samples will not be examined until Monday, which can lead to deterioration of the sample. Upon reaching a conclusion, the lab will send or email a report on the diagnosis including complete management guidelines emphasizing cultural and biorational controls, as well as chemical control options.

Nutrient Management

Contact: **Masoud Hashemi**, (413) 545-1843, masoud@umass.edu

Nutrient management planning for any size farm is essential; it reduces the cost of operation and protects our environment. For assistance with nutrient management planning, manure management, and pasture management, farmers including dairy and livestock producers, horse owners and vegetable growers can contact Masoud Hashemi at (413)545-1843 or email masoud@umass.edu.

Tree and Shrub Disease and Insect Diagnostics

Contact: **Diseases - Nick Brazee**, (413)545-2826, nbrazee@umext.umass.edu
or **Insects - Bob Childs**, (413)545-1053, rchilds@psis.umass.edu

Fill out the *Tree and Shrub Diagnostic Form* on page 29 (or go to www.umass.edu/agland/diagnostics) as completely as is feasible.

Disease Samples: See guidelines on page 27.

Insect Samples: Immature and soft-bodied insects should be placed in 70% ethyl alcohol (rubbing alcohol is not ideal, but may work). Other insects must be carefully packaged. Do not place loose insects into envelopes for mailing, as the automatic process for handling mail will most likely destroy the specimens.

Turfgrass Disease Diagnostics and Nematode Assays

Contact: **M. Bess Dicklow**, (413)545-3209, mbdicklo@umext.umass.edu
Dr. Robert Wick, (413)545-1045, rlwick@umass.edu

Contact M. Bess Dicklow or Dr. Robert Wick before sending a sample to ensure that someone will be available to examine your specimen. **Please avoid Friday samples;** Friday samples will not be examined until Monday which can lead to deterioration of the sample. If you mail the sample, use an express delivery service such as UPS, Federal Express, or next day mail. Please include a completed *Turf Diagnostic Form* (page 32 or go to www.umass.edu/agland/diagnostics). The information you record on the form may be more important to the diagnosis than the sample itself, so please be comprehensive. Upon reaching a conclusion, the lab will call you and send, fax, or email a detailed report including cultural and chemical management measures.

Turfgrass Identification

Contact: **UMass Extension Plant Diagnostic Lab**, (413)545-3208

Fill out the *Turf Diagnostic Form* (page 32 or go to ag.umass.edu/diagnostics) as completely as is feasible, following the guidelines on page 31. When choosing a specimen, select the healthiest and most mature plant(s) available. Collect the whole plant, including the roots, if possible. Wrap roots in a wet paper towel. Place plant in a ziplock or freezer bag and seal with some air in the bag in order to prevent crushing. Place bag in a sturdy box or envelope for mailing.

Vegetable & Fruit Diagnostics

Contact: **M. Bess Dicklow**, (413)545-3209, mbdicklo@umext.umass.edu

Dr. Robert Wick, (413)545-1045, rlwick@umass.edu

Contact M. Bess Dicklow (413)545-3209, Ruth Hazzard (vegetables) (413)545-3696, or Sonia Schloemann (fruit) (413)545-4347 to determine if sending a specimen is necessary or to inform the lab that one is being sent. Microscopic and laboratory identification of fungi, bacteria, viruses, and nematodes are routinely carried out. Samples can be hand-delivered (if possible) or sent overnight mail, UPS, or Federal Express. For vegetables, along with your sample, please include a completed *Vegetable & Floriculture Diagnostic Form* (page 26); for fruit, include the completed Fruit Diagnostic Form (page 28). Forms are also available online at ag.umass.edu/diagnostics. A completed form must accompany your sample(s). Be as complete as possible; accurate diagnosis depends on sufficient information about cultural practices and environmental conditions. Collect specimens that show a range of symptoms, avoiding rotted or decayed specimens.

Please avoid Friday samples; Friday samples will not be examined until Monday which can lead to deterioration of the sample. Upon reaching a conclusion, the lab will send or email a report on the diagnosis including complete management guidelines emphasizing cultural and biorational controls, as well as chemical control options.

Weeds and Invasive Plants Identification

Contact: **Randy Prostak**, (413) 577-1738, rprostak@umass.edu

Depending on the site, fill out the *Weed Diagnostic Form* (page 30) or the *Turf Diagnostic Form* (page 32) as completely as possible. Collect the whole plant, including the roots if possible, and select the healthiest plants available. Wrap roots in a wet paper towel. Place plant in a zip-lock or freezer bag and seal with some air in the bag in order to prevent crushing. Place bag in a sturdy box or envelope for mailing. Forms are also available online at ag.umass.edu/diagnostics.

Guidelines for Sending Floriculture Samples

Please submit samples according to the following guidelines, based on the symptoms present, using the form on page 26:

NOTE: Never wrap leaves in wet paper towels or add water.

Leaf Spots and Blights. An entire plant is always the best specimen, allowing inspection of all plant parts. Leaf spots and blights of floriculture crops are often caused by fungi or bacteria. Certain pesticides or environmental or nutritional factors can also cause spotting. Select leaves which show a range of symptom development. Specimens that are dead or dry are of little diagnostic value.

Wrap leaves in newspaper or dry paper towels. Place the leaves in a plastic bag, and then into an envelope for mailing.

Stem Cankers. When a canker occurs on a large plant, cut a section of the stem with the symptoms, wrap in newspaper and place in a plastic bag for mailing. If the plants are small (1 foot or less), shake the soil from the roots, wrap in newspaper and put into a plastic bag for mailing.

Wilt, Crown Rot or Root Rot. If the plants are 1 foot or less, include the entire plant. Dig the plant including a good handful of the root system. Leave the soil on the roots. Place the root/soil ball into a plastic bag and tie off at the crown to prevent soil from spilling out. Wrap in newspaper and put into a plastic bag for mailing.

Scorch, Defoliation or Poor Growth. If the plants are 1 foot or less, include the entire plant. Dig the plant, including a good handful of the root system. Leave the soil on the roots. Place the root/soil ball into a plastic bag and tie off at the crown to prevent soil from spilling out. Wrap in newspaper and put into a plastic bag for mailing. If the plants are large, send a portion of the plant that includes the infected tissue. For wilt diseases, we must have lower stem tissue and roots.

UMass Plant Diagnostic Lab: VEGETABLE & FLORICULTURE FORM *

Providing analysis, identification, and ecologically sound management strategies for diseases, insects, weeds, and nematodes found in landscapes, turf, nurseries, greenhouses, farms, and the urban forest.

**UMass
Extension**

CENTER FOR AGRICULTURE

UMass Plant Diagnostic Lab – 101 University Drive, Suite A7 – Amherst, MA 01002

Telephone: (413) 545-3208 - Fax: (413) 545-4385 - ag.umass.edu/diagnostics

Send specimen to above address. Please include payment payable to *University of Massachusetts*.

