

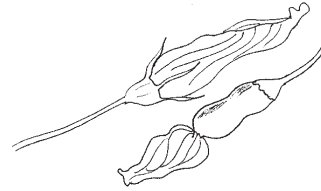


NEW HAMPSHIRE VEGETABLE, BERRY & TREE FRUIT NEWSLETTER
BECKY GRUBE, EXTENSION SPECIALIST, SUSTAINABLE AG, SMALL FRUIT & VEGETABLES

Vol. 2:5 July

July 10, 2006

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TREE FRUIT GROWERS – ATTENTION PLEASE!

Submitted by Juli Brussel, UNHCE Agricultural Resources Program Leader

We have a changing of the guard for the UNH Cooperative Extension assistance for tree fruit growers. George Hamilton, Ag Resources Educator in Hillsborough County and part-time tree fruit specialist, will be re-focusing his time and attention on Hillsborough County growers. Bill Lord, retired UNH Ag Resources fruit specialist, has agreed to once again take up the challenge of assisting New Hampshire tree fruit growers throughout the state, working with the County Ag Educators.

Bill will be able to make approximately three visits a year to each county to do site visits at the orchards. He will also be available to answer some direct questions from growers and from the Ag Resources staff. So please, first call your County Extension Ag Educator if you need help. The two of you can decide if your need can be handled over the phone or if a visit from Bill will be necessary.

We all greatly appreciate the heroic effort George has made to handle tree fruit duties as well as his county responsibilities. Let's give George and Bill both a big round of applause for their dedication to New Hampshire fruit growers!

OF POMES & STONES – SUMMER PRUNING

Submitted by Bill Lord, former UNHCE Fruit Specialist

Despite the incessant rains, especially during the bloom period, the apple crop is not bad and the peach crop may be as good as it gets. And given the plentiful water and vigorous growth I am seeing, fruit size should be excellent. One practice that could be of real value for apples is summer pruning. The primary benefit we see from summer pruning is fruit color development and most mature blocks on rootstocks as dwarfing as M.26 will benefit this year as will those with larger trees.

July 15 through August 15 is the preferred window for summer pruning. If an aggressive pruning approach is taken, earlier pruning will reduce fruit size somewhat while pruning later within this window will have a minimal effect - the harder you prune, the bigger the gains in fruit color and the greater the reduction in fruit size. Pruning can vary from simple suckering to removal of most of the peripheral shoots that shade fruits. In general, you can prune out what you would normally remove during the next dormant pruning except that we recommend limiting cuts to wood 1 inch in diameter or less. Wood an inch or more in diameter is difficult to remove from the tree without a significant risk of fruit bruising.

While fruit color gains are impressive, especially on larger trees, there are other benefits to consider. This summer promises to offer perhaps more summer disease pressure than normal, and summer pruning reduces that risk by promoting more rapid drying of fruits and foliage. Summer pruning offers a chance to use harvest labor efficiently – bringing pickers in a couple of weeks early to summer prune and harvest stone fruits and early apples. And summer pruning may increase flesh calcium levels in apples, reducing the risk of calcium related, fruit disorders.

Summer pruning of peaches should also be considered to improve development of red skin color and ease of harvest.

SWEET CORN IPM

Submitted by Alan Eaton, UNHCE Integrated Pest Management Specialist

This year we are monitoring sweet corn insects on a dozen or so NH farms. Most of this effort is funded through a grant George Hamilton obtained from the New Hampshire Department of Agriculture, Markets and Food. It is focused on Hillsborough county, but we also are setting up sites in Durham, Concord, Plainfield, Keene, Plymouth and possibly elsewhere. Corn earworm and fall armyworm are unpredictable pests, so it pays to check on their numbers, rather than automatically blanket your sweet corn with sprays the entire summer. Late last season we had a sudden, sharp rise in their numbers, and growers who became aware of this avoided serious injury.

