This guide will help you find the services and assistance offered by UMass Extension.

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UMass Extension Agriculture & Landscape Program
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CROPS, DAIRY, LIVESTOCK, EQUINE
FRUIT
GREENHOUSE CROPS & FLORICULTURE
LANDSCAPE, NURSERY & URBAN FORESTRY
PESTICIDE EDUCATION
TURF
VEGETABLES

SERVICES
BEGINNING FARMER RESOURCES
HOT WATER SEED TREATMENT
PEST ALERTS / MESSAGES
PLANT PROBLEM DIAGNOSTICS
SOIL AND TISSUE TESTING LABORATORY
TICK-BORNE DISEASE DIAGNOSTICS

EMPHASIS AREAS
BEST MANAGEMENT PRACTICES (BMPs)
DISASTER PREPAREDNESS
FOOD SAFETY
INTEGRATED PEST MANAGEMENT
INVASIVE PLANT AND PEST MANAGEMENT
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UMass Educators and Faculty assist agricultural and horticultural professionals by providing educational programs and research-based information on environmentally sound management practices.

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| J.SCOTT EBDON | Soil Fertility | Paige Lab | 413-545-2506 | 413-577-0242 | <a href="mailto:sebdon@umass.edu">sebdon@umass.edu</a> |
| STEPHEN HERBERT | Soil Fertility | Bowditch Hall | 413-545-2250 | 413-545-0260 | <a href="mailto:sherbert@cns.umass.edu">sherbert@cns.umass.edu</a> |
| FRANCIS MANGAN | Soil Fertility | Paige Lab | 413-545-1178 | 508-254-3331 | <a href="mailto:fmangan@umass.edu">fmangan@umass.edu</a> |</p>
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<th>Team Name &amp; Staff</th>
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<tr>
<td>BAOSHAN XING</td>
<td>Soil Fertility Chemistry</td>
<td>Paige Lab</td>
<td>413-545-5212</td>
<td>413-577-0242</td>
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<td>KIRSTEN YARROWS</td>
<td>Bookkeeper</td>
<td>Paige Lab</td>
<td>413-545-2311</td>
<td>413-577-0242</td>
<td>kyarrows</td>
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<td>Soil Testing Lab</td>
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<td>@umext.umass.edu</td>
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**Turf - ag.umass.edu/turf**

| MARY OWEN                  | Turf Management & IPM              | Worcester, MA  | 508-892-0382   | 508-892-4218    | mowen                       |
| PRASANTA BHOWMIK           | Turf Weed Management               | Stockbridge Hall| 413-545-5223   | 413-545-3958    | pbhowmik                    |
| LAURIE CADORETTE           | Bookkeeping & Program Support       | Pittsfield Office| 413-448-8285   | 413-577-0760    | lauriec                     |
| MICHELLE DACOSTA           | Turf Physiology                     | Paige Lab      | 413-545-2547   | 413-577-0422    | mdacosta                     |
| J. SCOTT EBDON             | Turf Agronomy                       | Paige Lab      | 413-545-2506   | 413-577-0422    | sebdon                       |
| GEUNHWA JUNG               | Turf Pathology                      | Paige Lab      | 413-545-2243   | 413-577-0422    | jung                         |
| JASON LANIER               | Turf Management & IPM               | French Hall    | 413-545-2965   | 413-577-1620    | jdl                          |
| ANGELA MADEIRAS            | Turf Diagnostics                    | French Hall    | 413-545-3209   | 413-545-4385    | madeiras                     |
| JAMES PORO                 | Research Ctr Superintendent         | Joseph Troll Turf Research Center| 413-665-4360   | 413-577-0242    | jporo                        |
| RANDALL PROSTAK            | Turf Weed Management                | French Hall    | 413-545-1738   | 413-545-3075    | rprostak                     |
| ROBERT WICK                | Turf Pathology & Nematology         | Fernald Hall   | 413-545-1045   | 413-545-2115    | rlwick                       |

**Vegetables - ag.umass.edu/vegetable**

<p>| KATIE CAMPBELL-NELSON      | Vegetable Production, Nutrient Management, IPM | Agr. Engineering Bldg. | 413-545-1051 | kcampbel |
|                           |                                                  |                            |              | umassvegetable | @umass.edu |
| AMANDA KINCHLA            | Food Safety                                     | Chenoweth Hall            | 413-545-1017 | 413-545-1262 | amanda.kinchla             |
|                           |                                                  |                            |              | @foodsci.umass.edu |
| ANGELA MADEIRAS           | Disease Diagnostics                              | French Hall               | 413-545-3209 | 413-545-4385 | madeiras                    |
| FRANCIS MANGAN            | Vegetable Production, Soil Fertility, Cover Crops, Ethnic Crops, Marketing | Paige Lab                 | 413-545-1178 | 413-577-0242 | fmangan                     |
|                           |                                                  |                            | 508-254-3331 | @umass.edu |
| LISA MCKEAG               | Vegetable Production, IPM, Food Safety           | Agr. Engineering Bldg.    | 413-577-3976 | lmckegag |
|                           |                                                  |                            |              | @umext.umass.edu |</p>
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<tr>
<td>SUSAN SCHEUFELE</td>
<td>Vegetable Production, Plant Pathology, IPM</td>
<td>Agr. Engineering Bldg</td>
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<td></td>
<td><a href="mailto:sscheufele@umext.umass.edu">sscheufele@umext.umass.edu</a></td>
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<td>Educator</td>
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<tr>
<td>ROBERT WICK</td>
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<td>413-545-2115</td>
<td><a href="mailto:rlwick@umass.edu">rlwick@umass.edu</a></td>
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<tr>
<td>Faculty</td>
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**Administration**

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<tr>
<td>KATHLEEN CARROLL</td>
<td>Program Coordination</td>
<td>French Hall</td>
<td>413-545-0895</td>
<td>413-577-1620</td>
<td><a href="mailto:kcarroll@umext.umass.edu">kcarroll@umext.umass.edu</a></td>
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<tr>
<td>Agriculture &amp; Landscape Program Director</td>
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<tr>
<td>DOREEN YORK</td>
<td>Bookkeeper &amp; Program Support</td>
<td>French Hall</td>
<td>413-545-2254</td>
<td>413-545-3075</td>
<td><a href="mailto:dyork@umext.umass.edu">dyork@umext.umass.edu</a></td>
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<td>Staff</td>
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### UMass Extension Newsletters

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<tr>
<th>Cranberry Station Newsletter</th>
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<tr>
<td>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 <a href="http://www.umass.edu/cranberry/pubs/newsletter.html">www.umass.edu/cranberry/pubs/newsletter.html</a>. 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 <a href="http://www.umass.edu/cranberry/pubs/news_signup.html">www.umass.edu/cranberry/pubs/news_signup.html</a> or contact Lyn Hart at (508)295-2212 ext. 10 or <a href="mailto:hahart@umass.edu">hahart@umass.edu</a> for subscription information.</td>
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<th>Crops, Dairy, Livestock, Equine Newsletter</th>
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<td>Published quarterly, presenting information that crosseuts 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 <a href="mailto:masoud@umass.edu">masoud@umass.edu</a>.</td>
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<tr>
<th>Floral Notes</th>
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<tr>
<td>Published bimonthly, providing research-based information on greenhouse crops production, pest management, and related topics. Available via email for $5 for two years. Contact Doug Cox at (413)545-5214 or <a href="mailto:dcox@umass.edu">dcox@umass.edu</a>.</td>
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<th>Hort Notes</th>
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<th>Garden Clippings</th>
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<td>A monthly e-newsletter March through October for home gardeners with tips of the month and other timely information. Subscribe at ag.umass.edu/landscape/publications-resources/garden-calendar/umass-extensions-home-gardener-email-list</td>
</tr>
</tbody>
</table>
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, umassfruit@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: $40 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.

Healthy Fruit

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. 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 via email. Subscribe online at www.umassextensionbookstore.com/store.php?crn=224. For more information, contact Doreen York, (413)545-2254, dyork@umext.umass.edu.

New England Grape Notes

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, umassfruit@umext.umass.edu.

Vegetable Notes

For commercial vegetable growers and market gardeners, published weekly during the growing season and periodically during the winter. 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, nutrient management, season extension, and post-harvest handling. Regional pest alerts, including sweet corn trap captures, are reported weekly. Event updates include twilight meetings and field days throughout New England. Winter editions provide research reports and articles plus 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 at www.umassvegetable.org.
Conferences and Workshops

New England Vegetable & Fruit Conference & Trade Show

December 12-14, 2017
Location: Center of New Hampshire Radisson Hotel, Manchester, NH

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 Brian Aldrich at brian.s.aldrich@gmail.com.

New England Vegetable & Berry Growers’ Association Winter Meetings

Dates and Locations TBA

Meetings each year keep members engaged and informed on developments in the field. Prominent growers share their experiences, and research and Extension personnel from Universities and industry report on cultural practices, pest management, and marketing. Find dates and locations at nevbga.org. Contact: Chris Grant, 978-423-6694, secretary@nevbga.org

UMass Winter School for Turf Managers

January 8 - February 16, 2018
Location: UMass Amherst

This comprehensive certificate short course is designed to convey concepts essential to maintaining high quality turf, with emphasis on environmental stewardship and fiscal responsibility. Who should attend? Experienced professionals associated with the management of golf courses, athletic fields, parks, municipal and private grounds, fine lawns and landscapes as well as those who may wish to enter the turf industry. The course provides an average of 34 hours of intensive, expert instruction by UMass faculty, staff and invited guests each week, covering general turf management, physiology, pest management, soils, fertilizers, irrigation, budgetting and 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 categories 37 (turf) and 00 (licensed applicator).

For more information and an application for the 2018 course, visit http://ag.umass.edu/turf or contact the UMass Winter School for Turf Managers at (413) 545-5202. Applications for the 2019 course will be available in the summer of 2018.

Greenhouse Management and Production 2018

January 11, 2018
9 am - 3:30 pm
Location: The Publick House, Sturbridge, MA

Every growing season greenhouse growers have to effectively manage different aspects of their production system to produce a quality crop. Join us to learn how to manage some aspects of your greenhouse production for a successful season. Topics include: microbes, chemicals, and particles in irrigation water; using PGRs to manage the quality of spring greenhouse crops; managing common root and foliar diseases of spring greenhouse crops; the latest research on the impact of neonicotinoids to bees and other pollinators; and how to combine biological control with conventional pesticides.