➔ **USE THIS FORM FOR:** Vegetable Disease or Nematode Analysis (\$50) Floriculture Disease or Nematode Analysis (\$50)

Host Plant _____ Cultivar _____ Date Collected _____

Approximate Age / Planting Date / Length of Time in Present Medium _____

When Did Symptoms Occur? _____ % of Crop Affected _____ Size of Planting _____

Briefly Describe the Problem _____

Describe Pesticides / Rates Used: _____ When? _____

Describe Site Conditions and Relevant Cultural Practices _____

Is a Soil Test Being Done for This Specimen? _____

Circle all that apply:

Location	Part Affected	Symptoms	Symptom Distribution	Soil-Type	Soil Moisture	Irrigation
Container	Roots	Wilted	Scattered	Soiless	Wet	Overhead
Field	Crown	Yellowed	Localized	Soiless/Soil	Moderate	Drip
Greenhouse	Stem	Stunted	Borders	Soil Only	Dry	Flood
Nursery	Leaves	Leaf Spot/Blight	Edges	Sandy	Very Dry	None
Hydroponic	Flower	Fruit Blight	All or Nearly All	Clay		Other
Other	Fruit	Other		Loam		

Contact _____ Firm _____ Address _____

Town _____ State _____ Zip Code _____ Phone _____

Fax Number _____ E-mail Address _____

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

[Empty box for diagnostic lab completion]

Lab Number	Date Received	Date Answered	Payment
Condition of Specimen: Good Poor Insufficient	Specimen Code	Client Code	

Ver. 2014 GD

* **NOTE** – turf samples, tree and shrub samples, and fruit samples require alternate submission forms. Visit ag.umass.edu/diagnostics or call (413) 545-3208 for copies

Guidelines for Sending Fruit & Vegetable Samples

Please submit samples according to the following guidelines, based on the symptoms present, using the form on page 26 (vegetables) or 28 (fruit):

Leaf Spots and Blights. Leaf spots and blights of fruit and vegetable crops are often caused by fungi or bacteria. Certain pesticides, or environmental or nutritional factors can also cause spotting. Select leaves which show a range of symptom development. Specimens that are dead or dry are of little diagnostic value. Wrap the leaves in newspaper or dry paper towels. Place the leaves in a plastic bag, then into an envelope for mailing. **Never wrap leaves in wet paper towels or add water.**

Fruit Rots. Select early stages of disease rather than badly rotted tissue. With large fruit such as a pumpkin, cut the affected area out with a knife and submit. Wrap fruit or fruit sections in newspaper, and put into a plastic bag for mailing. **Never add water or wet paper towels.**

Stem Cankers. When a canker occurs on a large plant, cut a section of the stem with the symptoms, wrap in newspaper and place in a plastic bag for mailing. If the plants are small (1' or less), shake the soil from the roots, wrap in newspaper and put into a plastic bag for mailing. **Never add water or wet paper towels.**

Wilt, Crown Rot or Root Rot. If the plants are 1 foot or less, include the entire plant. Dig the plant, including a good handful of the root system. Leave the soil on the roots. Place the root/soil ball into a plastic bag and tie off at the crown to prevent soil from spilling out. Wrap in newspaper and put into a plastic bag for mailing. If the plants are large, send a portion of the plant that includes the infected tissue. For wilt diseases, we must have lower stem tissue and roots.

Guidelines for Sending Samples of Tree and Shrub Material

Please submit samples based on the following guidelines for tree and shrub diseases, insect identification, and weed identification, using the form on page 29:

For proper diagnosis, specimens must be received in good condition. It may be helpful to call the lab first at (413)545-3208 to see if sending a sample is necessary. Hand-deliver samples if possible, or send them by the fastest means available. Include accompanying information (such as photos, etc.) regarding the symptoms that are of particular concern to you.

When Sending Samples:

1. Ship samples so that they will be delivered in 48 hours or less. Federal Express, UPS, and Two-day Priority Mail through the U.S. Postal Service deliver directly to the building. Be sure to pack the specimen in a sturdy envelope or box.
2. Fill out the *Tree and Shrub Diagnostic Form* as completely as possible. This form must accompany each specimen sent to the lab. The information supplied will allow a more thorough and accurate diagnosis. Include your phone number, email, and a fax number, if available, so we may contact you for further information or inform you of the diagnosis.
3. **Disease Samples:** Send several plants/leaves/branches etc. showing a range of symptoms that are representative of the problem. Select samples from the area at the margin between the diseased portion of the plant and the healthy tissue. Dead plant material usually is of little value because it often contains secondary organisms that may make detection of the primary pathogen difficult.

Place leaves, branches, and other plant parts in a plastic bag and seal it. **Do not add moist towels or moisten the sample before sealing it.**

- When sending entire plants, dig, rather than pull, roots from the soil. Wrap roots and attached soil in a plastic bag and secure to the trunk with a twist tie. Place a second bag over the foliage and punch a few holes through this bag for ventilation. Do not add additional water or moist towels.
 - Vascular wilt specimens:* Plants or plant parts that suddenly wilt may be infected with a vascular disease. Branch or stem sections 1/4" to 1" in diameter and 4" to 6" long should be taken from the wilting plant or recently wilted plant part. Avoid sending plant material that has been dead for any length of time.
4. **Insect Samples:** Immature and soft-bodied insects should be placed in 70% ethyl alcohol (rubbing alcohol is not ideal, but may work). Other insects must be carefully packaged. Do not place loose insects into envelopes for mailing, as the automation process for handling mail will most likely destroy the specimens.
 5. **Weed Samples:** Collect whole plant, including the roots, if possible. Wrap roots in a wet paper towel. Place plant in a ziplock or freezer bag and seal with some air in the bag in order to prevent crushing. Place bag in a sturdy box or envelope for mailing.

UMass Plant Diagnostic Lab: FRUIT FORM*

Providing analysis, identification, and ecologically sound management strategies for diseases, insects, weeds, and nematodes found in landscapes, turf, nurseries, greenhouses, farms, orchards, and the urban forest.

**UMass
Extension**

CENTER FOR AGRICULTURE

UMass Plant Diagnostic Lab – 101 University Drive, Suite A7 – Amherst, MA 01002

Telephone: (413) 545-3208 - Fax: (413) 545-4385 - ag.umass.edu/diagnostics

Send specimen to above address. Please include payment payable to *University of Massachusetts*.

⇒ **USE THIS FORM FOR:** Fruit Disease Analysis (\$50) Fruit Nematode analysis (\$50) Fruit Insect ID (\$50) Fruit Weed ID (\$25)

Host Plant _____ Cultivar _____ Date Collected _____

Approximate Age _____ Length of Time in Present Location _____

When Did Symptoms Occur? _____ Were Symptoms Apparent in Previous Years? _____

Briefly Describe the Problem _____

Describe Pesticides/Chemicals Used: _____ When? _____

Describe Site Conditions and Relevant Cultural Practices _____

Circle all that apply:

<u>Location</u>	<u>Irrigation</u>	<u>Site Condition</u>	<u>Soil</u>	<u>Drainage</u>	<u>Symptoms</u>	<u>Part Affected</u>
Landscape	Lawn	Shade	Sandy	Good	Yellowed/Browning	Roots
Greenhouse	Overhead	Full Sun	Clay	Moderate	Stunted	Crown
Nursery	Drip	Wet	Loam	Poor	Shoot Blight	Branch/Stem
Forest	None	Droughty	Soil Mix		Canker	Leaves/Needles
Other _____		Compacted	pH _____		Stippling/Spots	Fruit

Contact _____ Firm _____ Address _____

Town _____ State _____ Zip Code _____ Phone _____

Fax Number _____ E-mail Address _____

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

Lab Number _____	Date Received _____	Date Answered _____	Payment _____
Condition of Specimen: Good <input type="checkbox"/> Poor <input type="checkbox"/> Insufficient <input type="checkbox"/>	Specimen Code <input type="text"/>	Client Code <input type="text"/>	

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* **NOTE** – Tree and shrub samples, turf samples and vegetable/floriculture samples require alternate submission forms. Visit ag.umass.edu/diagnostics or call (413) 545-3208 for copies.