You can check out the latest information as often as you wish by visiting the sweet corn IPM page at UNH Cooperative Extension's website. We expect to regularly add trap catch information, and the map shows where we have sites. We anticipate having both trap information and a weekly analysis/summary of what's happening. The site is being set up now, with a link from the IPM page. If this newsletter goes out before things are finalized, the link might not work for another day or two. I believe the URL will be: <http://extension.unh.edu/Agric/scipm/index.htm>

The first traps are already set up, and some things are normal; others are surprising. On the normal side, European corn borer numbers (south) are high now, and most sites in southern NH that have late whorl stage corn are showing above-threshold levels of injury. This is normal for now.

On the surprising side: we have captured a few corn earworm moths already. To our south, there have been reports of early earworm problems. I think this is only the second time I've confirmed any from NH in June, in my 28 years here! Anyway, without fresh silk on which to lay eggs, these moths will probably move to lay eggs on another choice on their host list: tomato. That's why corn earworm is also known as tomato fruitworm (and cotton bollworm, soybean podworm).

FUNGICIDE UPDATE FROM 2006-7 NEW ENGLAND VEGETABLE MANAGEMENT GUIDE

This is the last article in a three-part series about what's new in herbicide, fungicide and insecticides for vegetable crops. This installment focuses on fungicides, and is modified from an article written by Bess Dicklow (Univ. of Mass.). We previously covered insecticides (Jun) and herbicides (Mar/Apr). *Please note:* Trade names are used for identification only; no produce endorsement is implied. If the label conflicts with any of following information, follow the label!

The 2006-2007 New England Vegetable Management Guide is available online at www.nevegetable.org, and is also available for purchase from Becky Grube or your local extension office.

Resistance Management

A serious issue with fungicide use is the capacity of major pathogens to develop resistance to the best fungicides available. To achieve effective control and pro-long the useful life of new chemistries, fungicide applications should be guided by the principles and practices of resistance management. Each class of fungicide now has a group number, based upon their mode of action in killing pathogens or interfering with their life cycles. These "FRAC codes" appear in Table 22 of the guide (page 53) and within specific crop sections.

1. Fungicides with the same FRAC code have a similar site of action (attack the same biochemical pathway in fungi).
2. Fungi are more likely to become resistant to fungicides with a single site of action.

Pathogen populations that have developed resistance to one chemical within a group are also resistant to the other group members (this is "cross resistance"). Fungicides with an **M#** code have multiple modes of action and work as **protectants**. These materials have a lower risk of resistance development. **Systemic** or **penetrant** fungicides that enter and move within plant tissues have the greatest risk of resistance development. Unfortunately, these chemicals often give the best control.

To prevent pathogens from becoming resistant to effective fungicides:

- Know the active ingredients and FRAC group of your materials
- Avoid sequential applications of fungicides within the same chemical group
- Alternate applications of systemic chemicals with protectant chemicals
- Use combination products, or tank mix fungicides according to label directions
- Integrate cultural practices that reduce disease pressure into your management programs.

New materials:

The strobilurin/QoI fungicides (group 11) are systemic and have a broad range of activity, and are at high risk for resistance development. To preserve their useful life, these chemicals **MUST** be alternated with fungicides with a different mode of action. New strobilurin fungicides include:

azoxystrobin (**Amistar**) – group 11 – controls leaf spots, downy mildews, powdery mildews, and *Phytophthora* in a wide variety of crops. It is one of the few fungicides registered for use on herbs.
pyraclostrobin (**Headline** and **Cabrio**) – group 11 – also controls the “lower fungi” (downy mildew, Late blight) as well as anthracnose, rust and powdery mildew on potatoes, sweet potatoes, and dry bean.
trifloxystrobin (**Gem**) – group 11 – is registered on potatoes against both Early and Late blight.
famoxadone – group 11 – see **‘Tanos’** below.

