UNIVERSITY of NEW HAMPSHIRE
COOPERATIVE EXTENSION

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NH Integrated Pest Management Newsletter

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No More Hard Copies

Well, the electronics age has finally caught up with me. The logistics of writing this newsletter, posting it to the website, and then printing and mailing hard copies is getting burdensome. So this year I'm going to make another change. This first issue will go out as a hard copy (and be posted to the web). But starting with issue #2, I won't mail any more hard copies. For those who have been getting copies by mail, I make this offer: If you would like an email reminder when each issue comes out, you could send Suzanne Hebert (my secretary) your email address. We'll try this, and see how it goes. I'll probably do what Becky Grube does for hers --- make a link right in the email message, so you can go there directly. You can reach Suzanne by mail (G28 Spaulding Hall, 38 College Rd, Durham, NH 03824), telephone 862-3200 or email suzanne.hebert@unh.edu Issue #2 will go out about April 17th. By the way, Suzanne handles newsletters for several of us. If you want mine, be sure you tell her you want the IPM newsletter.

The electronic email format has allowed me to incorporate color photographs regularly, something I couldn't easily continue with hard copies. It has also sped up receipt of the information for many of you. Some corners of the state (I won't name names) were pretty slow in receiving mail.

I'll try to do an issue every two weeks until mid-June, then one in July, and one in August. Past experience tells me that most of my intended audience gets so busy with harvest, that September issues often don't get read. So I rarely write one now, unless something BIG happens.

In case you forgot, or your hard drive failed, the page where my newsletters reside is at: http://extension.unh.edu/Agric/AGPMP/IPMNews.htm Four years of back issues are there, right now.

"New" Insecticides and Miticides for Apples

This year I spent quite a bit of time in December and January trying to figure out what insecticides were registered in New Hampshire since the last time we put out a printed New England Apple Pest Management Guide. It turns out that there are a LOT of new names, but many are just new brands of familiar chemicals. I'll try to include as many as I can.

ABBA and **Epi-mek** have abamectin, the same active ingredient in Agri-mek (or Avid, for you greenhouse people). Some guides consider abamectin (also called avermectin) an antibiotic. We now have a very similar chemical, an analog, called Emamectin benzoate. The trade name for this new material, from Syngenta, is **Proclaim**. Most of the target pests for apple are caterpillars: leafrollers, leafminers, etc. For some pests, the label uses the term "suppresses", rather than "controls".

Acramite is a new miticide from Crompton Uniroyal. The active ingredient is bifenazate, and it is registered on quite a few vegetables, also strawberries, tree fruit & nuts. Greenhouse growers know this active ingredient as floramite.

Adjourn is a pyrethroid chemical, esfenvalerate. The same chemical is in Asana, so you should be familiar with its range of target pests.

Assail is a relatively new chemical, acetampyrid, with a spectrum of activity that includes leafminers, codling moth, lesser appleworm and others.

Battalion is deltamethrin, a pyrethroid from Arysta. Deltamethrin has been registered in Canada for a while, under the name **Decis**. Both products are now registered here. They have a broad range of targets, including TPB, curculio, Eur. ap.sawfly, apple maggot, leafrollers...

Baythroid and **Tombstone** are both cyfluthrin, a pyrethroid insecticide that also is targeted for a wide range of apple insects.

Clutch is an insecticide with clothianidin as the active ingredient. Arysta is the company, and curculio, leafminers, leafhoppers, codling moth, apple maggot and aphids are among the targets. This one is in activity group 4a, so that means it has the same mode of action as imidacloprid. Besides these targets, it is registered to control psylla on pears (any pear growers left out there?)

We've had imidacloprid for fruit pests for several years, first as Provado, then Admire. Now added to the list are **Couraze**, **Imida, Nuprid** and **Pasada**. Leafminers, leafhoppers and San Jose scale are among the targets. There are some differences in the spectrum of targets, between the various imidacloprid products.

