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Tree Fruit News

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Degree Day Accumulations (through 4/16/15)

Location	Base 43F	Base 50F
Chazy	51.4	12.8
Peru	64.7	18.3
Crown Point	n/a	n/a
Clifton Park	n/a	n/a
Hudson	n/a	n/a
Highland HVRL	99.5	34.2
Marlboro	84.3	27.2
Watermill, LI	57.5	10.0

In this issue of Tree Fruit News:

- Good for What Oils You 1
 - Correction to Chemical Update 3
 - 2015 HV Research Lab Update 3
 - Tree, Post & Trellis Wire Exchange 3
 - Critical Temps for Frost Damage on Fruit Trees 4
 - Precision Thinning Workshop 6
 - Apple IPM Training Series 6
 - New Apple Grower Page (s) 7
- Navigating the NYS DEC-getting your certified pesticide applicator license

Tree Fruit Phenology (April 15th)

Location	Crop	Growth Stage
Champlain Valley	Apple	Dormant
Capital District	Apple	Early Green Tip
Upper Hudson Valley	Apple	Green Tip (GT)
Lower Hudson Valley	Apple	Green Tip (GT)

Good for What Oils You

By Art Agnello, Cornell Univ. Dept. of Entomology, from Scaffolds Fruit Journal, April 13, 2015 Vol. 24, Issue 3

It's safe to say that there's not much danger of the season sneaking up on us this year, which may cause a little anxiety for those of us who are ready to get things rolling; however, one positive aspect of our slow progress this year is that growers should have an adequate amount of time to consider the potential value of using horticultural mineral oil as an early season pest management tactic. This used to be a pretty much universal practice years ago, when mites and scales were more problematic and the options for dealing with them were less abundant. Those of us familiar with fruit insect and mite trends still believe that it's worthwhile to consider the use of oil applications for early season mite and insect control in both apple and pear plantings, because of its effectiveness, relative affordability, and safety from a biological and pesticide resistance perspective. Taking advantage of the most favorable spraying conditions to maximize tree and block coverage can be a challenge in our area, but few pest management efforts have such potentially high returns when all factors are taken into account, and this year may offer more opportunities than are normally available.

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Serving the educational and research needs of the commercial small fruit, vegetable and tree fruit industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Putnam, Rensselaer, Saratoga, Schoharie, Schenectady, Ulster, Warren and Washington Counties

Good for What Oils You, continued from previous page

Mite and scale population trends are typically not the same each year, and weather conditions are certainly among the most variable of factors in the pest scenario from one year to the next. Before you decide that it's too much trouble or cost to invest in a prebloom spray of oil, be sure you're aware of how much it could cost you (biologically as well as financially) if a rescue treatment for mites or scales ends up being necessary later in the season. Probably first, chronologically, early oil applications are useful against pear psylla all throughout the swollen bud stage; this potential use is examined in Peter Jentsch's article today.

The Original and Still Standard Line

The following advice developed from Paul Chapman's original research is essentially unchanged from what I print every spring, which shows the durability of not only the information, but also of a crop protectant that's still as good as it used to be:

A delayed-dormant spray of petroleum oil in apples from green tip through tight cluster can be a favored approach for early season mite control, both to conserve the efficacy of and to help slow the development of resistance to our contact miticides. Our standard advice has been to try for control of overwintered eggs using 2 gal/100 at the green tip through half-inch green stage, or 1 gal/100 at tight cluster; this assumes ideal spraying conditions and thorough coverage. Naturally, this is not always achieved in real life, mainly because of weather and coverage challenges, coupled with the difficulty of getting to a number of blocks during a fairly brief window. It is possible for mites to start hatching when the trees are at solid tight cluster, so the suffocating mode of action tends to be compromised if the nymphs are able to pick their way through the droplets, or else avoid them entirely. Let practicality determine how best to use the following guidelines.

First, to be sure that mites are in the egg stage, start on your blocks as soon as the weather and ground conditions permit, even if this means using a higher rate. Depending on how wet the winter months have been, local conditions will be the prime determinant of how easily you can get through the rows early on. Also, tend toward the high end of the dosage range, especially if there's been no frost during the 48-hour period before your intended spray, and no danger of one for 24–48 hours afterwards. For example, use 1.5 gal/100 if the buds linger somewhere between half-inch green and full tight cluster during your chosen spray period. Naturally, when warm temperatures start as early in the year as they have this season, cold snaps and overnight frosts are a wild card, so be aware of any imminent changes in weather patterns that could result in tissue damage in oil-treated trees.