Two pathogens that cause problems year after year on many crops are “lower fungi”- downy mildew and *Phytophthora* (Late blight of solanaceous crops and *P.capsici* of cucurbits and solanaceous crops). Several new chemistries are available to help manage these diseases including:

phosphites or phosphonates (**ProPhyt**, **Phostrol**, **Fosphite**) – group 33 – biorational with systemic action, registered for Pythium, *Phytophthora*, and Downy mildews on brassicas, cucurbits, leafy vegetables, and solanaceous crops.
cymoxanil (**Curzate 60 DF**) – group 27 – registered on cucurbit crops, potatoes, and tomatoes for Downy mildews and Late Blight, should always be tank mixed with a protectant fungicide.
pyraclostrobin plus boscalid (**Pristine**) – group 11 & 7 – a premix of two fungicides with different modes of action, registered on bulb vegetables, carrots, and cucurbits. Controls leaf spots, anthracnose, Powdery and Downy mildews.
famoxadone plus cymoxanil (**Tanos**) – group 11 & 27 – another combination material, effective against Downy mildews, Early blight, and the fruit and/or foliar phase of *Phytophthora capsici*. Registered for cucurbits, head lettuce, potatoes, tomatoes, and peppers. Must be tank mixed with a contact fungicide such as maneb or chlorothalonil.
zoxamide plus maneb (**Gavel 75 DF**) – group 22 & M3 – a combination material, effective against leaf spots, Botrytis, *Phytophthora*, and Downy mildews on potatoes, tomatoes, and cucurbit crops.
propamocarb (**Previcur Flex**) – group 28 – registered on tomato, potato, cucurbits, pepper and lettuce to control Late blight, Early blight and Downy mildews. Should be tank mixed with maneb or chlorothalonil to prevent resistance.

Other fungicides that are new to the *Vegetable Management Guide* are:

myclobutanil (**Nova**) – group 3 – to control Powdery mildews and rusts on asparagus, bean, tomatoes, and cucurbits.
boscalid (**Endura**) – group 7 – *Alternaria*, *Botrytis*, and *Sclerotinia* on beans, bulb vegetables, carrots, lettuce, and solanaceous crops.
azoxystrobin plus propiconazole (**Quilt**) – group 11 & 3 – manages *Cochliobolus* (formerly *Helminthosporium*) blights, other leaf spots, and rusts on both field and sweet corn.

Materials that are OMRI-approved for certified organic growers are noted, and the section on biorational and biofungicides has been expanded to reflect the many new products available in these categories.

Biorational (less damaging to the environment and non-target organisms) fungicides fall into six classes:

activators of plant defense mechanisms (**Actigard**) – group P
sulfur compounds (**MicroSulf**, **SulfDispers**) – group M2
copper compounds (**Kocide**, **Champ**, **Nu-Cop 3L**, **Nordox 75WG**) – group M1
hydrogen dioxides (**ZeroTol**, **OxiDate**, **TerraClean**)
phosphates (**Nutrol**)
plant extracts (**garlic juice**, **neem oil**, **rosemary oil**, **sesame oil**, **sesame seed meal**)

Biofungicides (**Ballad**, **Kodiak**, **Plant Shield**, **Serenade**, and many others) are also listed. These have numerous modes of action including directly attacking or competing with pathogenic fungi.

Biorational materials and Biofungicides both tend to have broad crop clearance and are effective against a wide spectrum of diseases. They also typically have multiple sites of action and are at lower risk for resistance development. These certainly can be part of an integrated management strategy, but it is important to check for these materials whether research trials have demonstrated consistent or effective control of the disease you are trying to control.

UPCOMING NEW HAMPSHIRE MEETINGS AND EVENTS

Wed July 12. **Tree Fruit Twilight Meeting**, Windy Ridge Orchard, North Haverhill, NH. The NH Fruit Growers' Association is sponsoring this twilight meeting with UVM. UVM and UNH Cooperative Extension Specialists will be discussing pest management options and orchard management. Contact: **Tom Buob at (603)787-6944. TF, PAT credits.**

Thu July 20. **Fruit & Vegetable Twilight Meeting**, Longview Farm, Plymouth, NH. Contact: Tom Buob at (603)787-6944. **V, PAT credits.**

Wed Aug 9. **Tree Fruit Twilight Meeting**, UNH Woodman Horticultural Research Farm, Durham, NH. Topics will include assessing damage in orchards for crop insurance claims. Contact: George Hamilton at (603)641-6060. **TF, PAT credits.**