UMass Plant Diagnostic Lab: TREE & SHRUB FORM*

Providing analysis, identification, and ecologically sound management strategies for diseases, insects, weeds, and nematodes found in landscapes, turf, nurseries, greenhouses, farms, orchards, and the urban forest.

UMass Extension
CENTER FOR AGRICULTURE

UMass Plant Diagnostic Lab – 101 University Drive, Suite A7 – Amherst, MA 01002
Telephone: (413) 545-3208 · Fax: (413) 545-4385 · ag.umass.edu/diagnostics

Send specimen to above address. Please include payment payable to *University of Massachusetts*.

➔ **USE THIS FORM FOR:** Diseased Tree/Shrub Analysis (\$50) Tree/Shrub Insect ID (\$50) Landscape Weed ID (\$25)

Host Plant _____ Cultivar _____ Date Collected _____

Approximate Age _____ Length of Time in Present Location _____

When Did Symptoms Occur? _____ Were Symptoms Apparent in Previous Years? _____

Briefly Describe the Problem _____

Describe Pesticides/Chemicals Used: _____ When? _____

Describe Site Conditions and Relevant Cultural Practices _____

Circle all that apply:

Location	Irrigation	Site Condition	Soil	Drainage	Symptoms	Part Affected
Landscape	Lawn	Shade	Sandy	Good	Yellowed/Browning	Roots
Greenhouse	Overhead	Full Sun	Clay	Moderate	Stunted	Crown
Nursery	Drip	Wet	Loam	Poor	Shoot Blight	Branch/Stem
Forest	None	Droughty	Soil Mix		Canker	Leaves/Needles
Other _____		Compacted	pH _____		Stippling/Spots	Fruit

Contact _____ Firm _____ Address _____

Town _____ State _____ Zip Code _____ Phone _____

Fax Number _____ E-mail Address _____

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

Lab Number _____	Date Received _____	Date Answered _____	Payment _____
Condition of Specimen: Good Poor Insufficient	Specimen Code <input style="width: 50px;" type="text"/>	Client Code <input style="width: 50px;" type="text"/>	

Ver. 2014 GD

* **NOTE** – Turf samples, vegetable/floriculture samples, and fruit samples require alternate submission forms. Visit ag.umass.edu/diagnostics or call (413) 545-3208 for copies.

UMass Extension Plant Diagnostic Lab: WEED FORM*

Providing analysis, identification, and ecologically sound management strategies for diseases, insects, weeds, and nematodes found in landscapes, turf, nurseries, greenhouses, farms, and the urban forest.

UMass Plant Diagnostic Lab - 101 University Drive, Suite A7 - Amherst, MA 01003-9294
Telephone: (413) 545-3208 - Fax: (413) 545-4385 - ag.umass.edu/diagnostics

**UMass
Extension**
CENTER FOR AGRICULTURE

Send specimen to above address. Please include payment payable to *University of Massachusetts*

⇒ **USE THIS FORM FOR:** Weed/Invasive Plant ID (\$25)

Turfgrass species: _____ Origin: Sodded Seeded Date Sample Collected: _____

Cultivar: _____
Year Established: Unknown _____
- Name of Seed Mix _____
- List cultivars comprising seed mix, if known _____

Describe Growth Habit: Single Plant Small Group Large Patch Other: _____

Was Plant Apparent in Previous Years? _____

List Herbicide Used, Rates, and Dates of Application: _____

List Fertilizers Used, Rates, and Dates of Application: _____

List Liming Materials Used, Rates, and Dates of Application: _____

Relevant Cultural Practices and Additional Info
(mowing height, aeration, irrigation, etc.): _____

Location Where Specimen Was Collected: _____
(street, closest intersection if known) Town State Zip

Circle all that apply:

<u>Location</u>	<u>Site Condition</u>	<u>Soil</u>	<u>Drainage</u>	<u>Distribution</u>
Landscape	Shade	Sandy	Excellent	Patches
Lawn	Part Shade	Clay	Good	Random spots
Meadow	Full Sun	Loam	Moderate	Occasional
Side of the Road	Wet	pH _____	Poor	
Other _____	Droughty			

Contact _____ Company _____ Address _____
Town _____ State _____ Zip Code _____ Phone _____
Fax Number _____ E-mail Address _____

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

WEED:
MANAGEMENT STRATEGIES/OPTIONS:

_____ Lab Number _____ Date Received _____ Date Answered _____ Payment _____
Condition of Specimen: Good Poor Insufficient Specimen Code Client Code

Ver. 2013 GD

* **NOTE** – tree, shrub, turf, fruit, vegetable and floriculture samples require alternate submission forms.
Visit ag.umass.edu/diagnostics or call (413) 545-3208 for copies.

Guidelines for Sending Turf Samples

Please submit samples based on the following guidelines for turf diseases and turfgrass identification, using the form on pg. 32

1. **Collecting a sample for turf disease diagnosis:** A 4” to 6” diameter sample from the “leading edge” of a problem is most useful. Include roots and soil to a depth of at least 2” and foliage showing a range of symptoms. Do not send smaller samples or samples collected with a soil probe. Sample from areas where the problem is active or increasing. The pathogen is most likely to be found at the leading edge of a patch area. Samples should include both healthy and affected grass. Try to choose an area that is typical of the problem.
2. **Packaging the sample*:** Keep the sample moist and cool, **but do not add water or wet paper towels**, or seal tightly in plastic. Avoid soil and moisture on the grass. Wet or soiled grass will deteriorate and make diagnosis impossible. Wrap the sample in several layers of newspaper and pack it snugly in a sturdy box. This keeps the soil from getting on top of the plants and obscuring the disease symptoms. If you suspect an unusual problem, take a sample *before* spraying any fungicides. It is often difficult to make an accurate diagnosis after a fungicide has been applied.
***Turf insect samples:** grubs and other soft-bodied insects should be placed in 70% ethyl alcohol (rubbing alcohol is not ideal, but may work). Other insects must be carefully packaged. Do not place loose insects into envelopes for mailing, as the automatic process for handling mail will most likely destroy the specimens.
3. **Fill out the Turf Diagnostic Form:** Be as *complete* as possible. Include complete name and mailing address. Remember that accurate diagnosis requires **both** a representative sample and sufficient information about the cultural practices and environmental conditions associated with the disease problem. Photos of the problem are extremely helpful.