Four pesticide contact hours; MCH, MCLP and AOLCP credit requested.

Preregistration is required, as space is limited; cost is $45/$40 for each additional registration from the same company. Lunch is on your own, morning coffee will be provided. For more information, go to ag.umass.edu/greenhouse-floriculture or contact Geoffrey Njue, UMass Extension, (781) 891-0650 x 12, gnjue@umext.umass.edu.
Pesticide Education Program Workshops

Contact Natalia Clifton, UMass Extension, at (413) 545-1044 or check ag.umass.edu/pested for the schedule of 2018 workshops. More details on page 36.

New England Greenhouse Webinar Series: Growing Healthy Roots

January thru March 2018

Weekly 30 minute lunchtime webinar series every Wednesday starting January 17, 2018 through March 14, 2018. Topics will include: growing roots from the start (plugs and rooted cuttings), root-borne pathogens (identification and control), fungicide drenches, understanding components of growing media, managing pH in the media, use of mineral nutrition to prevent root-borne diseases, root critters (identification and control) and insecticide drenches. This webinar series is a collaboration between the UMass Extension Greenhouse Program, UConn Extension Greenhouse program, and UNH Extension Greenhouse Program. Go to https://ag.umass.edu/greenhouse-floriculture for more details.

Cranberry Management Update

January 18, 2018
7:30 am - 4:00 pm
Location: Hotel 1620 (formerly the Radisson), Plymouth, MA

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

Mass Aggie Seminars

Home Garden Series

February through May, 2018 - Times and dates vary - Location varies with each seminar

The UMass Center for Agriculture offers a workshop series on topics of general interest to home gardeners and small scale farmers. Topics include hands-on fruit tree pruning; growing and pruning blueberries, raspberries and grapes; and a range of other topics.

Dates, 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.

Landscape Safety Conference

February 6, 2018 (snow date Feb. 8)
8:30 am - 3:30 pm
Location: Doubletree Hotel, Milford, MA

Have you ever been bitten by a mosquito? Removed an attached tick? Encountered a poisonous plant? Do you work with pesticides? If you answered “YES” to any of these questions, this Landscape Safety Conference is for you. This program will explore many topics that are important for landscapers, arborists, tree wardens, lawn care professionals, grounds managers, and essentially any professionals working in outdoor environments. UMass Extension and speakers from the MA Dept. of Agricultural Resources and the UMass Laboratory of Medical Zoology will come together to provide this day-long program. Topics include mosquito and tick prevention and safety; tick testing services provided by the Laboratory of Medical Zoology; poisonous plants you are likely to encounter and strategies to keep yourself safe; pesticide storage, transportation, and use safety; and PPE when working with pesticides. Participants will also have the opportunity to ask the presenters questions regarding these topics that affect our health and safety.

Five pesticide contact hours for categories 35, 36, 37, 40, and Applicators License. ISA, MCA, MCH, MCLP and AOLCP credit requested.

Preregistration is required, as space is limited; cost is $90/$81 per person for three or more registrations from the same company (10% discount). Lunch is on your own, morning coffee will be provided. For more information, 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.
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. Attendees are encouraged to take all four sessions in one season to get the most out of the information. All sessions may also be taken individually. 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.

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: $90/$81 per person for three or more registrations from the same company (10% discount). 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: $90/$81 per person for three or more registrations from the same company (10% discount). 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: $90/$81 per person for three or more registrations from the same company (10% discount). Three 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: $90/$81 per person for three or more registrations from the same company (10% discount). Four pesticide contact hours in categories 29, 36, 40, and Applicator’s License.

Approval for registration cost reimbursement through the Massachusetts Workforce Training Fund Express Program has been requested. For more information, go to workforcetrainingfund.org/programs/express-program.
39th Annual UMass Community Tree Conference

Ecological Perspectives of the Urban Forest

March 6, 2018
8:45 am – 3:30 pm

Location: Bowker Auditorium, Stockbridge Hall, UMass Amherst

This one-day conference is designed for tree care professionals, volunteers, and enthusiasts including arborists, tree wardens/municipal tree care specialists, foresters, landscape architects and shade tree committee members.

Topics will include: Safe Pruning Practices to Reduce Risk and Enhance Wildlife, iTree as a Tool for Assessing Urban Wildlife Habitat & Landscapes, An Introduction to Using UAV’s (Drones) to Inventory Resources, and From the Diagnostic Lab: What Can we Expect This Growing Season?

Sponsored by UMass Extension in cooperation with the UMass Dept. of Environmental Conservation, the Massachusetts Department of Conservation and Recreation and the USDA Forest Service Urban Natural Resources Institute.

One pesticide contact hours for categories 29, 35, 36, and Applicators License pending. ISA, SAF, CFE, MCA, MCH, MCLP, CTSP credits have been requested.

Cost is $90 for first registration, $75/person for each additional registration from the same company. For more information, go to www.umassgreeninfo.org or contact the UMass Extension Landscape, Nursery, and Urban Forestry Program at (413) 545-0895, eweeks@umext.umass.edu.

Spring Kickoff for Landscapers: Sustainable Landscape Management Education Day

March 29, 2018
9:00 am - 3:30 pm

Location: TownPlace Suites, 50 Rosebrook Place, Wareham MA

There is a growing trend for aesthetically pleasing and environmentally friendly landscapes. Come join us to learn about landscaping principles and practices that you can implement to provide beautiful and environmentally friendly landscapes for your customers. Topics include; designing a sustainable residential landscape, using reduced risk strategies for managing landscape pests, managing turf to increase environmental health, managing irrigation in landscapes to conserve water, plus the year in review for diseases of trees and shrubs and the forecast for the 2018 season.

Two pesticide contact hours for categories 29 & 36, one for category 37, or three for Applicators License available. ISA, MCA, MCH, MCLP and AOLCP credit requested.

Approval for registration cost reimbursement through the Massachusetts Workforce Training Fund Express Program has been requested. For more information, go to workforcetrainingfund.org/programs/express-program.

Preregistration required as space is limited; the cost is $100/$90 per person for three or more registrations from the same company (10% discount), includes lunch. For more information, 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.

Fruit Twilight Meetings and Field Days

Twilights in April, May, June, dates and locations TBA
Field Day in July, date and location TBA

The UMass Extension Fruit Team conducts 3 series of twilight meetings during the months of April, May and June each year. Each month there will be 2-3 meetings with similar content but in different locations around the state. The meeting content will be tailored to important issues that growers face at that time of year. For example, specific pest issues that are coming up or crop thinning recommendations or new concerns based on current conditions. The meetings are cosponsored by the Massachusetts Fruit Grower’s Association and there is a $20-$25 fee for attendance. Details of each year’s Fruit Twilight Meetings will be posted at ag.umass.edu/fruit. In July, there is also a day long Field Day and Annual Meeting in collaboration with the Massachusetts Fruit Grower’s Association. This meeting highlights a farm/orchard tour and current research and timely topics.

For more information on any of these meetings contact Jon Clements at jon.clements@umass.edu or Sonia Schloemann at umassfruit@umass.edu
Snow Mold Research Field Days
_Late winter - Early spring, 2018_

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 (caused by _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.

Specific snow mold trials and field day sites TBA.

Workshop dates are dependent on snowmelt and prevailing disease conditions. Dates will be announced in February. To sign up to receive specific notification of dates and times by email, visit www.umasssturf.org and click on Mailing List.

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)922-3026, or online at http://ag.umass.edu/turf.

Vegetable Twilight Meetings and Field Walks
_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, and in _Vegetable Notes_. You may also contact the Vegetable Program at (413) 545-1051 or 577-3976 or at umassvegetable@umext.umass.edu.

Landscape Pests and Problems Walkabout

- **Diseases and Weeds**
  
  _May 16, 2018_  
  5:00 - 7:00 pm  
  Location: Stanley Park, Westfield, MA

- **Insects and Cultural Problems**
  
  _June 6, 2018_  
  5:00 - 7:00 pm  
  Heritage Museums & Gardens, Sandwich, MA

Get some hands-on experience scouting and identifying landscape diseases, insects, weeds, and abiotic problems. Join Randy Prostak, Extension Weed Specialist; Nick Brazee, Extension Plant Pathologist; Tawny Simisky, Extension Entomologist; and Russ Norton, Horticulture and Agriculture Extension Educator, 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 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, go to www.umassgreeninfo.org or contact UMass Extension Landscape, Nursery, and Urban Forestry Program at (413)545-0895 or eweeks@umext.umass.edu.
**Weed Walkabout**

*June 20, 2018*

*4:00 - 6:00 pm*

*Location: Pine Banks Park, Malden, MA*

Correct weed identification and site assessment are important steps in the development of an effective weed management program for turf and landscape. Join Randy Prostak, Extension Weed Specialist, for a walk through the Pine Banks Park for an up-close look at weed problems in diverse habitats in the park. Held rain or shine.

*Two pesticide contact hours for categories 36, 37, and Applicators License available. ISA, MCA, MCH, MCLP and AOLCP 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 more information, go to www.umassgreeninfo.org or contact UMass Extension at (413) 545-0895 or eweeks@umext.umass.edu.

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**2018 Summer Trial Garden Tour and Education Program**

*Dates and locations TBA*

Full day educational program for greenhouse and floriculture businesses. Sponsored by the UMass Extension Greenhouse Crops and Floriculture Program.

For more information, go to ag.umass.edu/greenhouse-floriculture or contact Geoffrey Njue (781) 891-0650, Ext. 12, gnjue@umext.umass.edu.

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**Ornamental Tree and Shrub ID and Insect Walk**

- *July 11, 2018*

  *3:00 - 5:00 pm*

  *Location: Elm Bank Reservation, Wellesley, MA*

Studying for the MCH, MCLP, or MCA exam? Want some hands-on experience identifying significant landscape plants to either prepare for one of the exams or to expand your palette of offerings for your clients, while also scouting for potential insect problems? Join Tawny Simisky, Extension Entomologist, and Mandy Bayer, Extension Assistant Professor at UMass Amherst, for a walk around the grounds at Elm Bank. This will be the perfect time of year to focus on trees and shrubs with particular seasonal interest as well as insects active during the summer. Dress for walking; held outdoors rain or shine.