Obviously, good coverage of the trees is critical if you're to take advantage of oil's potential efficacy; this in turn requires adequate spray volume delivered at an appropriate speed. Experience and research have shown that a 1X concentration (300 gal/A) in large trees is clearly preferable; however, if all other conditions are optimal (weather, speed, calibration), then 3X, or 100 gal/A, is the highest concentration that should be expected to give acceptable control at any given time. Growers like to concentrate more than this to save time and the hauling of extra water, but reducing coverage too much can compromise your efforts if you end up covering only a small fraction of the egg population with the residue.

Don't limit this mite control tactic just to apples and pears. Talks with stone fruit growers have reminded us that many cherry, peach and plum plantings can suffer equally serious European red mite infestations that weren't given the early season attention they might have needed. We don't have hard and fast threshold guidelines for these crops, but stone fruit plantings with a history of past ERM problems should be examined for presence of the red overwintered eggs, and if they're numerous enough to see without a hand lens, then a prebloom application of 2% oil would be a prudent tactic to help ward off this damage, particularly if your fungicide program at this time doesn't present any compatibility problems.

Weighing the Scales

San Jose scale is one of the historically important pests that has taken advantage of our changing insecticide programs during the last few years. The disappearance of products like PennCap-M and Lorsban from our list of summer spray materials has been at least partly responsible for the fact that SJS persists or has returned to pest status in a number of orchards. It's therefore worth pointing out that a 2% oil treatment at half-inch green will control the immature forms overwintering under scale covers on the trees, and this is a preferred treatment if no other problem insects need to be controlled. Combining the oil with an insecticide generally has not been shown to be more effective than using the oil (or insecticide) alone, except possibly in the case of one alternative, Esteem, which has shown good efficacy when mixed with 2% oil at the prepink timing.

Finally, regarding the frequently voiced concern that oil may have a negative impact on the health of the trees, I would note that petroleum oil has been used for well over a century as a delayed-dormant treatment to control mites, scales, and even some aphids, with no ill effects on the health of the tree or the current season's crop. The primary cautions we advise when using oils at this time of year stem from their use a) in association with or too close in

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Good for What Oils You, continued from previous page

time to applications of sulfur-containing fungicides, or b) just before or too soon after sub-freezing temperatures; both of these practices risk the occurrence of phytotoxicity, as oil's penetrant activity is capable of damaging the bark, wood, or bud tissues in these

situations. Application of oil under any circumstances that do not allow for normal drying to occur can also result in some tissue damage. Also, oil sprays during pink bud can cause burning of the sepals or petals, which may or may not affect normal pollination and fruit set.

Correction to Chemical Update in the Last Tree Fruit News and Scaffolds

Merivon – Group 7/11, a combination of fluxapyroxad and pyraclostrobin. Even though the PIMS website has the full Merivon label approved, it does not match the label on the containers in distribution in NY. For 2015, the label is the same as 2014, Pome Fruit and Stone Fruit. There is also a SLN to prohibit the use in Nassau and Suffolk Counties. It is classified as "Restricted Use" in stone fruit, pome fruit by NYDEC. BASF will print the new package label for

Merivon this fall so in 2016 we will have all the Federally approved crops on the NY label. Merivon is not labeled for use in strawberries for 2015. The current label says "Do Not Use Merivon with: Emulsifiable concentrate (EC) or solvent-based formulation products, or Crop oil concentrate (COC), or methylated seed oil (MSO) adjuvants." This will be changed to a "Caution" on the new label in 2016.

2015 Hudson Valley Lab Update

By Peter Jentsch, Cornell University Dept. of Entomology, Superintendent of Hudson Valley Research Lab

We have a new horticulturalist stationed at the Hudson Valley Research Laboratory. Gemma Reig Cordoba from Lleida Spain has a post doctorate in horticulture and has accepted the position to fill the need for the HVRL horticulturalist upon Steve Hoying retirement. She arrived on the 1st of April and will be working with Terence Robinson and his two post-doctorates on planting systems at the lab and in grower sites in the Hudson Valley. She is available by phone at 845-691-7151 for consultation and site visits. Her PhD "Selecting new peach cultivars according to agronomic, morphological, quality and postharvest parameters" at Institute of Agrifood Research and Technology (IRTA, Spain) will be helpful for those growing stone fruit in the valley. She has technical expertise in tree fruit crop load management, post-harvest technologies, tree physiology and biochemistry and will be focusing her efforts on precision crop load reduction this spring.

Our administrative assistant, Donna Clark, will be on medical leave for the next 4 weeks. One of our entomology technicians, Kathrine Aponte, is available to answer the phone and take messages. Peter and Dave are available by cell phone during the season as they will be in the field as many of you are at this point in time (Peter's cell 845-417-7465; Dave's cell 845-594-3060).