Instructions for mitting a Turf Sample for Nematode Assay

1. **Collection of soil samples.** Nematode populations are estimated most accurately with a composite sample. Use a $\frac{3}{4}$ ” to 1” diameter soil probe, or something similar, and sample to a depth of four inches throughout the site. This depth is a compromise but represents the population distribution of different species fairly well.
 - When damage is evident:* If a portion of the turf appears unhealthy, collect 15 to 20 subsamples from throughout the affected area and bulk them. **For comparison, a composite sample should also be taken from an adjacent, healthy appearing area.**
 - When no damage is evident:* The entire green can be sampled by collecting 30 or 40 samples and combining them as one. However, if portions of the green have had a prior history of being weak, sample throughout the area collecting about 20 samples. Keep notes about where you sampled so you can return at a later date and sample the same general area.
2. **Packaging the sample.** The soil (at least $\frac{1}{2}$ pint) should be placed in a container, such as a plastic bag, to prevent desiccation. Do not add water to the sample. Clearly identify the sample number on the outside of the container. **Paper tags placed in contact with the soil deteriorate quickly. Do not subject the soil to high temperatures.** After collection, refrigerate or deliver as soon as possible.
3. **Sending the sample.** If possible, hand carry the sample to the diagnostic lab. If you mail the sample, use an express delivery service that will deliver directly to the Diagnostic Lab rather than the University Mail Room. U.S. Postal Service Priority Mail and next day delivery packages go to the the University distribution system and are **delayed by a day or more.** UPS and Federal Express Express Delivery are best. Please **DO NOT use Federal Express “First Delivery”** because they arrive before our offices open (before 8:00 a.m.). The “before noon” deliveries seem to work very well. Mark the box, “*Plant Material — Perishable. Refrigerate on Delivery.*” Include a completed *Turf Diagnostic Form*.

UMass Extension Plant Diagnostic Lab: TURF FORM*

Providing analysis, identification, and ecologically sound management strategies for diseases, insects, weeds, and nematodes found in landscapes, turf, nurseries, greenhouses, farms, orchards and the urban forest.

**UMass
Extension**
CENTER FOR AGRICULTURE

UMass Plant Diagnostic Lab – 101 University Drive, Suite A7 – Amherst, MA 01002
Telephone: (413) 545-3208 - Fax: (413) 545-4385 - ag.umass.edu/diagnostics

Send specimen to above address. Please include payment payable to *University of Massachusetts*

➔ **USE THIS FORM FOR:** Turf Disease Analysis (\$75) Turf Nematode Analysis (\$75) Turfgrass/Weed ID (\$25) Turf Insect ID (\$50)

Grass species: _____ Cultivar: _____ Date Sample Collected: _____

Year Established: _____ Origin: Seeded Sodded Plugged Unknown

Describe Symptoms: _____

When Did Symptoms Occur? _____ Were Symptoms Apparent in Previous Years? _____

List Fungicides Used, Rates, and Dates of Application: _____

List Nematicides Used Within the Current Year and Rates: _____

List Other Pesticides Used, Rates, and Dates of Application: _____

List Fertilizers Used, Rates, and Dates of Application: _____

Relevant Cultural Practices and Additional Info: _____

Circle all that apply:

Location	Site Condition	Soil	Drainage	Symptoms
Golf Course - (Green / Tee / Collar / Fairway / Rough)	Shade	Sandy	Excellent	Patches
Lawn	Part Shade	Clay	Good	Rings, Arcs
Athletic Field	Full Sun	Loam	Moderate	Leaf Spot/Blight
Utility/Industrial	Wet	Sand Green	Poor	Yellowing
Other _____	Droughty	pH _____		Wilt

Contact _____ Firm _____ Address _____

Town _____ State _____ Zip Code _____ Phone _____

Fax Number _____ E-mail Address _____

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

Laboratory	Nematodes per 100 cc:		
	<i>Criconebella</i> (ring)	_____	<i>Meloidogyne</i> (root-knot) ♂: _____ j2: _____
	<i>Heterodera</i> (cyst)	♀: _____ j2: _____	<i>Pratylenchus</i> (lesion)
	<i>Helicotylenchus</i> (spiral)	_____	<i>Tylenchorhynchus</i> (stunt)
	<i>Hoplolaimus</i> (lance)	_____	_____
<i>Longidorus</i> (needle)	_____	_____	
<input type="checkbox"/> specimen insufficient for diagnosis		<input type="checkbox"/> no nematode problem detected	
<input type="checkbox"/> see enclosed information			

Lab Number _____	Date Received _____	Date Answered _____	Payment _____
Condition of Specimen: Good Poor Insufficient	Specimen Code <input style="width: 50px;" type="text"/>	Client Code <input style="width: 50px;" type="text"/>	Ver. 2014 GD

* **NOTE** – tree and shrub samples, vegetable/floriculture samples, and fruit samples require alternate submission forms. Visit ag.umass.edu/diagnostics or call (413) 545-3208 for copies.

How to Get a Pesticide License

Massachusetts pesticide law requires that all persons who apply pesticides in public areas and private places used for human occupation and habitation must be in possession of a valid license or certification issued by the Massachusetts Department of Agricultural Resources (MDAR). In accordance with the Massachusetts Pesticide Control Act and the current pesticide regulations, MDAR conducts written examinations to measure competency to use, sell, and apply pesticides in Massachusetts. All exams are closed book and applicants must be at least 18 years of age as of the date of the examination.

Go to www.mass.gov/eea/agencies/agr/pesticides under “Exam Registration Applications, etc” to obtain a “Complete Bulletin.” Included in the bulletin are: the examination schedule, examination application, order form for study materials, and a list of workshops (optional) that you may attend to help prepare for the exams or call (617)626-1720.

Eligibility for a Pesticide License or Certification

You must pass a written exam to be eligible for a pesticide license or certification.

- **Applicator License** — You must take and pass the applicator license exam. If you intend to apply general-use (over-the-counter) pesticides for hire, you **MUST** obtain a commercial applicator license. This document is usually obtained by individuals working in an extermination, lawn care, landscape, or tree business. This also includes individuals working not for hire such as office building grounds keepers, apartment building landlords, custodians, condominium maintenance personnel, golf course superintendents, schools, and state and municipal employees.
- **Dealer License** — You must take and pass the dealer exam. If you intend to sell “restricted-use pesticides,” in Massachusetts or to Massachusetts pesticide applicators you **MUST** obtain a dealer license. This document is obtained by individuals who are employed by distributors and dealers of pesticides.
- **Private Certification** — You must take and pass the appropriate private certification category exam. If you intend to apply restricted-use pesticides on property owned or rented by you or your employer for the purpose of raising agricultural commodities, you **MUST** obtain a private certification. This document is usually obtained by individuals working as farmers and growers.
- **Commercial Certification** — You must take and pass the appropriate commercial certification category exam and have at least two years of relevant experience. If you intend to apply restricted-use pesticides on someone else’s property (For Hire or not For Hire), you **MUST** obtain a commercial certification. This document is usually obtained by individuals working in an extermination, lawn care, landscape, or tree business, and those noted above under the applicator license.