*One pesticide contact hour for category 36 and Applicators License available. ISA, MCA, MCH, MCLP and AOLCP 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 more information, 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.

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**Landscape and Forest Tree and Shrub Insect Workshop**

- *August 9, 2018*

  *9:00 am - 3:30 pm*

  *Location: Fernald Hall, University of Massachusetts Amherst*

Join Tawny Simisky, UMass Extension Entomologist, for this workshop where participants will gain hands-on experience with many important landscape and forest insect pests of trees and shrubs. The UMass Amherst campus arboretum offers a wide variety of ornamental and forest trees and shrubs. Selected insects to be discussed will include bark beetles and wood borers, pests with piercing-sucking mouthparts, defoliators, miners/leafrollers, galls, and more. An introductory lecture will review the basics of diagnostic entomology followed by a walking tour of campus. The day will end with a laboratory session using microscopy, giving us the opportunity for an up-close and personal view of some of these insects.

*Five pesticide contact hours for categories 29, 35, 36, and Applicators License available. ISA, SAF, CFE, MCA, MCH and MCLP credits have been requested.*

Approval for registration cost reimbursement through the Massachusetts Workforce Training Fund Express Program has been requested. For more information, go to workforcetrainingfund.org/programs/express-program.

Preregistration is required, as space is limited to 25 participants; cost is $150/$135 per person for three or more registrations from the same company (10% discount). Lunch is on your own, morning coffee will be provided. For more information, 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.
**Green School**

*October 29 - December 17, 2018*

*Twice weekly, 9 am - 3:30 pm*

*Location: Doubletree Hotel, 11 Beaver Street, Milford, MA*

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 three specialty tracks: Landscape Management, Turf Management, or Arboriculture. 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. The next Green School will be held in 2020.

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 2018 schedule and registration information by email when it becomes available, sign up at www.umassgreeninfo.org and click on ‘Services’, then ‘E-Mail List.’ Approval for registration cost reimbursement through the Massachusetts Workforce Training Fund Express Program has been requested. For more information, go to workforcetrainingfund.org/programs/express-program.

**Northeast Greenhouse Conference**

*November 7-8, 2018*

*Location: Boxboro Regency Hotel, Boxborough, MA*

The biennial Northeast Greenhouse Conference and Expo is co-sponsored by New England Floriculture, Inc. - a group of grower representatives from the Northeast, augmented by University and Cooperative Extension staff in each state who specialize in greenhouse crops and management. Don't miss this great opportunity to learn, share and connect with other industry professionals. The next Northeast Greenhouse Conference and Expo will be held Wednesday and Thursday, November 7-8, 2018 at the Boxboro Regency Hotel in Boxborough, Massachusetts.

**Conference Highlights**

**EDUCATIONAL SESSIONS** - Attend stimulating educational workshops on a wide range of topics by industry experts; acquire knowledge and gain valuable insight.

**TRADE SHOW** - Visit with innovative exhibitors during dedicated tradeshow time, to gather information on products and services that will benefit your business.

**NETWORK** - Share ideas and build relationships, and make important face-to-face connections with others in the floriculture industry.

For more information contact Geoffrey Njue (781) 891-0650, Ext. 12, UMass Extension Greenhouse Crops and Floriculture Program, or go to www.negreenhouse.org.

**UMass Turf Research Field Day**

*July, 2019*

*Location: UMass Joseph Troll Turf Research Center, South Deerfield, MA*

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@umasssturf.org or visit ag.umass.edu/turf. UMass TurfTalk subscribers will receive notice of posting of program.
• **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: Geoffrey Njue, gnjue@umext.umass.edu or call (781) 891-0650, Ext. 12.

Visit UMass Extension Greenhouse Crops and Floriculture on Facebook.

Link from: ag.umass.edu/greenhouse-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, ag.umass.edu/turf. 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 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 ag.umass.edu/turf, click on “Services”, then “E-Mail List”.

• **The Landscape Message and Email List**

**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.
• Vegetable Pest Alerts
Subscribe to Vegetable Notes for free and receive weekly pest alerts from the region to help you anticipate what is coming and find out what insect and disease pests are active near you. A regional pest alert network includes monitoring sites with pheromone traps for sweet corn pests (European corn borer, corn earworm, fall army worm) and squash vine borer. We also report on scouting data collected on farms weekly throughout the region. Subscribe to Vegetable Notes: ag.umass.edu/vegetable/vegetable-notes/subscribe

• Fruit Pest Alerts
By visiting the UMass Fruit Advisor website (ag.umass.edu/fruit) or by subscribing to Berry Notes and Healthy Fruit, you will have access to pest alerts for Spotted Wing Drosophila, Brown Marmorated Stink Bug, Winter Moth and any other invasive pests that may become important. We also report findings of scouting for common non-invasive pests and diseases like Apple Scab, European Apple Sawfly, Codling Moth, Tarnished Plant, Mites, etc. Access by going to ag.umass.edu/fruit.

Follow Us on Twitter

@UMassLandscape
Information and updates for landscapers, grounds managers, and other green industry professionals from UMass Extension.

@UMassGardenClip
Information and updates for home gardeners from UMass Extension

@JMCEXTMAN
Information and updates for fruit growers on recent pest and disease events, weather related alerts and other relevant issues from UMass Extension.

and Find Us on Facebook

UMASS EXTENSION GREENHOUSE CROPS AND FLORICULTURE
Link from: ag.umass.edu/greenhouse-floriculture.

UMASS VEGETABLE & FRUIT IPM NETWORK
umassipmteam

UMASS EXTENSION LANDSCAPE NURSERY AND URBAN FORESTRY
UMassExtLandscape

UMASS TURF
UMassTurf

URBAN FORESTRY TODAY
uftoday
SOIL

**Routine Soil Analysis** - $15.00; 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** - $6.00; determination of Percent Soil Organic Matter by Loss on Ignition
- **Soluble Salts** - $6.00; a measurement of the Electrical Conductivity of a 1:2 (soil:water) extract
- **Soil Nitrate** - $6.00; Measurement of nitrate nitrogen (NO3-N) using an ion specific electrode

**Comprehensive Soil Texture** - $80.00; a determination of USDA textural classification by combined hydrometer analysis of silt and clay, and dry sieving of sand. Results list percentages of sand, silt and clay, as well as sub-fractions of silt and clay. U.S. Standard Sieves used: No. 10, 18, 35, 60, 140, and 270.

**Optional Additional Analysis for Soil Texture:**
- **Extra Sieves** - $10.00; up to 4 sieves may be added to the Comprehensive Particle Size Analysis.
- **Report based on Percent of Sample Passing the 2mm Sieve** - No charge; contact the lab for this.

**Basic Particle Size Analysis** - $50.00; a determination of USDA textural classification by hydrometer method.

**Title V Sand Determination** - $60.00; a determination of MA Title V Sand for new septic construction

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)

METALS

**Total Sorbed Metals Test** - $55.00; determines the total sorbed levels of lead, nickel, cadmium, chromium, zinc, and copper in soils, compost, or planting mixtures using the EPA methods 3050B and 6010. Additional metals, arsenic, selenium, and molybdenum may be added to Total Sorbed Metals test for $5.00 per element.

PLANT TISSUE NUTRIENT ANALYSIS

**Note:** Plant tissue tests offered by the UMass Soil and Plant Tissue Laboratory provide nutrient analysis only. They do not diagnose problems caused by insects, disease or other environmental factors. For disease or insect diagnosis, please visit the UMass Plant Diagnostics Laboratory. See page 24.

**Plant Nutrient Test (with Nitrogen)** - $30.00; a determination of the total tissue P, K, Ca, Mg, Zn, Cu, Mn, Fe, and B. Analysis by ICP spectrometry of wet-ashed sample using Nitric Acid, Hydrochloric Acid, and Hydrogen Peroxide in a block digester. Also included is total Nitrogen by catalytic combustion.

**Plant Nutrient Test (without Nitrogen)** - $22.00; a determination of the total tissue P, K, Ca, Mg, Zn, Cu, Mn, Fe, and B. Analysis by ICP spectrometry of acid wet digestion using Nitric Acid, Hydrochloric Acid, and Hydrogen Peroxide in a block digester.

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

UMass Soil & Plant Nutrient Testing Lab
203 Paige Lab - 161 Holdsworth Way - Amherst, MA 01003
(413)545-2311 • soiltest@umass.edu

Short term parking behind the building, longer term parking is available in the Campus Center Garage
Some plant pathogens are able to penetrate and survive within the seed, out of reach of surface seed treatments. They include many bacterial pathogens of vegetables as well as fungi, oomycetes, and viruses. Small seeded crops like tomato, pepper and brassicas are good candidates for hot water seed treatment because heat can easily penetrate the seed coat and kill common bacterial and fungal diseases without damaging seed germination. Even though pathogens do not survive well in soil once infected crop residues have decayed, they can be difficult to manage once established on a farm. Hot water seed treatment also has the beneficial effect of priming seeds resulting in faster germination than untreated seed. Hot water seed treatment is a valuable tool for preventing establishment of seed-borne diseases on the farm, or their reintroduction year after year.

Contact: **Lisa McKeag**, (413) 577-3976, lmckeag@umext.umass.edu

Some plant pathogens are able to penetrate and survive within the seed, out of reach of surface seed treatments. They include many bacterial pathogens of vegetables as well as fungi, oomycetes, and viruses. Small seeded crops like tomato, pepper and brassicas are good candidates for hot water seed treatment because heat can easily penetrate the seed coat and kill common bacterial and fungal diseases without damaging seed germination. Even though pathogens do not survive well in soil once infected crop residues have decayed, they can be difficult to manage once established on a farm. Hot water seed treatment also has the beneficial effect of priming seeds resulting in faster germination than untreated seed. Hot water seed treatment is a valuable tool for preventing establishment of seed-borne diseases on the farm, or their reintroduction year after year.