Tree, Post & Trellis Wire Exchange

Orchard planting is underway, soon to be followed by trellis installation. If you find yourself with trees, posts, and wire left over, or if you are just a little short to finish the block, The TPTW Exchange is here to help. Email Dan Donahue (djd13@cornell.edu) with the particulars:

- Trees: Variety, Strain, Rootstock, Caliper, Structure (feathered or whip), quantity
- Posts & Tree Supports: Material (type of wood, conduit, bamboo), diameter, length, quantity
- Wire: Material, Gauge, Length.

Include your farm name, at minimum a township & county, contact phone number & email.


Pricing information is not required. Any transactions between growers are the responsibility of those growers, Cornell Extension is only providing a forum to get buyers together with suppliers.

I will post these "classified ads" on the ENYCHP website at enych.cce.cornell.edu. - Dan

Critical Temperatures for Frost Damage on Fruit Trees

By Marion Murray, IPM Project Leader, Fact Sheet #IPM-012-11 February 2011, Utah State University Extension and Utah Plant Pest Diagnostic Laboratory (available online at http://extension.usu.edu/files/publications/factsheet/pub_5191779.pdf)


The following table, developed by Washington State University, lists Fahrenheit temperatures for each stage of development at which 10% and 90% bud kill occurs after 30 minutes exposure. The percentage bud kill which causes crop reduction will vary with each crop. For example, to have a full crop of cherries requires well over 50% bud survival in most years, while apples, pears, and peaches may only need 10-15% bud survival.

								
10%	15	18	23	27	28	28	28	28
90%	2	10	15	21	24	25	25	25

APPLE

								
10%	15	20	24	25	26	27	28	28
90%	0	6	15	19	22	23	24	24

PEAR

							
10%	15	20	24	25	27	27	28
90%	---	0	14	19	22	24	25

APRICOT

Critical Temperatures for Frost Damage on Fruit Trees, continued from previous page

CHERRY

SWEET	CHERRY						
	Swollen Bud (First Swell)	Bud Burst (Green Tip)	Tight Cluster	White Bud (First White, Popcorn)	First Bloom	Full Bloom	Post-bloom
	10% 90%	17 5	25 14	26 17	27 24	28 25	28 25
TART	TART						
	Swollen Bud (First Swell)	Bud Burst (Green Tip)	Tight Cluster	White Bud (First White, Popcorn)	First Bloom	Full Bloom	Post-bloom
	10% 90%	15 0	26 22	26 24	28 24	28 25	28 25

PEACH

PEACH	PEACH						
	Swollen Bud (First Swell)	Calyx Green	Quarter-Inch Green (Calyx Red)	Pink (First Pink)	First Bloom	Full Bloom	Post-bloom
	10% 90%	18 1	21 5	23 9	25 15	26 21	27 24

NECTARINE

NECTARINE	NECTARINE						
	Swollen Bud (First Swell)	Calyx Green	Quarter-Inch Green (Calyx Red)	Pink (First Pink)	First Bloom	Full Bloom	Post-bloom
	10% 90%	18 1	21 5	23 9	25 15	26 21	27 24

PLUM

PLUM	PLUM							
	Swollen Bud	Side White	Green Tip	Tight Cluster	First White	First Bloom	Full Bloom	Post-bloom
	10% 90%	14 0	17 3	20 7	24 16	26 22	27 23	28 23

Meetings and Announcements

Precision Thinning Workshop

Wednesday, April 29 from 2:00 - 4:00 pm (2 locations)

Hudson Valley Research Laboratory
3357 Route 9W, Highland, NY 12528

Clinton County CCE Office
6064 Route 22, Plattsburgh, NY 12901

Learn how to implement precision crop load management techniques in your orchard. New for this season will be a simplified fruitlet measuring technique that won't require the individual numbering of fruitlets. Dr. Terence Robinson will present via Webex from the Geneva Experiment Station.

Eastern NY Apple IPM Training Series

A classroom style Integrated Pest Management (IPM) training for apple growers

Pre-season training April 21 and 22, 2015 followed by a series of summer field trainings

Champlain Valley:
April 21, 10am-2:30pm
Clinton County CCE Office
6064 Rte 22, Plattsburgh, NY 12901

Upper Hudson Valley:
April 22, 10am-2:30pm
Saratoga County CCE Office,
50 W High St., Ballston Spa, NY 12020

This 'pre-season' classroom training will cover IPM theory, major pests requiring management in commercial orchards, resources available to help you (including the NEWA website), and an example IPM plan.

This is the perfect place for new growers to learn about IPM, experienced orchardists to refresh their knowledge, and an opportunity to train the next generation or an employee on your farm.