Envidor is new to me. The active ingredient is spirodiclofen, and the company is Bayer. This miticide is targeted for Eur. red mite, two-spotted spider mite, and apple rust mite.

Govern, **Nufos, Warhawk**, and **Whirlwind** are all new names to me, but the active ingredient is chlorpyrifos, which we've used for years as Lorsban. The products have limited insect targets registered for apples, and they vary a bit from product to product.

Kanemite is a new miticide directed at ERM & TSSM. It has a 14d pre-harvest interval on pears & apples, and it is also registered on strawberries (1 day to harvest).

Lambda-T has l-cyhalothrin as the active ingredient. Helena is the manufacturer. It is registered for a wide range of insects and crops. **Silencer** and **Warrior** are made of the same stuff, a "fourth generation" pyrethroid. We also have gamma cyhalothrin now. It is different enough from the lambda isomer that it gets a different registration and different name, **Proaxis**. It is registered on LOTS of crops, and the list of pests on apple is a bit different than the l-cyhalothrin products.

Nexter and **Pyramite** are relatively new. Sanmite (registered in greenhouses) has the same active ingredient, called pyridaben. It is a contact miticide, with some effects on a few insects; aphids, thrips, whiteflies and leafhoppers.

Perm-up is a new name to me, for an older chemical: permethrin.

Lorraine Los found a material that escaped my search. **Rimon** is an insect growth regulator, with novaluron as the active ingredient. The apple pests I see listed are caterpillars: codling moth, leafrollers, leafminers, oriental fruit moth. The label says it suppresses populations of young white apple leafhoppers.

Zeal is a new miticide. Extoxazole is the active ingredient. It is registered for pome fruit, strawberries, and non-bearing fruit & nut trees.

Others? There must be some I've missed. I'm also searching for labels for products that supposedly are registered, but I can't find (labels, anyway) like Hunter, Botanigard, Pilot...

Where to See Pesticide Labels

There is a LOT of information for us to learn, regarding these new products. One good way is to look at the labels in some detail. I find the CDMS website is very helpful for that, and it includes most (about 90%?) pesticides we have registered for commercial crop growers in NH. This website is

continuously updated as new products become registered with EPA. The various labels and supplemental labels are all there. A few manufacturers are not members, so labels for their products are not found there. By the way, the website has few pesticides registered for pests of livestock. Here is a link: http://www.cdms.net/manuf/default.asp

If you can't find a product there (and you're sure of the spelling), you might find it by looking for the website of the manufacturer. That's how I have to search for rodenticide labels.

The NH Department of Agriculture, Markets and Food has a link on their website to check and see if a product is registered in New Hampshire. You can't look at the label that way, but you can at least see if it is registered here. Then, with that product name & formulation, you could go to another site (CDMS for example) and read the label. Here's the link: http://state.ceris.purdue.edu/

I'll mention some cautions about this site. First, I'll bet none of the 2007 registrations are listed yet (March 15), since the NHDAMF doesn't update it continuously (daily). If you are looking for a new product in March, and find it was registered in 2006, it is reasonably likely that it will be registered for 2007. If you really need to know, call NHDAMF and ask. Once we get farther into the season, the 2007 products will be there. A second caution: when using this site, be certain to follow the search procedure properly. If not, you get wrong answers. I'll illustrate.

Last September I was finalizing a presentation, and wanted to double check on 7 fungicides, all standards we've used. I searched for the first one (Captan) and found it was registered in NH. But then, the next 6 searches all ended with "0 products found". I was baffled. It turns out that I wasn't following correct procedure. After the end of each search, you must push the "start a new search" button. I hadn't done that. I simply used the back arrow, until I reached the search box, and re-typed a new name in the search box. The computer understood that to mean "of the captan products you just found, how many of them are named (fill in the next product name)?" Of course, the answer was none, and that continued for the next five searches I did. Tom Desrosiers at NHDAMF figured out my mistake (thank you!!).

