

News & Views

for New Hampshire's Green Industry

April-June, 2003

Grubs, Grubs and More Grubs!!!

This is the time of the year when we get numerous calls on grub control. Grubs are the larval stage of the common turf feeding beetles such as the Japanese beetle, European Chafer, and Asiatic garden beetle. The Japanese Beetle has been in New Hampshire a long time but the European Chafer didn't appear until 1995, in Salem. The European Chafer (EC) has since spread throughout southern NH and is the dominant grub in home lawns. The European Chafer prefers drier soils than the Japanese Beetle and has been helped by the drought. EC now occurs from Rochester to Keene. The Asiatic Garden Beetle is the smallest of these beetles, and is commonly seen around lights in early summer. This beetle grub prefers high organic soils, is much smaller and feeds less, and therefore is not considered a serious lawn pest. Since the grubs do like mulched garden beds, the grubs can be a serious problem on flowers and herbs. Also, the adults love to feed on flowers, foliage, and vegetables. So, AGB can be a pesky critter. The Japanese Beetle is well known and is a serious problem in turf as a grub and on shade trees, flowers and vegetables as an adult.

As the ground thaws, the overwintering grub works it's way to the surface and starts feeding again. These fat juicy grubs are sought after by birds and skunks. This digging damage by predators often does more harm than the feeding damage of the grubs. Everybody wants to kill these grubs now before more damage occurs. Before you run out to buy chemicals to kill these



grubs, there are a few things you need to think about. First, these overwintering, fat grubs are very difficult to kill. Some may still be deep in the soil and difficult to reach with chemicals. They will soon stop feeding in May as they start becoming adults (June, for European Chafer). The only product we have is Dylox for spring grub control. Dylox has only a 3-day residual in the soil. It doesn't last a long time which limits its ability to control grubs. Dylox requires a lot of water to get it down into the soil where the grubs are. Therefore, unless conditions are perfect, control will be poor. Under the most ideal of conditions, control may only be fair. The birds and skunks will still feed on the remaining live grubs causing digging damage. It's best to wait until later in the season to control grubs. So, when is the best time? Here's the answer.

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Digital Diagnosis A New Tool for UNH Cooperative Extension

Imagine this scene. You're doing your usual visual inspection of the greenhouse or nursery and notice that something isn't quite right. It occurs to you that the plants have not been in top condition for a few days, but you'd hoped they would improve with the arrival of warmer, sunnier weather. A closer look reveals some discolored, spotty leaves or perhaps some other visual clue that the plant is under stress. What do you do?

Accurately, diagnosing a plant problem is the first step in any good manager's toolbox. Diagnosis includes analyzing all facets of a plant's environment—air, water, and soil, as well as management practices that could impact plant health. If you're still stumped as to the cause of the plant's ill health, it may be necessary to have the plant examined by Dr. Cheryl Smith, Extension Plant Health Specialist, at the UNH Plant Diagnostic Lab.

Traditionally, plant samples are mailed or hand delivered to the Lab. Cheryl examines the plant, both macro and microscopically isolates any potential disease organisms, determines the cause (or causes) of the problem, and sends a diagnostic report with management recommendations back to the grower. Thanks to a grant from the NH Department of Agriculture, UNH Cooperative Extension is now able to offer digital diagnosis to New Hampshire growers.



Digital image taken of thrips damage on a petunia leaf

Each UNH Cooperative Extension county office is now equipped with a Nikon Coolpix 4500 digital camera and binocular dissecting microscope. Your local agricultural Extension Educator is able to photograph plant problems in the field, bring samples back to the office, and photograph them under high magnification. These digital images are then sent to Cheryl via electronic mail for expert diagnosis. If she is unable to determine the problem from the digital image, physical samples are then forwarded to the Lab for further testing. It is hoped that digital diagnosis will

offer a rapid response time, reducing the delay in implementing corrective action.

Some facts to remember—only digital images submitted by Extension Educators will be accepted for diagnosis; the cost remains \$15/sample; and a plant problem identification form must still be completed.

Plant Diagnostic Lab

Information – (including sample form)
<http://ceinfo.unh.edu/Agriculture/Documents/agplhth.htm>

Cost
\$15 charge* per sample. (Each plant species = a sample.)
*Please note the \$3.00 increase.

Address
Department of Plant Biology
241 Spaulding Hall, UNH
38 College Road
Durham, NH 03824-3544
Tel. 603-862-3841

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The adults of the European Chafer emerge and are laying eggs by late June, peaking the first week in July. Our research has shown that Merit (imidacloprid) is an extremely useful product for grub control. Merit has sufficient residual that it can be applied preventatively in May and June and still be available to kill grubs in July. The advantage of a spring application is twofold. First, it can be combined with a fertilizer application to the lawn. Secondly, the soils are moist and more receptive to penetration by the chemical when watered in. July is also a good time for a Merit application. The grubs are still small and not doing much damage. But, the soils are drying out and unless they have been irrigated, the Merit must be watered in with at least 0.25 in water to insure soil penetration. Dry soils often repel water at first and must be irrigated enough to wash the Merit into the soil profile. Also, the grubs are deeper in the soil to escape the dry surface and are more difficult to reach. August is a transition month. The grubs are becoming larger and more difficult to kill. Also, the root damage is increasing as the grubs grow. In a year of normal rainfall, early August is not too late to