You may apply for one exam only on any scheduled exam date. The applicator license and dealer license exams are given in the afternoon only; check-in at 12:00 p.m., exam starts promptly at 12:30 p.m. The private and commercial certification exams are given in the morning only; check-in at 8:30 a.m., exam starts promptly at 9:00 a.m. (See the exam schedule on the next page.) Exams are multiple choice and are timed. You will have one hour and 45 minutes for the dealer and applicator exams and two hours and 30 minutes for the commercial and private certification exams. The established passing score for the applicator license test is 70% and the established passing point for all other exams is 75%.

Completing and Submitting the Application - Only original, current, Pesticide Bureau examination applications are valid. Call (617)626-1720 for an application or print it off their website (www.mass.gov/eea/agencies/agr/pesticides). Photocopies and faxes are not acceptable. Be sure to complete the examination application, including the exam date and location, sign it, and include the appropriate fee. Incomplete applications or those without the proper fee will be returned which may cause you to miss your chosen examination date.

Pesticide Exam Study Materials - An order form for study materials is included in the “Complete Bulletin” along with the exam application (see above). The order form is also available at the UMass Extension Pesticide Education Program website at www.umass.edu/pested with information on how to order via the mail, phone and internet. Please order study materials in advance in order to have time to prepare for the exams.

Pesticide Applicator License Exam Training Workshops

www.umass.edu/pested

The UMass Extension Pesticide Education Program offers an optional two-day workshop designed to help individuals prepare for the pesticide applicator's license exam. Workshops are from 8:45 a.m. to 4:30 p.m. each day. Preregistration is required, as space is limited. Choose a workshop date at least 1 week prior to your selected exam. For registration information, go to www.umass.edu/pested and click on "Training Workshops To Prepare For Exams" in the left column, or contact Natalia Clifton at (413)545-1044. Dates and locations for 2014 are:

BEST WESTERN ROYAL PLAZA, 181 Boston Post Road W, Marlborough, MA 01752

January 9 & 10, 2014	February 27 & 28, 2014	April 24 & 25, 2014	September 3 & 5, 2014
January 30 & 31, 2014	March 6 & 7, 2014	May 14 & 15, 2014	October 1 & 3, 2014
February 6 & 7, 2014	March 13 & 14, 2014	June 5 & 6, 2014	November 5 & 7, 2014
February 13 & 14, 2014	March 27 & 28, 2014	July 7 & 8, 2014	November 19 & 21, 2014

UMASS EASTERN EXTENSION CENTER, 240 Beaver Street, Waltham, MA 02154

April 3 & 4, 2014	April 10 & 11, 2014	May 1 & 2, 2014	August 7 & 8, 2014
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WESTERN MASSACHUSETTS, Location TBA

March 20 & 21, 2014
May 12 & 13, 2014

UMASS CRANBERRY STATION, East Wareham

February 4 & 11, 2014 (*not a typo!*)
April 17 & 18, 2014

Mass Pesticide Certification and License Exam Schedule

www.mass.gov/eea/agencies/agr/pesticides

Below is the list of exam dates at the time of printing. Go to www.mass.gov/eea/agencies/agr/pesticides or call the Massachusetts Department of Agricultural Resources at 617-626-1720 for the complete pesticide examination bulletin that has additional information such as: exam application, study manuals order form, insurance requirements, etc.

Check-in for Private and Commercial Certification exams is at 8:30 a.m.; exams start promptly at 9:00 a.m. Check-in for the Applicator license and Dealer exams is at 12:00 p.m.; exams start promptly at 12:30 p.m. In the event of bad weather, call (617)626-1841 after 6:30 a.m. on the morning of the exam and listen to the message. If the exam has been canceled, the message will indicate that you should report on the snow date. Deadline for receipt of applications is one week before the exam date. **Dates may change! Snow dates are used only if MDAR reschedules the exam due to inclement weather.**

PLEASE NOTE: If you are planning to take your pesticide exam in 2014, you will have to purchase the 3rd edition of the Core Manual and 2014 Massachusetts Core Supplement. We advise everyone to use the new manuals when preparing for the pesticide exams.

THE LANTANA, 43 Scanlon Dr., Randolph, MA

<i>Exam Date</i>	<i>Snow Date</i>	<i>Exam Date</i>	<i>Snow Date</i>
January 3, 2014	<i>(January 24, 2014)</i>	April 18, 2014	<i>(April 25, 2014)</i>
January 10, 2014	<i>(January 24, 2014)</i>	May 2, 2014	
January 17, 2014	<i>(January 24, 2014)</i>	May 9, 2014	
February 7, 2014	<i>(February 28, 2014)</i>	May 23, 2014	
February 14, 2014	<i>(February 28, 2014)</i>	June 13, 2014	
February 21, 2014	<i>(February 28, 2014)</i>	July 11, 2014	
March 7, 2014	<i>(March 28, 2014)</i>	August 15, 2014	
March 14, 2014	<i>(March 28, 2014)</i>	September 12, 2014	
March 21, 2014	<i>(March 28, 2014)</i>	October 10, 2014	
April 4, 2014	<i>(April 25, 2014)</i>	November 14, 2014	<i>(November 21, 2014)</i>
April 11, 2014	<i>(April 25, 2014)</i>	December 5, 2014	<i>(December 12, 2014)</i>

CAPE COD (Upper Cape Regional Technical School): February 19, 2014 (*snow date at Lantana 2/28/14*) **and April 23, 2014**

SPRINGFIELD (Springfield Technical Community College): March 26, 2014 (*snow date at Lantana 3/28/14*) **and May 21, 2014**

PUBLICATIONS Available from UMass Extension

UMass Extension Garden Calendar

Price: \$12.00

www.umassgardencalendar.org

The annual UMass Extension Garden Calendar presents a selection of plants chosen by UMass Extension Landscape, Nursery and Urban Forestry staff for pest resistance, adaptability to specific growing environments, and seasonal effectiveness. Each month features an inspiring garden image, daily gardening tips for Northeast growing conditions, daily sunrise and sunset times, plenty of room for notes, and low gloss paper for easy writing. Bulk pricing also available: 10-24 copies \$9.00 each, 25-49 copies \$8.00 each, 50-149 copies \$7.00 each, orders of 150 copies or more \$6.00 each, plus shipping and handling. For an order form and chart of shipping charges, go to www.umassgardencalendar.org or contact the UMass Extension Landscape, Nursery and Urban Forestry Program at (413)545-0895 or eweeks@umext.umass.edu.

Floriculture, Fruit and Vegetables

NEW!! Greenhouse Pest Management Smart Phone Web App

Online

greenhousepestguide.umass.edu

Our new Greenhouse Pest Management App for commercial growers of greenhouse crops and flowers was created by Tina Smith, University of Massachusetts and Leanne Pundt, University of Connecticut. This mobile optimized website app is a pest management reference guide that contains options for using biological control and pesticides. Partial support for this project provided by the New England Florist Association Floriculture Applied Research Fund. For questions or comments about this app, contact: Tina Smith, UMass Extension, at (413)545-5306 or tsmith@umext.umass.edu.