Contact: **Laboratory of Medical Zoology**, (413) 545-1057, info@tickreport.com

The Laboratory of Medical Zoology at UMass Amherst assesses ticks for their disease potential. Ticks are identified to species, life stage, whether the tick shows signs of feeding, and for the presence of the most common disease pathogens for that tick species. For deer ticks, these diseases are Lyme disease, anaplasmosis and babesiosis. Cost: $50 per tick (additional tests are also available). Clients can reach us at (413) 545-1057, or “chat” with us by sending an email to support@TickReport.com. Our Facebook account is www.facebook.com/LaboratoryofMedicalZoology. For more info on how to submit a tick for testing, go to www.tick-report.com. The Lab is on the first floor of Fernald Hall, 270 Stockbridge Rd., UMass Amherst. If a person has been infected by a tick bite, symptoms may begin to occur even before the results of tick testing are available. **Do not wait for tick testing results before seeking medical advice should any symptoms develop.**
Crop Insurance/Risk Management Education

This program (www.ag.umass.edu/risk-management) provides information on Federal Crop Insurance policies allowing farmers to understand how the available policies work. The program also provides general agricultural risk management education and information to all types of agricultural producers.

“The goal of the program is to increase producer awareness and understanding of Federal Crop Insurance and agricultural risk management principles and strategies”.

Federal Crop Insurance is available on the following crops in Massachusetts:

<table>
<thead>
<tr>
<th>Crop/Policy</th>
<th>Sales Closing Date</th>
<th>Counties Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>November 20</td>
<td>All Counties except: Barnstable, Dukes, Nantucket &amp; Suffolk</td>
</tr>
<tr>
<td>Corn (Silage &amp; Grain)</td>
<td>March 15</td>
<td>All Counties</td>
</tr>
<tr>
<td>Cranberries</td>
<td>November 20</td>
<td>Barnstable, Bristol, Middlesex, Nantucket, Norfolk &amp; Plymouth</td>
</tr>
<tr>
<td>Cultivated Clams</td>
<td>November 30</td>
<td>Barnstable, Bristol, Dukes, Nantucket &amp; Plymouth</td>
</tr>
<tr>
<td>Nursery</td>
<td>May 1</td>
<td>All Counties</td>
</tr>
<tr>
<td>Pasture, Rangeland &amp; Forage</td>
<td>November 15</td>
<td>All Counties</td>
</tr>
<tr>
<td>Peaches</td>
<td>November 20</td>
<td>Hampden, Hampshire, Middlesex, &amp; Worcester</td>
</tr>
<tr>
<td>Potatoes</td>
<td>March 15</td>
<td>Franklin &amp; Hampshire</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>March 15</td>
<td>All Counties except: Dukes, Nantucket, &amp; Suffolk</td>
</tr>
<tr>
<td>Tobacco</td>
<td>March 15</td>
<td>Franklin, Hampden, &amp; Hampshire</td>
</tr>
<tr>
<td>Whole Farm Revenue Protection</td>
<td>March 15</td>
<td>All Counties</td>
</tr>
</tbody>
</table>

If you grow a crop not listed above or in a county not covered by an individual policy, you can obtain Federal Crop Insurance coverage under a Written Agreement which is handled by a licensed Federal Crop insurance Agent. Policies were written in Massachusetts for pears and soybeans under Written Agreements. You also can obtain coverage on non-insured crops through the USDA - Farm Service Agency (FSA) under their Noninsured Crop Disaster Assistance Program (NAP).

All Federal Crop Insurance is sold by licensed crop insurance agents. A list of available agents is available at: www.rma.usda.gov/tools/agent.html

For further information or to schedule a personal appointment, contact Paul Russell (pmrussell@umass.edu) or Tom Smiarowski (tsmiarowski@umass.edu)
### At-A-Glance Calendar of UMass Extension Events

See more info on Conferences & Workshops beginning on page 10 or go to [www.umass.edu/agland](http://www.umass.edu/agland)

**2017**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 12-14</td>
<td>New England Vegetable &amp; Fruit Conference &amp; Trade Show</td>
<td>Manchester, NH</td>
</tr>
</tbody>
</table>

**2018**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan TBA</td>
<td>New England Vegetable &amp; Berry Growers’ Association Winter Meetings</td>
<td>TBA</td>
</tr>
<tr>
<td>Jan 8-Feb 16</td>
<td>UMass Winter School for Turf Managers</td>
<td>Amherst</td>
</tr>
<tr>
<td>Jan 11</td>
<td>Greenhouse Management and Production 2018</td>
<td>Sturbridge</td>
</tr>
<tr>
<td>Jan 18</td>
<td>Cranberry Management Update</td>
<td>Plymouth</td>
</tr>
<tr>
<td>Jan - Mar</td>
<td>New England Greenhouse Webinar Series: Growing Healthy Roots</td>
<td>various</td>
</tr>
<tr>
<td>Jan-Nov</td>
<td>Pesticide Applicator License Exam Training</td>
<td>various</td>
</tr>
<tr>
<td>Feb TBA</td>
<td>Winter Flower Growers’ Program</td>
<td>TBA</td>
</tr>
<tr>
<td>Feb TBA</td>
<td>Mass Aggie Seminars</td>
<td>various</td>
</tr>
<tr>
<td>Feb 6</td>
<td>Landscape Safety Conference</td>
<td>Milford</td>
</tr>
<tr>
<td>Feb 21</td>
<td>Invasive Plant Certification Program (Part 1)</td>
<td>Hadley</td>
</tr>
<tr>
<td>Mar TBA</td>
<td>Mass Aggie Seminars</td>
<td>various</td>
</tr>
<tr>
<td>Mar 6</td>
<td>39th Annual UMass Community Tree Conference</td>
<td>Amherst</td>
</tr>
<tr>
<td>March 13</td>
<td>Invasive Plant Certification Program (Part 2)</td>
<td>Hadley</td>
</tr>
<tr>
<td>Mar 22</td>
<td>Invasive Plant Certification Program (Part 3)</td>
<td>Hadley</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
<td>Location</td>
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</tr>
<tr>
<td>Mar 29</td>
<td>Spring Kickoff for Landscapers</td>
<td>Wareham</td>
</tr>
<tr>
<td>Apr TBA</td>
<td>Fruit Twilight Meeting</td>
<td>TBA</td>
</tr>
<tr>
<td>Apr TBA</td>
<td>Mass Aggie Seminars</td>
<td>various</td>
</tr>
<tr>
<td>Apr TBA</td>
<td>Snow Mold Research Field Days</td>
<td>TBA</td>
</tr>
<tr>
<td>Apr 4</td>
<td>Invasive Plant Certification Program (Part 4)</td>
<td>Hadley</td>
</tr>
<tr>
<td>May TBA</td>
<td>Fruit Twilight Meeting</td>
<td>various</td>
</tr>
<tr>
<td>May TBA</td>
<td>Mass Aggie Seminars</td>
<td>various</td>
</tr>
<tr>
<td>May 16</td>
<td>Landscape Pests and Problems Walkabout - Diseases &amp; Weeds</td>
<td>Westfield</td>
</tr>
<tr>
<td>Jun TBA</td>
<td>Fruit Twilight Meeting</td>
<td>various</td>
</tr>
<tr>
<td>Jun 6</td>
<td>Landscape Pests and Problems Walkabout - Insects &amp; Cultural Problems</td>
<td>Sandwich</td>
</tr>
<tr>
<td>Jun 20</td>
<td>Weed Walkabout</td>
<td>Malden</td>
</tr>
<tr>
<td>TBA</td>
<td>2018 Summer Trial Garden Tour and Education Program</td>
<td>TBA</td>
</tr>
<tr>
<td>July TBA</td>
<td>Vegetable Twilight Meeting</td>
<td>TBA</td>
</tr>
<tr>
<td>Jul 11</td>
<td>Ornamental Tree and Shrub ID and Insect Walk</td>
<td>Wellesley</td>
</tr>
<tr>
<td>Aug TBA</td>
<td>Vegetable Twilight Meeting</td>
<td>TBA</td>
</tr>
<tr>
<td>Aug 9</td>
<td>Landscape and Forest Tree and Shrub Insect Workshop</td>
<td>Amherst</td>
</tr>
<tr>
<td>Oct 29 - Dec 17</td>
<td>UMass Green School</td>
<td>Milford</td>
</tr>
<tr>
<td>Nov 7-8</td>
<td>Northeast Greenhouse Conference</td>
<td>Boxborough</td>
</tr>
</tbody>
</table>

2019

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul TBA</td>
<td>UMass Turf Research Field Day</td>
<td>Wellesley</td>
</tr>
</tbody>
</table>
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.

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 or paid online in advance. 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

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floriculture/greenhouse crop disease analysis, pH and soluble salts test</td>
<td>$50</td>
</tr>
<tr>
<td>( Testing for pH and soluble salts may be needed for some diagnostics)</td>
<td></td>
</tr>
<tr>
<td>Fruit diseases</td>
<td>$50</td>
</tr>
<tr>
<td>Landscape and turf insect ID</td>
<td>$50</td>
</tr>
<tr>
<td>Landscape and turf weed ID</td>
<td>$25</td>
</tr>
<tr>
<td>Nematode assay all other crops except turf</td>
<td>$50</td>
</tr>
<tr>
<td>Turf disease analysis</td>
<td>$75</td>
</tr>
<tr>
<td>Turfgrass ID</td>
<td>$25</td>
</tr>
<tr>
<td>Turf nematode assay</td>
<td>$75</td>
</tr>
<tr>
<td>Vegetable crop diseases</td>
<td>$50</td>
</tr>
<tr>
<td>Woody plant disease analysis</td>
<td>$50</td>
</tr>
</tbody>
</table>

Address packages to: UMass Plant Diagnostic Lab

French Hall, rm 3 - 230 Stockbridge Rd - Amherst, MA 01003
(413)545-3208 - fax (413)545-4385
Use exact address to ensure delivery.

There is a designated parking spot for the lab behind the building

ag.umass.edu/diagnostics
Contact: **Dr. Angela Madeiras**, (413)545-3209, madeiras@umass.edu
**Dr. Robert Wick**, (413)545-1045, rlwick@umass.edu

Contact Angela Madeiras (413)545-3209 or Geoffrey Njue (781) 891-0650 Ext. 12 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 ag.umass.edu/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.