Thurs Aug 24. **Vegetable Twilight Meeting**, Keith Farm, N. Haverhill, NH. Contact: Tom Buob at (603)787-6944. **V, PAT credits.**

Thurs Sep 14. **Vegetable and Tree Fruit Twilight Meeting**, UNH Woodman Horticultural Research Farm, Durham, NH. Topics will include UNH-bred pumpkin and winter squash varieties, apple scab management, and much more. Contact: Becky Grube at (603) 862-3203. **V, TF, PAT credits.**

UPCOMING REGIONAL MEETINGS AND EVENTS

Thurs. July 13. **Grape Canopy Management for Quality Fruit and Seasonal Update, Sakonnet Vineyards, Little Compton, RI.** 4-7 pm. Features Dr. Andy Reynolds from the Cool Climate Oenology & Viticulture Institute, Brock University in Ontario, Canada. Cost: \$20. To pre-register, contact Hilary Sandler at hsandler@umext.umass.edu or 508-295-2212 x21 by July 7th. **SF.**

Fri. July 14. **Connecticut Vegetable Twilight Meeting**, Fair Weather Acres, Rocky Hill, CT. Highlights include planting, harvesting and packing facilities for over 600 acres of green snap beans and yellow wax beans. Contact: Jude Boucher at (860) 875-3331, jude.boucher@uconn.edu. **V.**

Fri. July 14. **Massachusetts Fruit Growers Annual Meeting**, UMass Cold Spring Orchard Research and Education Center, Belchertown Massachusetts. For more info, contact Duane Green at (413) 545-5219, dgreene@pssci.um.edu. **SF, TF.**

Tues July 18. **University of Maine - Highmoor Farm Field Day**. Monmouth, ME. For more info, contact David Handley at (207) 933-2100. **SF, V, TF.**

Tues July 18. **MA - Brassica Twilight Series**. Twin Oaks Farm, Hadley, MA. 5-8pm. Contact: Ruth Hazzard at 413-545-3696. **V.**

Tues July 25. **Haygrove Tunnel Grower to Grower Meeting**, Four Corners Farm, South Newbury VT. This meeting, hosted by Haygrove Tunnels, will focus on strawberries and raspberries in tunnels. Contact: 866-HAYGROVE. **SF.**

Thurs-Sun. Aug 10-13. **NOFA Summer Conference**. Amherst, MA. To see detailed program information or to register online, visit www.nofa.org or contact Deb Pouech at nofasc@herbsnhoney.com or 860-684-0551. **AC, O, H.**

Tues Aug 15. **Massachusetts - Brassica Twilight Series**. Brox Farm, Dracut, MA. 5-8pm. Contact: Ruth Hazzard, 413-545-3696. **V.**

Tues-Wed Aug 22-23. **North American Strawberry Growers' Assoc. Summer Tour**. Portland, ME. To see a detailed program or to register, see <http://www.nasga.org/> or contact Donna Buckley at 207-581-3878 or dbuckley@umext.maine.edu. **SF.**

Sun Sept 24. **CT - Brassica Twilight Series**. Upper Forty Farm, Cromwell, CT. 10am-1pm. Contact: Ruth Hazzard, 413-545-3696. **V, O.**

Wed Oct 25. **CT - Brassica Twilight Series**. Holcomb Farm CSA, West Granby, CT. 3-6pm. Contact: Ruth Hazzard, 413-545-3696. **V.**

Wed-Fri Nov 1-3. **2006 New England Greenhouse Conference**. Worcester, MA. Detailed workshops on several topics including plant nutrition, alternative energy in greenhouses, and growing vegetables in greenhouses. Contact: Cindy Delaney at 802-655-7769 or delaney@sover.net or visit www.negreenhouse.org. **F, V.**

Tues Nov. 14. **MA - Brassica Twilight Series**. Sidehill Farm, Ashfield, MA. 2-5pm. Contact: Ruth Hazzard, 413-545-3696. **V.**

Meeting topics: F = flower, O = certified organic, SF = small fruit, TF = tree fruit, V = vegetable, AC = all crops, H = homeowner. PAT credits = pesticide applicator recertification credits available.

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