Also, if you search for products by site, you might not get all of them unless you think of all the various words manufacturers might use to describe your crop. When I searched for everything registered in NH for apples, I got a huge list to go through. Eventually I discovered several pesticides that were missing from that list. Several of them I found when I did a new search for pesticides registered in NH under "pome fruit".

Wimpy Winter & Pest Survival

It just happens that the day I'm wrote this we had record cold! But for the most part, this winter has been fairly mild. This might allow higher than average survival for some pests. Tarnished plant bug is one species that overwinters as an adult, in dense vegetation or leaf litter. Pear psylla is another. Maybe we'll see higher numbers this spring. That is one reason to monitor for them.

European red mite and white apple leafhopper are examples of pests that overwinter as eggs. ERM's are on the twigs, while WALH are in them. Maybe it would be good to monitor for them as well! Spotted tentiform leafminers and apple blotch leafminers overwinter in dead leaves. Predator mites overwinter in leaf litter (*A. fallacis* in strawberry patches) or under bark scales on apple trees (*T. pyri*). If they have a good winter, then their prey might not build up as quickly this year. There are lots of possible predictions.

Some insects are so well insulated, that I wouldn't expect to see much difference based on winter temperatures. Examples are those that overwinter down in the soil: black vine weevil, strawberry rootworm, European apple sawfly, white grubs.

More Honey Bee Problems

Beekeepers across the nation have uncovered a scary new problem, and it may affect you, at least indirectly. They're calling it "colony collapse disorder". Basically, they are finding unexplained failure of huge numbers of honey bee colonies. Specialists don't know what is causing this. The result is many fewer colonies available for pollination services this year.

Many of you know that honey bees have suffered with the introduction of both varroa mites and tracheal mites. The combined effects of these parasites are that wild colonies of honeybees no longer survive the winters in NH. They have to have the assistance of beekeepers to make it through. Even with that help, beekeepers here have much higher losses than they used to. There are other problems too, with foulbrood, lesser hive beetles, wax moths, and more.

Some growers are trying to encourage bumble bee populations. They are good pollinators, active even in cool, breezy conditions. One method Bill Lord reported to me was to place a bale of hay here and there around "his" blueberry mountain. Mice & voles found the bales and made homes under them. Later, bumble bees moved into the old mouse & vole homes. Scattering new bales each year kept the process going. I can't vouch for how successful this was, but I like the idea of trying to understand where our wild pollinators come from, and protecting them. Besides bumble bees, there are many other bees in the families Collettidae, Megachilidae, Andrenidae and Halictidae. They're all good pollinators, because bees have branched hairs on their bodies, designed to pick up pollen. Protecting acreage where they live, and reducing our dependence on chemical pesticide will certainly help. We might have to do still more, like offering nest sites. Some species nest in soil that is relatively bare of vegetation. Others use small diameter cavities in wood or other materials. Specific sizes attract specific species.

I'm often asked if wasps help pollinate. Not really. Theoretically they might occasionally move a few grains of pollen, but they lack the branched hairs. The same is true for flies.

Traps To Monitor Pests

Tarnished Plant Bug traps (white sticky cardboard rectangles):

Great Lakes IPM is the only supplier that I can find that offers TPB traps. The address is 10220 Church Rd, NE Vestaburg, MI 48891. Telephone numbers are: (800) 235-0285, FAX: (989) 268-5311 and email address is glipm@nethawk.com They also have a website, at www.greatlakesipm.com They have lots of other traps & supplies, too.

Apple Blotch Leafminer/STLM traps:

Great Lakes IPM is the only supplier I can find.

Apple Maggot Traps:

Great Lakes IPM is one source. Gempler's is another. They are at P.O. Box 44993, Madison, WI 53744-4993: (800) 382-8473 FAX: (608) 662-3360 http://www.gemplers.com

Corn Earworm & Fall armyworm traps

Both Great Lakes IPM and Gempler's have these traps

Both of these suppliers have other traps for codling moth, corn rootworms, varroa mite, greenhouse pests, also sticking agent, insect nets, magnifiers and more.