New England Greenhouse Floriculture Guide:

A Management Guide for Insects, Diseases, Weeds and Growth Regulators

Price: TBA

A comprehensive guide for commercial production of greenhouse ornamentals with information on current pest management and growth regulators including integrated pest management and biological control information for greenhouse crops. The guide is also designed to provide commercial growers with technical information on pest management (weeds, diseases and insects) and growth regulators. This publication is rewritten every two years by Extension faculty and staff from the New England State University Extension Systems of Massachusetts, Maine, New Hampshire, Vermont, Connecticut, and Rhode Island and reflects the current collective knowledge for greenhouse crops for this region. Published by New England Floriculture, Inc., sponsor of the Northeast Greenhouse Conference (200+ pages.)

On-line Photo Library - www.negreenhouseupdate.info

Online

An on-line photo library that supplements the *New England Floriculture Guide* is available at:

www.negreenhouseupdate.info. Photos of greenhouse pests, nutritional disorders, cultural problems, weeds and biological control agents are online as a tool to assist growers with plant diagnostics in greenhouses. New photos continue to be added. Funded by a grant from New England Floriculture Inc., the parent sponsor of the Northeast Greenhouse Conference.

New England Small Fruit Management Guide

Price: \$16.00

The *New England Small Fruit Pest Management Guide* is a comprehensive resource that covers insect, disease, weed and vertebrate management for strawberries, blueberries, brambles, currants/gooseberries and grapes. This guide is intended for commercial farmers to provide information on pest management practices for these berry crops in New England. Both chemical and non-chemical pest control measures are included. Whenever possible, the use of integrated pest management (IPM) practices is encouraged. Organic and biointensive methods are also discussed. This is an important reference resource for berry and grape growers around New England. Revised every 2 years.

New England Tree Fruit Management Guide

Price: \$50.00

The *New England Tree Fruit Management Guide* (NETFMG) provides integrated crop and pest management information for commercial apple, pear, peach, cherry, plum, and apricot growers. This guide is updated annually by tree fruit production specialists from all six New England States, and includes chapters on: pesticide information; organic production; disease, insect, weed, wildlife, and nutrient management; sprayer application technology; and spray tables for all important tree fruit crops and pests. 278 pages. Available online at no charge at extension.umass.edu/fruitadvisor.

New England Vegetable Management Guide

Price: \$25.00

A comprehensive guide for commercial vegetable growers with information on current production and pest management techniques. This manual is a collaborative effort of members of the Extension Vegetable Programs of the Universities of Maine, New Hampshire, Vermont, Connecticut, and Massachusetts. We invite readers to make use of the extensive sections on soil fertility and nutrients, soil management, cover crops, weed, insect and disease management, IPM, organic production, biorational pesticides, irrigation, and greenhouse vegetable bedding plant production. In the crop-by-crop sections you will find recommended cultural practices, varieties, fertilization, and information on management of weeds, insects and diseases for each crop. Each crop has a chart showing how to read and use soil test results for that crop. The *Northeast Pest Identification Guide* that is bound with this guide provides color photographs of all the weeds, insects, diseases and nonpathogenic disorders that are mentioned in this guide. We hope that growers will use these two publications together for identification and management of pests. Also available in pdf format online at www.nevegetable.org.

Northeast Vegetable and Strawberry Pest Identification Guide

Price: \$10.00

Good identification of your pest problem is the first and most key step to successful management! This guide has fifty pages of clear color photographs for every weed, insect, disease and nonpathogenic disorder that is mentioned in vegetable and strawberry recommendation guides around the Northeast. When you buy the *New England Vegetable Management Guide*, you will get this photo guide with it. Also available in pdf format online at www.nevegetable.org.

Pruning Fruit Trees In the Home Orchard

Price: \$3.50

Thirty-seven photos and illustrations enhance the detailed text covering apple, pear, peach, plum and cherry trees.

Using IPM in the Field: Sweet Corn Insect Management Field Scouting Guide

Free

From the UMass Extension Vegetable IPM Lab. Consumers demand high quality, worm-free corn throughout the season. An Integrated Pest Management (IPM) approach helps growers achieve high quality corn while protecting natural resources and reducing costs. Using IPM effectively in sweet corn combines several methods to monitor pests, decide when insecticides are needed, and encourage biological control where possible. This guide is designed as a tool to take to the field to help growers use IPM successfully. It shows step-by-step how to identify and monitor key pests, how to scout, what to look for, and what thresholds to use for insecticide applications. Color photos help you know exactly what to look for and what to do. A companion guide, the *Sweet Corn Insect Management Recordkeeping Book*, provides a place to write down what you find and keep your scouting records in one compact location. If you would like a copy please call (413)577-3976 or email a request to umassvegetable@umext.umass.edu with your name, address, and email or phone number.

Using IPM in the Field: Diseases of Cucurbit Crops: Scouting and Management Guide

Free Online

From the UMass Extension Vegetable IPM Lab. Cucurbit diseases are increasingly serious, complicated, and hard to manage. This farmer-friendly guide provided quick and easy instructions and plenty of color photographs for recognizing and managing common diseases and disorders of cucurbits. You will also find information on implementing cultural controls, scouting, deciding when and what to spray, managing fungicide resistance, and ways to implement the latest control methods. We are providing this book free of charge to those who are interested and are also posting the documents as downloads on our website www.umassvegetable.org, click on the Publications tab.

IPM for Strawberries in the Northeastern U.S.

Price: \$7.00

Covers nutrient and water management, as well as identifying and controlling pests, diseases and weeds. Includes 77 color photos.

Massachusetts IPM Guidelines: Crop Specific Definitions

Price: \$6.00

Best management practices for apples, cole crops, cranberry, field and greenhouse tomato, highbush blueberry, peppers, poinsettia, potato, pumpkin and winter squash, raspberry, strawberry, sweet corn, and wine grapes.

Landscapes

Pest Identification Guide of Insects, Diseases and Weeds of Woody Ornamentals

Price: \$18.00

Correct identification of your pest problem is the first and most key step to successful management! This photo guide features 70 pages of clear color photographs for the most frequently encountered weed, insect, disease and nonpathogenic disorders of ornamental trees and shrubs in the Northeast.

**Planting and Maintaining Sustainable Landscapes:
A Guide for Public Officials and the Green Industry**

Price: \$15.00

A collection of fact sheets, including *Trees and Shrubs for Low Maintenance Landscapes*; *Recommendations for Planting and Maintaining Trees and Shrubs*; *Integrated Pest Management and Plant Health Care*; *Streetscape Design and Planting*; *Selecting Turfgrasses for Low Maintenance Sites*; *Turf Pesticides and the Environment*; *Children's Protection Act and School IPM Plans*; and *Guidelines for Planting within the 100 Foot Wetland Buffer*.

Turf

**Integrated Pest Management Protocols for Turf on School Properties
and Sports Fields**

Price: \$20.00

Drawn on the field experience of turf management professionals and based on science, these protocols specify the essential components of an IPM system. This manual can be used to create, implement, evaluate, and document an IPM program for sports turf and turf on school grounds. By outlining the basis for an IPM system, these protocols attempt to increase pest management efficiency and to reduce the reliance on pesticides while protecting the environment. This manual is an indispensable tool for schools that must comply with the Massachusetts Children and Families Protection Act or similar legislation in other states.