Treat. However, in 2002, the combination of dry soils and root feeding severely damaged lawns by August 15. Therefore, in a dry year, grub controls should be on a by August 1. An irrigated lawn can be delayed another week or two. Grub control will drop from >95% on August 1 to 70% on August 28 as the grubs become larger and harder to kill. Dylox can also be used in August but must be well-irrigated to give decent control. Another product, Mach2 (halofenozide) has shown to be effective against EC in early July only. Halofenozide is a growth hormone that causes the grub to grow too fast. However, it is only effective against the first stage grub that is active the first 2 weeks of July. Halofenozide does not have the residual for a May or June application and it does not have curative ability for a late July and August application. Halofenozide used to be the ingredient in Scott's Grubex. However, due to its poor preventative control of EC when used in May and June, Scott's has switched to Merit in 2003 as the active ingredient in Grubex.

If you are finding grubs and would like them identified, please contact your local County Extension Educator.

Stan Swier

What's Ahead

All of the following events offer an opportunity for pesticide recertification credits. For numbers of credits and categories, please contact the meeting sponsor.

- June 26 UNHCE Ornamentals Twilite Meeting** at Mountain Greenery, Ossipee. Free of charge. For more information, call Geoffrey Njue, UNH Cooperative Extension Educator, 603-749-4445.
- July 10 Turf and Grounds Maintenance Field Day** co-sponsored by UNH Cooperative Extension and City of Manchester Parks Department. Free of Charge. Call 603-862-3208 after June 1 for more information.
- July 15 Landscape and Turf Weed Control, Twilite Meeting** at UNH in Durham, sponsored by New Hampshire Landscape Association. For information call 800-639-5601.
- August 6 Summer Expo** – New England Nursery Association and NH Plant Growers Association, Pleasant View Gardens, Loudon. Nursery tours on August 5. Contact 508-653-3112 or www.NensyAssn.org

For up to date information on events, check these websites:

UNH Cooperative Extension Ag Calendar at <http://ceinfo.unh.edu/Agriculture/Documents/Aghome.htm>

NH Landscape Association at www.nhlaonline.org

NH Plant Growers Association at www.nhplantgrowers.org

This newsletter is a cooperative effort of the Ornamentals Extension Educators and Specialists at the University of New Hampshire. It is published quarterly. Its purpose is to inform and update industry members on issues and research relevant to the production, use and maintenance of ornamentals and turf in New Hampshire. Contributors for this issue:

Nancy Adams, Extension Educator, Rockingham County
Cathy Neal, Extension Professor & Specialist, Ornamental Horticulture
Cheryl Smith, Extension Professor & Specialist, Plant Health
Stan Swier, Extension Professor & Specialist, Entomology

Comments and questions are welcome...please call Cathy Neal at 603-862-3208. Address corrections, additions, and deletions should be faxed to 603-862-2717 or phoned in to Cheryl Estabrooke at 603-862-3200.

New Publications

Establishing and Operating a Garden Center: Requirements and Costs (NRAES-161)



This newly revised book discusses planning, capital investments, product mixes, labor, customer profiles, garden center layouts, pricing, advertising, and financial analysis. Two example businesses are analyzed throughout the book: one with annual sales of \$1 million and another with annual sales of \$350,000. The 66-page book is for potential and current garden center owners, their business advisors, educators, and researchers. The book is available from NRAES for \$15.00 plus \$4.25 S&H (within the continental U.S.). Make checks payable to NRAES; all major credit cards accepted. New York residents, add 8% sales tax (on both the cost of the book and S&H). Contact NRAES or visit our website for other S&H rates and possible quantity discounts. [NRAES (Natural Resource, Agriculture, and Engineering Service), Cooperative Extension, P. O. Box 4557, Ithaca, NY 14852-4557; phone (607) 255-7654; fax (607) 254-8770, e-mail <NRAES@CORNELL.EDU>; website <WWW.NRAES.ORG>]

The Best Plants for New Hampshire Gardens and Landscapes

How to Choose Annuals, Perennials, Small Trees & Shrubs to Thrive in Your Garden



A totally fresh publication which uses the concept of habitat gardening to help gardeners and landscapers choose and care for plants in our unique New Hampshire environment. The 96-page paperback book includes

- Lively, easy-to-read text and useful charts
- Pen and ink illustrations, and black & white photos of selected plants
- Sections on plant selection and care
- Specialty plant lists and an index for easy referencing

Written by University of New Hampshire Cooperative Extension Educators Cathy Neal and Margaret Hagen along with Leslie van Berkum of van Berkum Nurseries, this book is published by the New Hampshire Plant Growers' Association in cooperation with UNH Cooperative Extension. The book may be purchased at retail garden centers throughout the state or from the UNH Cooperative Extension Publications Center.

Order Form: The Best Plants for New Hampshire Gardens and Landscapes

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You may pick up books at the Publications Center and save the cost of shipping and handling. For bulk orders and quantity discounts, contact the New Hampshire Plant Growers Association at 603-225-0653.