A New England Tree Fruit Guide

For years the number of tree fruit extension and research specialists in New England has been falling. One result is that it has gotten extremely difficult to update and reprint the New England Apple

Pest Management Guide. The few of us that are left have so many different responsibilities, none of us can devote the large amount of time it takes to serve as editor for the guide. Even dividing the work among several people hasn't been successful. So this year, we are trying something new. We are cooperating with colleagues at Cornell to put out a New England version of their tree fruit guide.

There have been challenges in getting this task done, but we should have hard copies for sale this spring. I was astonished at the large number of pesticides that are legal here, but not in NY. That is largely why I have the long list of new insecticides earlier in this issue. We'll evaluate this effort (and ask your opinion, too) before deciding whether we'll continue with this method in future years. We don't know about the final cost yet, but I'll inform you as soon as I have details.

Other Grower Assistance Guides

These guides and manuals are for commercial growers and farmers.

2006-2007 New England Vegetable Management Guide: $10.00. This guide is also online at http://www.nevegetable.org The free web version was made possible by grants from the Environmental Protection Agency to the NEVBGA, UMass Extension, and all the Vegetable Extension programs of New England. We've almost run out of this year's copies, so if you need one, please contact the UMass Extension Bookstore at: http://umassoutreachbookstore.com/catalog/ or Phone (413) 545-2717
The 2007-8 version should be ready this fall; we'll get a new supply in NH then.

New England Small Fruit Pest Management Guide: The new 2006-2007 edition has the latest information about recommended pest control methods and product registrations for New England. Cost is $10 plus shipping and handling. Purchase by contacting Sonia Schloemann, UMass Extension Small Fruit Specialist at e-mail <sgs@umext.umass.edu> or phone (413)545-4347.

Tree Fruit Field Guide to Insect, Mite and Disease Pests and Natural Enemies of Eastern North America was published at Cornell in October, 2006 (NRAES-169). 230 pages, many actual size color photos of pests. Purchase from NRAES for $32 plus shipping, at http://www.nraes.org or (607) 255-7654. If you're a member of the NH Fruit Growers' association, and register for their March 23rd meeting, you'll receive a copy. Thank George Hamilton the next time you see him. He got the grant that paid for the guides, and brought Art Agnello to speak on that date.

2007-2008 New England Greenhouse Floriculture Guide: The cost is $25.00 and growers can order it from University of Massachusetts. To order, write to: NE Floriculture Guide, UMass Cranberry Station, PO Box 569, E. Wareham, MA 02538. Include a check for $25 payable to University of Massachusetts. Include your name and mailing address.

Some Upcoming Fruit & Vegetable Twilight Meetings

On Wed. April11th, **NH Fruit Growers' Assn. is sponsoring a twilight meeting** at Meadowledge Farm on Rt. 126 in Loudon. Times should be 5:30 to 8:00 PM. Pesticide recertification credits haven't been finalized yet. Extension Specialists from UNH CE will be present to discuss pest management options, orchard management, and peach tree pruning.

On Thursday April 12, we will have a **Hillsborough County vegetable growers meeting** on managing vegetable insect pests. This will be at the Cooperative Extension office in Goffstown, 6:00 to

8:00 p.m. As this is written we haven't finalized the recertification credit details. Alan Eaton and George Hamilton will present an informative lecture on identifying vegetable insect pests - specifically pepper maggot, squash vine borer and European corn borer. We'll discuss how to monitor and scout for these insects as well as how the information obtained is used for pest control options. We'll also review the 2006 Hillsborough County Sweet Corn Monitoring Program.

On Thursday April 26, there will be a **NH Giant Pumpkin Growers' Meeting** at Demers Garden Center, Manchester, NH. Time: 6:30 to 8:30 p.m. Pesticide Credits will be offered. Dr. Richard Bonanno, UMASS Extension Vegetable Weed Specialist, will be making a presentation on back sprayer calibration and application safety along with a discussion on pesticide application math. Also, members of the NH Giant Pumpkin Growers Association will conduct a giant pumpkin seed raffle. For more information on the NH Giant Pumpkin Growers Assoc., contact Robert Demers at 625-8298.