### How to Send 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 and 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 Plant Diagnostic Lab – Lab 3, French Hall, 230 Stockbridge Road – Amherst, MA 01003-9316
Telephone: (413) 545-3208 - Fax: (413) 545-4385 - [ag.umass.edu/diagnostics](http://ag.umass.edu/diagnostics)

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

**USE THIS FORM FOR:**

- Disease, Nematode, or Water Analysis ($50)
- Disease Analysis + pH and Soluble Salts Test ($60)

### Host Plant

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Date Collected</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

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

<table>
<thead>
<tr>
<th>When Did Symptoms Occur?</th>
<th>% of Crop Affected</th>
<th>Size of Planting</th>
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<tbody>
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### Briefly Describe the Problem

### Describe Pesticides / Rates Used:

<table>
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<tr>
<th>When?</th>
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### Describe Site Conditions and Relevant Cultural Practices

<table>
<thead>
<tr>
<th>Circle all that apply:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Container</td>
</tr>
<tr>
<td>Field</td>
</tr>
<tr>
<td>Greenhouse</td>
</tr>
<tr>
<td>Nursery</td>
</tr>
<tr>
<td>Hydroponic</td>
</tr>
<tr>
<td>Other</td>
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</tbody>
</table>

### Contact

<table>
<thead>
<tr>
<th>Firm</th>
<th>Address</th>
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</table>

<table>
<thead>
<tr>
<th>Town</th>
<th>State</th>
<th>Zip</th>
<th>Phone</th>
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<table>
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<tr>
<th>Fax</th>
<th>E-mail</th>
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</tbody>
</table>

**THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:**

### Lab Number

<table>
<thead>
<tr>
<th>Date Received</th>
<th>Date Answered</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

*NOTE* – Fruit, turf, and tree/shrub samples require alternate submission forms. Visit [ag.umass.edu/diagnostics](http://ag.umass.edu/diagnostics) for copies.
FRUIT & VEGETABLE DIAGNOSTICS

Contact: Dr. Angela Madeiras, (413)545-3209, madeiras@umass.edu
Dr. Robert Wick, (413)545-1045, rlwick@umass.edu

Contact Angela Madeiras (413)545-3209, Katie Campbell-Nelson (vegetables) (413)545-1051, 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.

How to Send 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.
**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 Plant Diagnostic Lab – French Hall, Room 3, 230 Stockbridge Road, Amherst, MA 01003**

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

<table>
<thead>
<tr>
<th>Host Plant</th>
<th>Cultivar</th>
<th>Date Collected</th>
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<table>
<thead>
<tr>
<th>Approximate Age</th>
<th>Length of Time in Present Location</th>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>When Did Symptoms Occur?</th>
<th>Were Symptoms Apparent in Previous Years?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**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 | | | | 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:**

<table>
<thead>
<tr>
<th>Lab Number</th>
<th>Date Received</th>
<th>Date Answered</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Condition of Specimen: Good Poor Insufficient

Specimen Code

Client Code

* NOTE – Tree and shrub samples, turf samples and vegetable/floriculture samples require alternate submission forms. Visit [ag.umass.edu/diagnostics](http://ag.umass.edu/diagnostics) for copies.*
Contact: Dr. Nick Brazee, (413)545-2826, nbrazee@umass.edu

Fill out the Tree and Shrub Diagnostic Form on page 30 (or go to ag.umass.edu/diagnostics) as completely as is feasible.

Disease Samples: See guidelines below.
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.

How to Send 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 30 or 31:

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 automatic 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: TREE & SHRUB FORM*  2018

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 Plant Diagnostic Lab – French Hall, Room 3, 230 Stockbridge Road, Amherst, MA 01003
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  Stippling/Spots  Fruit
Other [________]  Compacted  pH [______]

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  Client Code

*NOTE – Turf samples, vegetable/floriculture samples, and fruit samples require alternate submission forms. Visit ag.umass.edu/diagnostics for copies.
UMass Extension Plant Diagnostic Lab: WEED FORM* 2018

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 – French Hall, Room 3 – 230 Stockbridge Rd. - Amherst, MA 01003
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:  ☐ Weed/Invasive Plant ID ($25)

Turfgrass species:  ☐ Sodded  ☐ Seeded  Date Sample Collected: ___________
Cultivar:  ☐ Unknown  - Name of Seed Mix
Year Established:  ☐ Unknown  - 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:

<table>
<thead>
<tr>
<th>Location</th>
<th>Site Condition</th>
<th>Soil</th>
<th>Drainage</th>
<th>Distribution</th>
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</thead>
<tbody>
<tr>
<td>Landscape</td>
<td>Shade</td>
<td>Sandy</td>
<td>Excellent</td>
<td>Patches</td>
</tr>
<tr>
<td>Lawn</td>
<td>Part Shade</td>
<td>Clay</td>
<td>Good</td>
<td>Random spots</td>
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<tr>
<td>Meadow</td>
<td>Full Sun</td>
<td>Loam</td>
<td>Moderate</td>
<td>Occasional</td>
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<tr>
<td>Side of the Road</td>
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<td>pH ______</td>
<td>Poor</td>
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<tr>
<td>Other</td>
<td>Drought</td>
<td></td>
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</tbody>
</table>

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:

* NOTE – tree, shrub, turf, fruit, vegetable and floriculture samples require alternate submission forms. Visit ag.umass.edu/diagnostics for copies.
Contact: Dr. Angela Madeiras, (413)545-3209, madeiras@umass.edu
Dr. Robert Wick, (413)545-1045, rlwick@umass.edu

If you plan to deliver a sample in person, please contact Dr. Angela Madeiras to ensure that someone will be available in the laboratory. If you mail the sample, use an express delivery service such as UPS, Federal Express, or next day mail. Please avoid Friday samples; Friday samples will not be examined until Monday which can lead to deterioration of the sample. Please include a completed Turf Diagnostic Form (page 34 or go to ag.umass.edu/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.

**How to Send a Turf Sample**

Please submit samples based on the following guidelines for turf diseases and turfgrass identification, using the form on pg. 34

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. Please include photos with your submission form or email them to Dr. Angela Madeiras.

**Instructions for Submitting a Turf Sample for Nematode Assay**

1. **Collection of soil samples.** Nematode populations are estimated most accurately with a composite sample. Use a 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. *If 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 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 University distribution system and are delayed by a day or more. UPS and Federal 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.

---

Turfgrass Identification

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

Fill out the Turf Diagnostic Form (page 34 or go to ag.umass.edu/diagnostics) as completely as is feasible, following the guidelines on page 32. 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.

---

Weed and Invasive Plant Identification

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

Depending on the site, fill out the Weed Diagnostic Form (page 31) or the Turf Diagnostic Form (page 34) 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.
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 Plant Diagnostic Lab – French Hall, Room 3, 230 Stockbridge Road, Amherst, MA 01003
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)

<table>
<thead>
<tr>
<th>Grass species:</th>
<th>Cultivar:</th>
<th>Date Sample Collected:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year Established:</td>
<td>Origin:</td>
<td>□ Seeded  □ Sodded  □ Plugged  □ Unknown</td>
</tr>
</tbody>
</table>

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
- Golf Course - (Green / Tee / Collar / Fairway / Rough)
- Lawn
- Athletic Field
- Utility/Industrial
- Other _____________

Site Condition
- Shade
- Part Shade
- Full Sun
- Wet
- Droughty

Soil
- Sandy
- Clay
- Loam
- Sand Green
- pH _____________

Drainage
- Excellent
- Good
- Moderate
- Poor

Symptoms
- Patches
- Rings, Arcs
- Leaf Spot/Blight
- Yellowing
- Wilt

Contact __________________________  Firm __________________________  Address __________________________

Town __________________________  State __________________________  Zip Code __________________________  Phone __________________________  Fax Number __________________________  E-mail Address __________________________

THE FOLLOWING SECTIONS WILL BE COMPLETED BY DIAGNOSTIC LAB:

<table>
<thead>
<tr>
<th>Laboratory</th>
<th>Nematodes per 100 cc:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C. acanthoides (ring)</td>
</tr>
<tr>
<td></td>
<td>Heteroderma (cyst)</td>
</tr>
<tr>
<td></td>
<td>H. tropicorum (spiral)</td>
</tr>
<tr>
<td></td>
<td>H. schachtii (lance)</td>
</tr>
<tr>
<td></td>
<td>L. longidorus (needle)</td>
</tr>
</tbody>
</table>

□ specimen insufficient for diagnosis  □ no nematode problem detected

□ see enclosed information

<table>
<thead>
<tr>
<th>Lab Number</th>
<th>Date Received</th>
<th>Date Answered</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Condition of Specimen:  Good  Poor  Insufficient  Specimen Code ______  Client Code ______

* NOTE – tree and shrub samples, vegetable/floriculture samples, and fruit samples require alternate submission forms. Visit ag.umass.edu/diagnostics for copies.
The Massachusetts Department of Agricultural Resources (MDAR) is the state agency that enforces the pesticide laws, administers the pesticide exams and issues pesticide licenses/certification. Comprehensive information for pesticide licensing is available at the MDAR website www.mass.gov/eea/agencies/agr/pesticides/pesticide-examination-and-licensing.html. You can also contact the UMass Extension Pesticide Education program at 413-545-1044 or email nclifton@umass.edu.

Follow these “five steps” for obtaining a Mass. pesticide applicator license/certification.
A. Determine what type of license or certification you need.
B. Purchase pesticide exam study manuals.
C. Sign up for an optional pesticide exam preparatory workshop.
D. Register and take pesticide exam.
E. Apply for your pesticide license/certification.

A. Description of Licenses/Certifications
1. Applicator’s License is for applying general-use (over-the-counter) pesticides on the property of another for hire. This license is for individuals working in an extermination, lawn care, landscape, or tree business. This license is also for individuals who work “not for hire” as office building grounds keepers, apartment building landlords, custodians, condominium maintenance personnel, golf course superintendents and staff. This license is also for invasive plant managers, maintenance and groundskeepers at schools and universities, state and municipal employees, volunteers and other individuals who apply pesticides to public lands.

2. Private Certification is for applying restricted-use pesticides on property owned or rented by you or your employer in order to raise agricultural commodities. This certification is for owners and employees who work on farms, nurseries, and/or greenhouses. As a reminder, all agricultural operations must comply with the federal EPA Worker Protection Standard that protects farm employers and employees from pesticide exposure.

3. Commercial Certification is for applying restricted-use pesticides on someone else’s property (For Hire or Not for Hire). You must have held an Applicator’s License or Certification in Massachusetts for two (2) or more years during the past five (5) years to be eligible to take the commercial certification exams. Select from one of eighteen commercial certification categories.

4. Dealer’s License is for individuals who intend to sell restricted-use pesticides in Massachusetts or to Massachusetts pesticide applicators.