Professional Guide for IPM in Turf for Massachusetts

Price: \$TBD

This 2014 edition of the *Professional Guide for IPM in Turf for Massachusetts* features the latest techniques critical to environmentally sensitive, integrated management of lawns, athletic fields, and golf courses. This guide contains research-based material about turfgrass selection, as well as current approaches for managing disease, insect, weed, and nematode problems. Alternative and cultural pest control options are highlighted, and pesticide selection advice is based on least environmental impact. This edition also includes FRAC and IRAC codes, which are indispensable tools for intelligent pesticide selection and resistance management.

Protocols for an IPM System on Golf Courses

Price: \$20.00

This publication presents a set of standards that can be used to develop, document, and verify an environmentally feasible and economically viable integrated pest management system on any golf course. Designed in a workbook format, *Protocols* includes pest monitoring guides, action threshold guidelines, and recording forms for daily monitoring and plant materials applications. The book is the result of a three-year cooperative effort between the UMass Extension Turf Program and the Golf Course Superintendents Association of New England.

PUBLICATIONS

Order by calling (413)545-2717 or emailing kahbroad@umext.umass.edu

Mondays 9am to noon, Tuesdays & Thursdays 9 am to 3 pm.

UMass Extension Bookstore

101 University Dr. - Suite A4
Amherst, Ma 01002-2385

Frequently Used Phone Numbers

UMass Extension

www.umass.edu/agland

Floriculture Diagnostics (p.18)	413-545-3209
Pesticide Education Program (p.27)	413-545-1044
Soil Testing Lab (p. 17)	413-545-2311
Turf Diagnostics (p. 19)	413-545-3209
Vegetable Diagnostics (p.20)	413-545-3209
Woody Ornamental Diagnostics (p.19)	413-545-3208

Chemicals

CHEMTREC® For hazardous materials incidents (spills, leaks, fire, exposure, accident) www.chemtrec.com	800-424-9300
EPA Emergency National Response Center, Emergency Spills	800-424-8802
National Pesticide Information Center (NPIC) www.npic.orst.edu	800-858-7378
Pesticide Collection Program (Safety Kleen) Chemical disposal business not for general information. www.safety-kleen.com	508-867-7184 800-669-5740

Poison Control Centers

All New England states www.poisoncontrol.uchc.edu www.nnepc.org www.maripoisoncenter.com	800-222-1222
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Agencies & Organizations

Agricultural Environmental Enhancement Program (AEEP), Laura Maul laura.maul@state.ma.us	617-626-1739
American Farmland Trust Northampton Julia Freedgood www.farmlandinfo.org	413-586-4593
American Public Works Association New England Chapter Jacqueline Connors newengland.apwa.net	781-337-8230
Arnold Arboretum, Jamaica Plain www.arboretum.harvard.edu	617-524-1718

Berkshire Grown, Great Barrington Barbara Zheutlin buylocal@berkshiregrown.org www.berkshiregrown.org	413-528-0041
Board of Registration of Landscape Architects www.mass.gov/dpl	617-727-3072
Cape Cod Cranberry Growers Assoc. Brad Morse, President Paul Kindinger, Executive Director cccga@cranberries.org www.cranberries.org	508-866-7878
Cape Cod Landscape Association Diane Johnson, Exec. Director www.capecodlandscapes.org	508-827-4639
Center for Ecological Technology Florence Pittsfield cet@cetonline.org www.cetonline.org	413-586-7350 413-445-4556
Community Involved in Sustaining Agriculture (CISA), South Deerfield info@buylocalfood.org www.buylocalfood.org	413-665-7100
Cornell Waste Management Institute, Ithaca, NY Lauri Wellin cwmi@cornell.edu www.cwmi.css.cornell.edu	607-255-1187
Dig Safe www.digsafe.com	888-344-7233
Ecological Landscaping Association ela.info@comcast.net www.ecolandscaping.org	617-436-5838
Farm Viability Enhancement Program (FVEP) Craig Richov craig.richov@state.ma.us	617-626-1725
Golf Course Superintendents Association of America www.gcsaa.org	800-472-7878
Golf Course Superintendents Association of New England www.gcsane.org	774-430-9040
International Plant Propagator's Society, Eastern Region Margot Bridgen www.ippseastern.org	631-765-9638
International Society of Arboriculture New England Chapter Heather Leff heather@newenglandisa.org www.newenglandisa.org	978-844-0441

IPM Institute of North America, info@ipminstitute.org www.ipminstitute.org	608-232-1410	Massachusetts Maple Producers Assoc. Winton Pitcoff info@massmaple.org www.massmaple.org	413-628-3912
Lyle E. Littlefield Ornamentals Trial Garden, Orono, ME Brad Libby bllibby@maine.edu umaine.edu/littlefieldgarden/about	207-581-3112	Massachusetts Nursery and Landscape Association www.mnla.com	413-369-4731
Mass Farm-To-School Project Lisa Damon info@massfarmtoschool.org massfarmtoschool.org	413-253-3844	Massachusetts Public Interest Research Group (MassPIRG) info@masspirg.org www.masspirg.org	617-292-4800
Mass Farmers Markets, Jeff Cole, Executive Director staff@massfarmersmarkets.org www.massfarmersmarkets.org	781-893-8222	Massachusetts Recreation and Park Association www.massrpa.org	413-568-8356
Massachusetts Agriculture in the Classroom massaginclassroom@earthlink.net www.aginclassroom.org	508-336-4426	MASSACHUSETTS, STATE OF	
Massachusetts Aquaculture Association Robert Wallace, President (Shellfish) massaquaculture.org	n/a	• Agricultural Conservation and Technical Assistance, Division of CAFO/AFO: Laura Maul	617-626-1739
Massachusetts Arborists Association info@massarbor.org www.massarbor.org	508-653-3320	• Agricultural Environmental Enhancement Grants Laura Maul	617-626-1739
Massachusetts Association of Landscape Professionals info@mlp-mclp.org www.mlp-mclp.org	508-653-3373	• Agricultural Markets, Division of www.mass.gov/agr/divisions Mary Jordan, Director mary.jordan@state.ma.us	617-626-1750
Massachusetts Association of Lawn Care Professionals malcp@yahoo.com www.malcp.org	781-274-7373	Aquaculture: Sean Bowen Business Training: Rick Chandler Export Markets: Bonita Oehlke Economics: Katherine deRonde Farm Composting: Bill Blanchard Farm Viability: Craig Richov Farmers Markets: David Webber Land Use, APR Program: Ron Hall Markets: Rick LeBlanc	617-626-1724 413-548-1905 617-626-1753 617-626-1811 617-626-1709 617-626-1725 617-626-1754 617-626-1704 617-626-1759
Massachusetts Association of Roadside Stands, Acton info@massfarmstands.com www.massfarmstands.com	n/a	• Animal Health: Esther Wegman	617-626-1795
Massachusetts Audubon Society, www.massaudubon.org	781-259-9500	• BUREAU OF RESOURCE PROTECTION Ken Chin, Environ. Engineer ken.chin@state.ma.us Jonathan Hobill, Southeast Region	617-292-5893 508-946-2700
Massachusetts Christmas Tree Growers Association www.christmas-trees.org	978-346-4381	• Crop and Pest Services, Division of Lee Corte-Real, Acting Director lee.corte-real@state.ma.us	617-626-1776
Massachusetts Farm Bureau www.mfbf.net	508-481-4766 866-548-6323	Nursery Certification: Phyllis Michalewich Pesticide Enforcement Hotline: Pesticide Exam and License Info. Packet	617-626-1801 617-626-1781
Massachusetts Flower Growers Assoc. Bob Luczai www.massflowergrowers.com	781-275-4811	• DEPARTMENT OF AGRICULTURAL RESOURCES (MDAR) www.mass.gov/agr 251 Causeway Street, Suite 500 Boston, MA 02114-2151 Greg Watson, Commissioner greg.watson@state.ma.us	617-626-1784 617-626-1720
Massachusetts Fruit Growers Assoc. Wesley Autio, Secretary autio@umass.edu www.massfruitgrowers.org	413-545-2963		617-626-1701
Massachusetts Golf Association info@mgalinks.org www.mgalinks.org	800-356-2201		
Massachusetts Horticultural Society www.masshort.org	617-933-4900		