On Wed. May 16, we are planning a **NH Fruit Growers' Twilight Meeting** at Brookdale Fruit Farm, Hollis. Time: 5:30 to 8:00 p.m. Pesticide Credits will be offered. The NH Fruit Growers Assoc. is sponsoring this statewide commercial tree fruit growers' twilight meeting. Extension Specialists from UNH CE and UMass Extension will be present to discuss pest management options, orchard management, and apple thinning options.

On Friday June 1, there will be a meeting for **Vegetable and Fruit Growers**: The Why's and How's of Using Drip Irrigation. This will be at Brookdale Fruit Farm, Hollis, 5:30 to 8:00 p.m. The purpose of this meeting is to review what drip irrigation options and strategies vegetable and fruit growers should be considering for the coming growing season. Trevor Hardy will present a hands-on demonstration on setting up a drip irrigation system. Starting from the pond, Trevor will work his way to the field describing the various components of the drip irrigation system.

There is a **calendar for statewide agriculture events** by extension staff, located at our website. Here's the link: http://ceftp.unh.edu/shell/webevent.pl The Ag. Resources calendar is the third one down on the list, on that page. There are also calendars for county extension offices, where local events are listed.

Hillsborough County Fruit Pruning Demonstrations for Home Gardeners

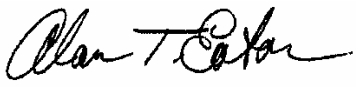
George Hamilton and/or Jon Nute will be explaining and demonstrating fruit pruning techniques. Dress for the weather with proper clothing and foot gear. Contact George Hamilton or Jon Nute for further details. First Demonstration: March 24, 9:00 a.m. – noon, 439 Mason Road, Milford, NH. This features pruning young (2 to 10 years old) dwarf apple, pear, peach, cherry, and plum fruit trees. Second Demonstration: March 31, 9:00 a.m. – noon, 183 Amherst Road, Merrimack, NH. This features pruning mature semi-dwarf and standard apple trees and peach trees before noon, and in the afternoon blueberries and grapes. Third Demonstration: April 4, 4:30 – 7:00p.m. Where: 5 New Boston Road, Amherst, NH. This one features pruning mature apple (both dwarf and small standard size trees), cherry, peach and plum along with blueberry. Fourth Demonstration: April 6, 5:30 – 7:30 p.m. Where: Brookdale Fruit Farm Packinghouse, Broad St, (Route130), Hollis, NH. This one features pruning mature grape vines. Fifth Demonstration : April 9, 4:00 – 6:00 p.m. at Shieling State Forest, Peterborough, NH. Cost: $5.00 per person. This one features pruning older mature apple and pear trees for wildlife and crabapple trees.

Fruit Pest Update Telephone

I started this in 1980. The telephone number is still 862-3763. I'll plan on recording a new message every week, starting Tuesday April 3rd and running until early September. As usual, this will cover FRUIT pest management and related upcoming events. Messages will usually be 3 minutes long. It runs continuously, so why not call at a time of day when the rates are low for you?

Traps to Monitor TPB in Apples Go Up at Silver Tip

The white sticky rectangle traps we use to monitor tarnished plant bugs in apples should be hung out at silver tip stage. It occurred to me that I might not have the second newsletter out before then, so I'll give details now. Hang them towards the tip of a branch, **at knee height**, over a grassy part of the orchard floor. I tend to place them towards the perimeter of the orchard, unless there's good TPB overwintering habitat inside the orchard. Blocks close to alfalfa fields or large fallow fields should get much more TPB pressure than those surrounded by woods. By checking them weekly, and writing down the numbers of TPB's caught, we can tell which blocks need treatment, and which ones don't. I'll discuss thresholds in the next issue.



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