B. Purchase pesticide exam study manuals from the UMass Extension Bookstore. Purchase manuals online with a credit card or by mail with a check and completed order form. Orders are shipped within a minimum of five business days (via UPS Ground) or maximum 10 business days (via US Postal service media rate). Give yourself at least two weeks to read the study manuals. Information for ordering the pesticide exam study manuals is at www.umass.edu/peeded. Select “Examination Study Manuals” in the left column.

C. Register for an optional two-day exam preparatory workshop offered by UMass Extension designed to help individuals prepare for the applicator’s license exam. The workshop can also help with reviewing the general pesticide information content for the private and commercial category exams. Participants who attend our workshop have a higher passing rate than those who do not attend our workshop.
Workshops are from 8:45 a.m. to 4:30 p.m. each day. Preregistration is required, as space is limited. Workshops held in Marlboro, Milford, East Wareham and Western Mass (TBA). Select workshop dates that are at least a week before your exam date. For more information contact Natalia Clifton at 413-545-1044, nclifton@umass.edu or refer to the website www.umass.edu/pested and select “Training Workshops to Prepare for the Exams” in the left column. Tentative dates and locations for 2018 are:

**Best Western Royal Plaza, 181 Boston Post Road W, Marlborough MA 01752**
- January 24 & 25, 2018; February 8 & 9, 2018; March 1 & 2, 2018; March 15 & 16, 2018; April 3 & 4, 2018; May 1 & 2, 2018; June 13 & 14, 2018; July 25 & 26, 2018; September 5 & 7, 2018; September 26 & 28, 2018; October 24 & 26, 2018; November 28 & 30, 2018.

**Doubletree Hotel, 11 Beaver Street, Milford, MA**
- February 1 & 2, 2018; February 21 & 22, 2018; March 29 & 30, 2018; April 26 & 27, 2018; June 27 & 28, 2018; August 8 & 9, 2018.

**UMass Cranberry Station, East Wareham**
- February 15 & 16, 2018; April 12 & 13, 2018; July 12 & 13, 2018.

**Western Massachusetts (TBA)**
- March 2018; April 2018; May 2018; June 2018.

D. **Register for the pesticide exam** using the Commonwealth’s new online ePLACE licensing system. Select “MDAR” (Massachusetts Department of Agricultural Resources) because three state agencies use this system. You will have to first set up your “account” and then register for your exam. You will receive an email confirmation of your exam registration. Exam locations are in Randolph, Springfield and Bourne, MA. Instructions for using this new system are on the MA Dept. of Agricultural Resources website at www.mass.gov/eea/agencies/agr/pesticides/pesticide-examination-and-licensing.html. During the busy months (February-April), exams are held on a weekly basis.

E. **Apply for your pesticide license.** You will receive your exam results via email. There will be instructions to use your online account to apply for your license/certification. If you are obtaining an applicator’s license or a commercial certification, you will have to upload your proof of insurance or equivalent. You can then print your new pesticide license/certification.

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**UMass Extension Pesticide Education**
The UMass Extension Pesticide Education program conducts recertification training workshops throughout the state in February and March. Topics include: Update of Massachusetts Pesticide Laws & Regulations, Pesticide Respirator Fit Testing, Personal Protection Equipment, and Pesticide Impacts on the Environment and Wildlife. For a schedule of these workshops, go to www.umass.edu/pested.

**EPA Worker Protection Standard (EPA WPS)**
Farmers who employ workers on their agricultural operations must comply with EPA WPS. These regulations require the protection and education of farm employees in order to reduce and mitigate the impacts of pesticide exposure on the farms, nurseries and/or greenhouses. Many organic farmers must comply with EPA WPS because EPA-registered pesticides are used on their agricultural establishments. The UMass Extension Pesticide Education Program will conduct a number of train-the-trainer workshops throughout the state in 2018. For more information on the requirements of EPA WPS or a schedule of these workshops, please refer to www.umass.edu/pested or contact Natalia Clifton at 413-545-1044 or nclifton@umass.edu.
The 2018 UMass Garden Calendar features *Insects to Look for in Massachusetts* which, along with a short segment on beneficial pollinators, includes key information on and photos of current invasive insects of note.

Each month features:
* An inspiring garden image.
* Daily gardening tips for Northeast growing conditions.
* Daily sunrise and sunset times.
* Phases of the moon.
* Plenty of room for notes.
* Low gloss paper for easy writing.

Many people love the daily tips and find the daily sunrise/sunset times highly useful!

**COST:** $12 (bulk pricing is available on orders of 10 copies or more to the same address)

The 2018 UMass Garden Calendar features some non-native insects that have been introduced into the U.S. Often, this is accidentally by means of “hitching a ride” in firewood or wood-packaging materials, or transported by natural pathways such as wind and ocean currents. Not all non-natives are able to establish in a new location, but if adequate food resources are present and establishment is successful, some become invasive. The factors involved are many and varied, and can be difficult to predict. The calendar includes detailed info on: Asian Longhorned Beetle, Winter Moth, Emerald Ash Borer, and Gypsy Moth.

Go to umassgardencalendar.org to see images from this year’s calendar, online ordering, the chart for bulk discounts, and an printable order form. To have an order form mailed to you, call UMass Extension at (413) 545-0895 (info only, we can’t take orders over the phone).

**UMass Garden Calendar PHOTO CONTEST**

_Ever take a great garden photo and think, “this would be perfect for the UMass Garden Calendar?”_

We’re holding a photo contest for the 2019 UMass Extension Garden Calendar, so have your camera handy and keep an eye out for contest-worthy pics!

The deadline for submitting pictures is April 1, 2018. Find submission details at ag.umass.edu/landscape/publications-resources/garden-calendar/garden-calendar-photo-contest
Floriculture, Fruit and Vegetables

Cranberry Chart Book: Management Guide for Massachusetts

http://ag.umass.edu/cranberry/publications-resources/cranberry-chart-book

Provides integrated crop and pest management information for commercial cranberry growers. This guide is updated annually by specialists at the UMass Cranberry Station and includes information on current pesticide recommendations, resistance management, and integrating cultural strategies for pest management.

Greenhouse Pest Management Smart Phone Web Apps

extension.umass.edu/floriculture

Two Greenhouse Pest Management Apps for commercial growers of greenhouse crops and flowers, one for insect & mite pests, and one for diseases. Partial support for this project provided by the New England Florist Association Floriculture Applied Research Fund. For questions or comments about these apps, 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: $35.00

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.) Available from the Extension Bookstore.

On-line Photo Library - www.negreenhouseupdate.info

Free 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. Originally 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. Available from the Extension Bookstore.
**New England Vegetable Management Guide**

Price: $25.00

The *New England Vegetable Management Guide* is 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, Rhode Island, 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, biological 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, including labeled pesticides. Each crop has a chart showing how to read and use soil test results for that crop. The *Northeast Pest Identification Guide* is a companion publication ($15) that provides color photographs of 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. Available from the Extension Bookstore.

**Nutrient Management Guide for New England Vegetable Production**

Free Online

From the UMass Extension Vegetable IPM Lab. The first part of this manual discusses the basics, including the physical, chemical and biological properties of soil. These are quite interdependent. Each of these aspects affects the other two. Developing a healthy soil requires attention to all three. The second part of this book is about management practices to achieve healthy soils. It also contains information about various sources of nutrients and soil amendments and how the management of these resources is necessary for optimum vegetable crop production. Available as a free download at ag.umass.edu/vegetable under ‘Publications’.

**Pruning Fruit Trees In the Home Orchard**

Price: $5.00

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 Online

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. Available online at the UMass Vegetable Program website, ag.umass.edu/vegetable under ‘Publications’.

**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. Includes information on implementing cultural controls, scouting, deciding when and what to spray, managing fungicide resistance, and ways to implement the latest control methods. Available online at ag.umass.edu/vegetable under ‘Publications’.

**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. Available from the Extension Bookstore.

**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. Available from the Extension Bookstore.
**Landscapes**

**Professional Management Guide for Diseases of Trees and Shrubs**

Most of the disease pathogens known to be pests of woody ornamentals in the Northeast region are covered in this guide. Included is host plant information, along with appropriate fungicides, bactericides, biological control materials, and also cultural management information where applicable. Online at [ag.umass.edu/landscape/publications-resources/diseaseguide](http://ag.umass.edu/landscape/publications-resources/diseaseguide)

**Turf**

**Best Management Practices for Lawn & Landscape Turf**

UMass Extension has recently developed a comprehensive manual of Best Management Practices (BMPs) for lawn and landscape turf. The guide is a detailed collection of economically feasible methods that conserve water and other natural resources, protect environmental quality and contribute to sustainability. The BMPs detailed in this document are agronomically sound, environmentally sensible strategies and techniques designed with the following objectives: to protect the environment, to use resources in the most efficient manner possible, to protect human health, to enhance the positive benefits of turf in varied landscapes and uses, to produce a functional turf, to improve and maintain the value of properties, and to promote the economic viability of businesses and communities. Online at [ag.umass.edu/turf](http://ag.umass.edu/turf), click ‘Publications & Resources, then ‘Best Management Practices’.