<ul style="list-style-type: none"> • DEPARTMENT OF AGRICULTURAL RESOURCES (MDAR) continued • Energy Efficiency, Conservation, & Renewables Program Gerry Palano gerald.palano@state.ma.us • DEPARTMENT OF CONSERVATION & RECREATION www.mass.gov/dcr • DEPARTMENT OF ENVIRONMENTAL PROTECTION www.mass.gov/dep Western Region Central Region Northeast Region Southeast Region • EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS www.mass.gov/eea • Hoister's License Hoisting Division: PO Box 414376, Boston, MA 02108 • INDUSTRIAL ACCIDENTS (Workers' Comp) www.mass.gov/dia • OFFICE OF BUSINESS DEVELOPMENT www.mass.gov/mobd Mike Vedovelli mike.vedovelli@state.ma.us • PUBLIC SAFETY, DEPARTMENT OF www.mass.gov/dps 	<p>617-626-1706</p> <p>617-626-1250</p> <p>617-292-5500</p> <p>413-784-1100</p> <p>508-792-7650</p> <p>978-694-3200</p> <p>508-946-2700</p> <p>617-626-1000</p> <p>800-323-3249</p> <p>413-733-5357</p> <p>617-727-3200</p>	<p>New England Regional Turf Conference and Trade Show www.turfshow.com</p> <p>New England Regional Turfgrass Foundation Gary Sykes www.nertf.org</p> <p>New England Small Farm Institute (NESFI) info@smallfarm.org www.smallfarm.org</p> <p>New England Sod Producers Association Gary Sykes www.nesod.com</p> <p>New England Sports Turf Managers Association (NESTMA) Nick Caggiano, President www.nestma.org</p> <p>New England Vegetable & Berry Growers Association John Howell, Sec./Treasurer howell@umext.umass.edu www.nevbga.org</p> <p>Northeast Biosolids and Residuals Association, Tamworth, NH Ned Beecher www.nebiosolids.org</p> <p>Northeast Greenhouse Conference Cindy Delaney www.negreenhouse.org</p> <p>Northeast Organic Farming Association (NOFA) Massachusetts Chapter, Barre Julie Rawson www.nofamass.org</p> <p>Northeast Sustainable Agriculture Working Group (NESAWG), Ruth Katz ruthkatz@nesawg.org www.nesawg.org</p> <p>Schumacher Center for a New Economics Susan Witt, schumacher@centerforneweconomics.org www.centerforneweconomics.org</p> <p>Southeastern Mass Agricultural Partnership (SEMAP) semaponline.org</p> <p>Sports Turf Managers Association (STMA) www.stma.org</p> <p>Sustainable Agriculture Research and Education (SARE) David Holm nesare@uvm.edu www.nesare.org</p>	<p>401-848-0004</p> <p>401-841-5490</p> <p>413-323-4531</p> <p>401-841-5490</p> <p>603-589-3370</p> <p>413-665-3501</p> <p>603-323-7654</p> <p>802-865-5202</p> <p>978-355-2853</p> <p>914-231-9206</p> <p>413-528-1737</p> <p>508-295-2212x50</p> <p>800-323-3875</p> <p>802-656-0471</p>
<p>Massachusetts Tree Wardens & Foresters Association Karen Doherty info@masstreewardens.org www.masstreewardens.org</p> <p>New Economics Institute www.neweconomy.net</p> <p>New England Cemetery Association newenglandcemetery.org</p> <p>New England Grows Virginia Wood www.newenglandgrows.org</p> <p>New England Nursery Association, www.nensyassn.org</p> <p>New England Parks Association Julie Sumner, President jsumner@leominster-ma.gov newenglandparks.org</p> <p>New England Pest Management Association, Concord, NH www.nepma.org</p>	<p>781-894-4759</p> <p>617-401-2235</p> <p>203-813-6322</p> <p>508-653-3009</p> <p>508-653-3112</p> <p>978-534-7529</p> <p>866-386-3762</p>		

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Toxics Use Reduction Institute, UMass Lowell Michael Ellenbecker ellenbec@turi.org www.turi.org	978-934-3275	• Farm Service Agency Jonathan Niedzielski	413-253-4500
Turfgrass Producers International www.turfgrassod.org	847-649-5555 800-405-8873	• Rural Development Jay Healy	413-253-4302
United States Golf Association usga@usga.org www.usga.org	908-234-2300	• Natural Resources Conservation Service Christine Clarke Field Offices Barnstable Greenfield Hadley Pittsfield Westford West Wareham Worcester County	413-253-4351 508-771-6476 413-772-0384x3 413-585-1000x3 413-443-1776x3 978-692-1904x3 508-295-5151x2 508-829-4477x3
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• College of Natural Sciences Steve Goodwin www.cns.umass.edu	413-545-2766	• National Turfgrass Evaluation Program Kevin Morris kmorris@ntep.org www.ntep.org	301-504-5125
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• Poultry: Dr. Michael Darre, UConn	860-486-1008	• FIFRA Enforcement Coordinator Kan Tham tham.kan@epa.gov	617-918-1872
• Stockbridge School of Agriculture Wes Autio and William Mitchell stockbridge.cns.umass.edu	413-545-2222	• FIFRA State Grants Coordinator Ray Putnam putnam.raymond@epa.gov	617-918-1523
• UMass Extension Agriculture and Landscape Program www.umass.edu/agland	413-545-0895	• Special Project Grants Region 1 Agricultural Risk Reduction Program, FIFRA Project Officer (MA, ME, NH & RI, PESP Control & WPS Coordinator Andrea Szylvian szylvian.andrea@epa.gov	617-918-1198
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• Agricultural Mediation Program Courtney Breese, Program Dir. Mass. Office of Public Collaboration University of Massachusetts Boston 100 Morrissey Blvd., Boston, MA courtney.breese@umb.edu	888-869-1898 617-287-4046	US FOREST SERVICE www.fs.fed.us	



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