NYS DEC Credits Available (3.5 Credits for Categories 1a, 10, 22)

Highlights:

- IPM Theory: what is it and why do it? *Art Agnello*
- Disease and Insect Pests: biology, monitoring, and management *Art Agnello and Kerik Cox*
- NEWA Web-based Monitoring Systems: how to make the most of it *Julie Carroll*
- Explanation of Tree Row Volume *Dan Donahue*
- Example IPM Plan *Harvey Reissig*
- Field trainings on commercial orchards covering: early and summer diseases, lepidopteran pests, mites, aphids...

Summer Field Trainings:

The 'pre-season' classroom training in April will be followed by a series of short field trainings throughout the season, each focusing on a different topic or pest. Each training will be offered twice: once in the Champlain Valley and once in the Capital District. They will be short, informal meetings held on commercial orchards. These events will be Free of charge. Locations and dates TBD.

Registration for the April pre-season training is \$15 per person (includes lunch). **Pre-registration is required—registration deadline 4/17. To register online use links below.** For more information or to register by phone, contact Anna Wallis at 443-421-7970 or email aew232@cornell.edu:

ONLINE REGISTRATION: Plattsburgh session: [click here](#) Ballston Spa session: [click here](#).

New Apple Grower Page(s)

Navigating the NYS DEC: How to get your certified pesticide applicator license

By Anna Wallis, CCE ENYCHP

As an apple, vegetable, grape, or berry grower in the Northeast, one of your biggest challenges is combating the insects, diseases, and other pests damaging your crops. Although you do not need a license to purchase or use some pesticides, obtaining your *certified pesticide applicator license* will give you access to more materials that you can add your pest combatting-arsenal.

❖ Do I need a license?

Pesticides are divided into two groups:

- **General use pesticide:** A pesticide that may be purchased and used by the general public.
- **Restricted use pesticide (RUP):** Only certified pesticide applicators are allowed to buy these materials, and only certified applicators or persons under their direct supervision may apply them.

Long story short, to apply RUPs you will need a certified pesticide applicator license.

A word about employees: If you will be supervising employees applying RUPs or training them under WPS, you will also need a certified pesticide applicator license.

❖ What type of license do I need?

Don't need a license	Private Applicator License	Commercial Applicator License
Applying ONLY General Use Pesticides	Applying RUPs to <ul style="list-style-type: none"> - property you own or lease, or - property your employer owns or leases. 	Any pesticide application not covered under Private Applicator License

❖ How do I get my license?

First, make sure you meet the requirements

Private Applicator	Commercial Applicator
<ul style="list-style-type: none"> - Be at least 17 years of age AND at least one of the following - Have at least 1yr relevant full time experience - Have completed a 30-hr training course - Have an associate degree or higher in relevant field 	Have at least one of the following: <ul style="list-style-type: none"> - 1 yr experience as a commercial technician, plus 12 hrs of category-specific training - 2 yrs experience as a commercial technician - 3 yrs experience as an apprentice - 3 yrs experience as certified private applicator

If you need a commercial license, but do not meet the requirements, you can be a technician or apprentice first, then upgrade to certified applicator later. (Requirements on the NYS DEC Website)

- **Technician:** may use most general use pesticides without direct supervision and RUPs under direct supervision of a certified commercial pesticide applicator. May NOT supervise.
- **Apprentice:** a person engaged in commercial application of pesticides but does not meet the technician or certified applicator requirements.

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Navigating the NYS DEC: How to get your certified pesticide applicator license, continued from previous page

Next, take the appropriate exam.

Private Applicator	Commercial Applicator
<ul style="list-style-type: none"> - CORE Exam, AND one of the following: - Category 21 (Field and Forage) - Category 22 (Fruit) - Category 23 (Vegetable) - Category 24 (Greenhouse and Florist) - Category 25 (Nursery, Ornamentals & Turf) 	<ul style="list-style-type: none"> - CORE Exam, AND - Category 1A (Agricultural Plant)

Find your DEC Region here: <http://www.dec.ny.gov/about/50230.html>

Find an exam here (search by your region): <http://www.dec.ny.gov/nyspad/find?3&tab=EXAMS>

To pass the exam, study the CORE and Category Manuals. You can purchase them here:

<https://store.cornell.edu/p-189394-core-certification-training-manual-for-pesticide-applicators-and-technicians.aspx>

❖ How do I maintain my license?

After receiving your pesticide applicator license, you'll have to maintain it by proving you are continuing to get updated education on proper use of pesticides. You can do this by earning recertification credits or by taking the recertification exam at the end of your certification cycle.

Private Applicator	Commercial Applicator
Earn 10 credits every 5 years	Earn 8 credits every 3 years

All of the information above on how to obtain and maintain a license is available in more detail on the NYS DEC website <http://www.dec.ny.gov/permits/45618.html>

Your regional DEC person welcomes any questions you have as you navigate the application process.

Contact information is available on the DEC Regions website <http://www.dec.ny.gov/about/50230.html>

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide. This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension.

Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.