**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. Available from the Extension Bookstore.

**Professional Guide for IPM in Turf for Massachusetts**

The guide is intended for use by professionals as a tool in the management of all types of turf: from roadsides and utility areas, to lawns, to fine playing surfaces. The latest edition features techniques critical to environmentally responsible, integrated management of turf pests. The guide contains research-based strategies for turfgrass selection, as well as comprehensive pest management guidelines and pesticide regulation compliance information. Alternative and cultural pest control options are highlighted, and advice on pesticide use is based on minimal impact to non-target organisms, natural resources and human health. Online at [ag.umass.edu/turf/professional-turf-ipm-guide](http://ag.umass.edu/turf/professional-turf-ipm-guide)
# Frequently Used Phone Numbers

## UMass Extension

**www.umass.edu/agland**
- Extension Bookstore: 413-545-5537
- Floriculture Diagnostics (p.25): 413-545-3209
- Fruit Diagnostics (p. 27): 413-545-4347
- Pesticide Education Program (p.36): 413-545-1044
- Soil Testing Lab (p. 19): 413-545-2311
- Tree and Shrub Diagnostics (p.29): 413-545-3208
- Turf Diagnostics (p. 32): 413-545-3209
- Vegetable Diagnostics (p.27): 413-545-3209

## Chemicals

**CHEMTREC®**
- For hazardous materials incidents (spills, leaks, fire, exposure, accident): www.chemtrec.com 800-262-8200

**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
- 800-323-5040
- 508-867-7184
- Toll Free

## Poison Control Centers

**All New England states**
- 800-222-1222
- www.nnepc.org
- www.mariipoisoncenter.org

## Agencies & Organizations

**Agricultural Environmental Enhancement Program (AEEP),**
- Laura Maul: 617-626-1739
- laura.maul@state.ma.us

**American Farmland Trust**
- Northampton
- Julia Freedgood: 413-221-7305
- www.farmlandinfo.org

**American Public Works Association**
- New England Chapter
  - Jacqueline Connors: 781-337-8200
  - newengland.apwa.net

**Arnold Arboretum, Jamaica Plain**
- www.arboretum.harvard.edu 617-524-1718

**Berkshire Grown, Great Barrington**
- Barbara Zheutlin: 413-528-0041

**Board of Registration of Landscape Architects**
- 617-727-3072
- www.mass.gov/dpl

**Cape Cod Cranberry Growers Assoc.**
- Brad Morse, President
- Brian Wilk, Executive Director
- Roberto Rubini, President
- info@cranberries.org
- www.cranberries.org

**Center for Ecological Technology**
- Florence: 413-586-7350
- Pittsfield: 413-445-4556
- cet@cetonline.org
- www.cetonline.org

**Community Involved in Sustaining Agriculture (CISA), South Deerfield**
- www.buylocalfood.org
- info@buylocalfood.org

**Cornell Waste Management Institute, Ithaca, NY**
- Lauri Wellin: 607-255-1187
- cwmi@cornell.edu
- www.cwmi.css.cornell.edu

**Dig Safe**
- 888-344-7233
- www.digsafe.com

**Ecological Landscaping Association**
- ela.info@comcast.net
- www.ecolandscaping.org

**Farm Viability Enhancement Program (FVEP)**
- Craig Richov: 617-626-1725
- craig.richov@state.ma.us

**Golf Course Superintendents Association of America**
- 800-472-7878
- www.gcsaa.org

**Golf Course Superintendents Association of New England**
- 774-430-9040
- www.gcsane.org

**International Plant Propagator’s Society, Eastern Region**
- Margot Bridgen: 631-765-9638
- www.ippseastern.org

**International Society of Arboriculture**
- New England Chapter
- Heather Leff: 978-844-0441
- heather@newenglandisa.org
- www.newenglandisa.org

**Poison Control Centers**

**Agencies & Organizations**

**Board of Registration of Landscape Architects**
- www.mass.gov/dpl

**Cape Cod Cranberry Growers Assoc.**
- 508-866-7878

**Center for Ecological Technology**
- Florence: 413-586-7350
- Pittsfield: 413-445-4556
- cet@cetonline.org
- www.cetonline.org

**Community Involved in Sustaining Agriculture (CISA), South Deerfield**
- info@buylocalfood.org
- www.buylocalfood.org

**Cornell Waste Management Institute, Ithaca, NY**
- Lauri Wellin: 607-255-1187
- cwmi@cornell.edu
- www.cwmi.css.cornell.edu

**Dig Safe**
- 888-344-7233
- www.digsafe.com

**Ecological Landscaping Association**
- ela.info@comcast.net
- www.ecolandscaping.org

**Farm Viability Enhancement Program (FVEP)**
- Craig Richov: 617-626-1725
- craig.richov@state.ma.us

**Golf Course Superintendents Association of America**
- 800-472-7878
- www.gcsaa.org

**Golf Course Superintendents Association of New England**
- 774-430-9040
- www.gcsane.org

**International Plant Propagator’s Society, Eastern Region**
- Margot Bridgen: 631-765-9638
- www.ippseastern.org

**International Society of Arboriculture**
- New England Chapter
- Heather Leff: 978-844-0441
- heather@newenglandisa.org
- www.newenglandisa.org
| Massachusetts Maple Producers Assoc. | Winton Pitcoff | info@massmaple.org | www.massmaple.org | 413-628-3912 |
| Massachusetts Nursery and Landscape Association | | | | 413-369-4731 |
| Massachusetts Public Interest Research Group (MassPIRG) | | info@masspirg.org | www.masspirg.org | 617-292-4800 |
| Massachusetts Recreation and Park Association | | | | 413-568-8356 |

**MASSACHUSETTS, STATE OF**

**DEPARTMENT OF AGRICULTURAL RESOURCES (MDAR)**

617-626-1720
(Boston Office)

www.mass.gov/agr
251 Causeway Street, Suite 500
Boston, MA 02114-2151
John Lebeaux, Commissioner
John.Lebeaux@state.ma.us

- Agricultural Conservation and Technical Assistance, Division of CAFO/AFO: Gerard Kennedy 617-626-1773
- Agricultural Environmental Enhancement Grants Laura Maul 617-626-1739
- Agricultural Markets, Division of www.mass.gov/agr/divisions
  Mary Jordan, Director
  mary.jordan@state.ma.us
  
  Aquaculture: Sean Bowen 617-626-1724
  Business Training: Melissa Adams 413-548-1904
  Export Markets: Bonita Oehlke 617-626-1753
  Economics: Katherine deRonde 617-626-1811
  Farm Composting: Sean Bowen 617-626-1724
  Farm Viability: Craig Richov 617-626-1725
  Farmers Markets: David Webber 617-626-1754
  Land Use, APR Program: Ron Hall 617-626-1704
  Markets: Rick LeBlanc 617-626-1759
  
  Animal Health: Esther Wegman 617-626-1795
  
  Apiary Inspection Service
  Kim Skyrm, Chief Apiary Inspector,
  Apiary Program Coordinator
  Kim.Skyrm@state.ma.us 413-548-1905
  
  857-319-1020
  617-636-1801
  
  Wetlands Information Resource
  Ken Chin, Environ. Engineer
  ken.chin@state.ma.us 617-292-5893
  Jonathan Hobill, Southeast Region 508-946-2700
  
  Crop and Pest Services
  Taryn Lascola
  Taryn.Lascola@state.ma.us 617-626-1776

**IPM Institute of North America,**
info@ipminstitute.org
www.ipminstitute.org

**Lyle E. Littlefield Ornamentals Trail Garden, Orono, ME**
Brad Libby
blibby@maine.edu
umaine.edu/littlefieldgarden/about

**Mass Farm-To-School Project**
Lisa Damon
info@massfarmtoschool.org
massfarmtoschool.org

**Mass Farmers Markets,**
Jeff Cole, Executive Director
jeff@massfarmersmarkets.org
www.massfarmersmarkets.org

**Massachusetts Agriculture in the Classroom**
info@massaginclassroom.org
www.aginclassroom.org

**Massachusetts Aquaculture Association**
Chris Sherman, President
massaquaculture.org

**Massachusetts Arborists Association**
info@massarbor.org
www.massarbor.org

**Massachusetts Association of Landscape Professionals**
info@mlp-mclp.org
www.mlp-mclp.org

**Massachusetts Association of Lawn Care Professionals**
malcp@yahoo.com
www.malcp.org

**Massachusetts Association of Roadside Stands, Acton**
info@massfarmstands.com
www.massfarmstands.com

**Massachusetts Audubon Society,**
www.massaudubon.org

**Massachusetts Christmas Tree Growers Association**
www.christmas-trees.org

**Massachusetts Farm Bureau**
www.mfbfn.net

**Massachusetts Flower Growers Assoc.**
Bob Luczai
www.massflowergrowers.com

**Massachusetts Fruit Growers Assoc.**
Wesley Autoio, Secretary
autoio@umass.edu
www.massfruitgrowers.org

**Massachusetts Golf Association**
info@mgalinks.org
www.mgalinks.org

**Massachusetts Horticultural Society**
www.masshort.org

**Massachusetts Maple Producers Assoc.**
Winton Pitcoff
info@massmaple.org
www.massmaple.org

**Massachusetts Nursery and Landscape Association**
www.mnla.com

**Massachusetts Public Interest Research Group (MassPIRG)**
info@masspirg.org
www.masspirg.org

**Massachusetts Recreation and Park Association**
www.massrpa.org

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<td>508-481-4766</td>
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<td>866-548-6323</td>
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<td>781-275-4811</td>
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<td>413-545-2963</td>
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<td>800-356-2201</td>
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<td>617-933-4900</td>
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<tr>
<td><strong>DEPARTMENT OF AGRICULTURAL RESOURCES (MDAR) continued</strong></td>
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<tr>
<td>• Energy Efficiency, Conservation, &amp; Renewables Program</td>
<td>Gerry Palano 617-626-1706 <a href="mailto:gerald.palano@state.ma.us">gerald.palano@state.ma.us</a></td>
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<tr>
<td>• Pesticide Enforcement Hotline: 617-626-1781</td>
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<tr>
<td>• Pesticide Exam and License Info. Packet 617-626-1784</td>
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<tr>
<th><strong>DEPARTMENT OF CONSERVATION &amp; RECREATION</strong></th>
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<tr>
<td><a href="http://www.mass.gov/dcr">www.mass.gov/dcr</a> 617-626-1250</td>
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<tr>
<th><strong>DEPARTMENT OF ENVIRONMENTAL PROTECTION</strong></th>
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<tr>
<td><a href="http://www.mass.gov/dep">www.mass.gov/dep</a> Western Region 413-784-1100</td>
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<td>Central Region 508-792-7650</td>
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<td>Northeast Region 978-694-3200</td>
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<td>Southeast Region 508-946-2700</td>
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<tr>
<th><strong>EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS</strong></th>
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<tbody>
<tr>
<td><a href="http://www.mass.gov/eea">www.mass.gov/eea</a> 617-626-1000</td>
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<tr>
<th><strong>HOISTER’S LICENSE</strong></th>
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<tr>
<td>Hoisting Division: Ashburton Place, Boston, MA 02108</td>
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<tr>
<th><strong>INDUSTRIAL ACCIDENTS</strong> (Workers’ Comp)</th>
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<tr>
<td>800-323-3249</td>
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<td><a href="http://www.mass.gov/dia">www.mass.gov/dia</a></td>
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<th><strong>OFFICE OF BUSINESS DEVELOPMENT</strong></th>
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<tr>
<td><a href="http://www.mass.gov/mobd">www.mass.gov/mobd</a> 413-733-5357</td>
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<tr>
<td>Debra Boronski 617-973-8600</td>
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<tr>
<td><a href="mailto:debra.boronski@state.ma.us">debra.boronski@state.ma.us</a></td>
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<tr>
<th><strong>PUBLIC SAFETY, DEPARTMENT OF</strong></th>
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<tr>
<td><a href="http://www.mass.gov/dps">www.mass.gov/dps</a> 617-727-3200</td>
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<tr>
<th>Massachusetts Tree Wardens &amp; Foresters Association</th>
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<tr>
<td>Karen Doherty 781-894-4759 <a href="mailto:info@masstreewardens.org">info@masstreewardens.org</a></td>
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<td><a href="http://www.masstreewardens.org">www.masstreewardens.org</a></td>
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<tr>
<td>New Economy Coalition <a href="http://www.neweconomy.net">www.neweconomy.net</a> 617-946-3200</td>
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<tr>
<td>New England Cemetery Association newenglandcemetery.org</td>
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<tr>
<td>New England Nursery Association, newenglandnurseryassociation.org 508-653-3112</td>
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<tr>
<td>New England Parks Association Brett Simmons, President <a href="mailto:brett_simmons@torringtonct.org">brett_simmons@torringtonct.org</a> 860-489-2385</td>
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<tr>
<td>New England Pest Management Association, Concord, NH <a href="http://www.nepma.org">www.nepma.org</a> 866-386-3762</td>
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<tr>
<td>New England Regional Turf Conference and Trade Show 401-848-0004</td>
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<tr>
<td>New England Regional Turfgrass Foundation Gary Sykes <a href="http://www.nertf.org">www.nertf.org</a> 401-841-5490</td>
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<tr>
<td>New England Small Farm Institute (NESFI) <a href="mailto:info@smallfarm.org">info@smallfarm.org</a> <a href="http://www.smallfarm.org">www.smallfarm.org</a> 413-323-4531</td>
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<tr>
<td>New England Sod Producers Association Gary Sykes <a href="http://www.nesod.com">www.nesod.com</a> 401-841-5490</td>
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<tr>
<td>New England Sports Turf Managers Association (NESTMA) <a href="http://www.nestma.org">www.nestma.org</a> 917-573-5558</td>
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<tr>
<td>New England Vegetable and Berry Growers Association Lisa McKeag, Sec/Treasurer <a href="mailto:lmckeag@gmail.com">lmckeag@gmail.com</a> nevbga.org</td>
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<tr>
<td>New Entry Sustainable Farming Project Teresa Shroll 978-654-6745 <a href="mailto:nesfp@tufts.edu">nesfp@tufts.edu</a> nesfp.org</td>
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<tr>
<td>Northeast Greenhouse Conference Cindy Delaney 802-865-5202 <a href="http://www.negreenhouse.org">www.negreenhouse.org</a></td>
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<tr>
<td>Northeast Organic Farming Association (NOFA) Massachusetts Chapter, Barre Julie Rawson <a href="http://www.nofamass.org">www.nofamass.org</a> 978-355-2853</td>
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<tr>
<td>Northeast Sustainable Agriculture Working Group (NESAWG), Ruth Katz <a href="mailto:ruthkatz@nesawg.org">ruthkatz@nesawg.org</a> <a href="http://www.nesawg.org">www.nesawg.org</a> 914-231-9206 845-501-0191</td>
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<td>Schumacher Center for a New Economics 413-528-1737</td>
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<td>Southeastern Mass Agricultural Partnership (SEMAP) 508-295-2212 semaponline.org</td>
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<tr>
<td>Sports Turf Managers Association (STMA) <a href="http://www.stma.org">www.stma.org</a> 800-323-3875</td>
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<tr>
<td>Institution</td>
<td>Contact Information</td>
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<tr>
<td>Sustainable Agriculture Research and Education (SARE)</td>
<td><a href="mailto:nesare@uvm.edu">nesare@uvm.edu</a>  802-656-0471</td>
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<tr>
<td>Tower Hill Botanic Garden, Boylston</td>
<td>Grace Elton  <a href="http://www.towerhillbg.org">www.towerhillbg.org</a></td>
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<tr>
<td>Toxics Use Reduction Institute, UMass Lowell</td>
<td>Michael Ellenbecker  <a href="mailto:ellenbec@turi.org">ellenbec@turi.org</a>  978-934-3275</td>
</tr>
<tr>
<td>Turfgrass Producers International</td>
<td><a href="http://www.turfgrassod.org">www.turfgrassod.org</a>  847-649-5555</td>
</tr>
<tr>
<td>United States Golf Association</td>
<td><a href="mailto:usga@usga.org">usga@usga.org</a>  908-234-2300</td>
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<td>UNIVERSITY OF MASSACHUSETTS AMHERST</td>
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<td><a href="http://www.umass.edu">www.umass.edu</a></td>
<td>413-545-0111</td>
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<tr>
<td>Agricultural Experiment Station</td>
<td>Will Miller  ag.umass.edu</td>
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<tr>
<td>College of Natural Sciences</td>
<td>Tricia Serio  <a href="http://www.cns.umass.edu">www.cns.umass.edu</a></td>
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<tr>
<td>Donahue Institute</td>
<td>Lynn Griesemer  <a href="http://www.donahue.umassp.edu/">www.donahue.umassp.edu/</a></td>
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<tr>
<td>Dr. Joseph Troll Turf Research Center</td>
<td>James Poro  extension.umass.edu/turf</td>
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<td>Environmental Health and Safety</td>
<td><a href="http://www.ehs.umass.edu/">www.ehs.umass.edu/</a></td>
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<tr>
<td>Ctr for AgricultureFood &amp; the Env.</td>
<td>ag.umass.edu</td>
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<tr>
<td>Massachusetts Small Business Development Center</td>
<td>Georgianna Parkin  <a href="http://www.msbdc.org">www.msbdc.org</a></td>
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<tr>
<td>Poultry: Dr. Michael Darre, UConn</td>
<td>860-486-1008</td>
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<tr>
<td>Stockbridge School of Agriculture</td>
<td>Wes Autio  stockbridge.cns.umass.edu</td>
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<tr>
<td>UMass Extension</td>
<td>Agriculture and Landscape Program  <a href="http://www.umass.edu/agland">www.umass.edu/agland</a>  413-545-0895</td>
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<tr>
<td>Agricultural Mediation Program</td>
<td>Courtney Breese, Program Dir.  888-869-1898  617-287-4046</td>
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<tr>
<td>Mass. Office of Public Collaboration University of Massachusetts Boston</td>
<td><a href="mailto:courtney.breese@umb.edu">courtney.breese@umb.edu</a></td>
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<tr>
<td>APHIS - Animal &amp; Plant Health Inspection Service</td>
<td>Monte Chandler  866-487-3297</td>
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<tr>
<td>Farm Service Agency</td>
<td>Jonathan Niedzielski  413-253-4500</td>
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<tr>
<td>Rural Development</td>
<td>413-253-4302</td>
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<tr>
<td>Natural Resources Conservation Service</td>
<td>Christine Clarke  413-253-4351</td>
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<tr>
<td>Field Offices</td>
<td>Barnstable  508-771-6476</td>
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<tr>
<td>Greenfield</td>
<td>413-772-0384x3</td>
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<tr>
<td>Hadley</td>
<td>413-585-1000x100</td>
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<tr>
<td>Pittsfield</td>
<td>413-443-1776x3</td>
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<tr>
<td>Westford</td>
<td>978-692-1904x3</td>
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<tr>
<td>West Wareham</td>
<td>508-295-5151x2</td>
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<tr>
<td>Worcester County</td>
<td>508-829-4477x3</td>
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<td>US ENVIRONMENTAL PROTECTION AGENCY (EPA)</td>
<td><a href="http://www.epa.gov">www.epa.gov</a></td>
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<tr>
<td>Dr. Rob Koethe</td>
<td>617-918-1535</td>
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<tr>
<td>Dr. Rob Koethe</td>
<td><a href="mailto:koethe.robert@epa.gov">koethe.robert@epa.gov</a></td>
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<tr>
<td>Dr. Rob Koethe</td>
<td>School IPM</td>
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<tr>
<td>Tribal Pesticide Contact</td>
<td><a href="mailto:tham.kan@epa.gov">tham.kan@epa.gov</a></td>
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<tr>
<td>Andrea Szylvian</td>
<td>617-918-1198</td>
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<tr>
<td>Andrea Szylvian</td>
<td><a href="mailto:sylvian.andrea@epa.gov">sylvian.andrea@epa.gov</a></td>
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<tr>
<td>Andrea Szylvian</td>
<td>WPS Coordinator</td>
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<tr>
<td>Region 1 Agricultural Risk Reduction Program &amp; PESP Contact</td>
<td><a href="mailto:tham.kan@epa.gov">tham.kan@epa.gov</a></td>
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<tr>
<td>US FISH AND WILDLIFE SERVICE</td>
<td><a href="http://www.fws.gov">www.fws.gov</a></td>
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<tr>
<td>Northeast Region</td>
<td>413-253-8200</td>
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<tr>
<td>US FOREST SERVICE</td>
<td><a href="http://www.fs.fed.us">www.fs.fed.us</a></td>
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<tr>
<td>800-832-1355</td>
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Information Resources for Home Gardeners

UMASS

2018 UMass Garden Calendar
www.UMassGardenCalendar.org

Home Gardener Factsheets and Gardening Questions
ag.umass.edu/resources/home-lawn-garden / Email: greeninfo@umext.umass.edu

Plant Diagnostic Laboratory (see page 24)
ag.umass.edu/diagnostics

Soil and Plant Nutrient Testing Laboratory (see page 19)
soiltest.umass.edu

Tick Testing (see page 20)
www.umass.edu/tick

GARDEN HOTLINES

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

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

Barnstable County Master Gardener Program
(Barnstable County residents only)
www.umass.edu/tick
(508) 375-6700

BOTANIC GARDENS

Arnold Arboretum
www.arboretum.harvard.edu
Email: plantinformation@arnarb.harvard.edu
(617) 384-5235
Mon, 1 - 3 pm
(617) 524-1718 ext. 6

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

OTHER

Massachusetts Audubon Wildlife Information Line
Especially helpful with questions about snakes and other wildlife.
(781) 259-2150
Mon, Wed & Fri, 11 am - 2 pm
www.massaudubon.org

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

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

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