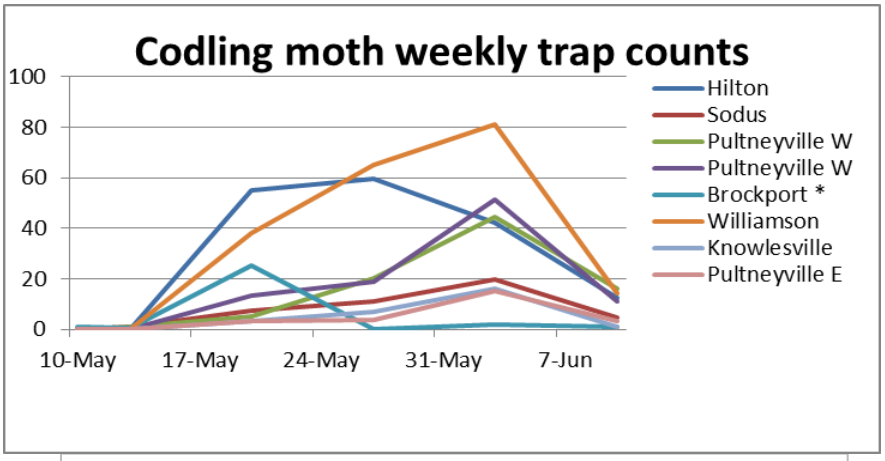
FRUIT NOTES
Lake Ontario Fruit Program

Volume 13 Issue 14 **June 12, 2013**

Pest Update

D. Breth

Codling moth (CM) egg hatch is well underway with high trap counts last week, but moth numbers are down this week. So the peak flight trap data for CM was June 3, also the week for the first spray for egg hatch in high pressure orchards. But after many of you applied this important insecticide, we have gotten another 1-3 inches of rain. You must reapply insecticide for CM ASAP so you do not lose control of the first generation. Dr. John Wise, Michigan State University, conducted research a few years ago to see how rainfast insecticides are for codling moth and how soon after a spray they need to be replenished depending on how much rain.



* Brockport site installed mating disruption dispensers using standard lures.

The most rainfast are Delegate, Altacor, or Belt if 1 inch of rainfall within 1-7 days after the application, but must be reapplied if 2 inches of rainfall fall. Calypso and Assail are rainfast with 0.5 in of rainfall, but must be reapplied if 1 inch of rain falls (although they do maintain a residue in the surface of the fruit). Proclaim is rainfast 1 day after application (but not 7 days) with 0.5-1 inch of rain. N**one of the insecticides can survive 2-3 inches of rainfall**. If you would like to read the whole research report, see this excellent publication at http://msue.anr.msu.edu/news/rainfast_characteristics_of_fruit_crop_insecticides Later in the week of Jun 10 is the critical timing for CM egg hatch sprays at the 350 DD base 50°F for low pressure sites where biofix was set for May 20.

Obliquebanded leafrollers are flying and biofix for the degree-day timing model in early sites was June 6, but some sites still have not marked first flight. Our average trap numbers for June 10 were 19, with one site still zero close to the lake west of Rochester. So the early biofix could be June 6 in high pressure inland sites, but about June 8 for all others except very close to the lake. In high pressure sites we target first egg hatch which occurs about 350 DD base 43°F after first trap catch, and in low pressure sites, we might wait until many more eggs have hatched but larvae are still small enough to kill and treat about 630 DD base 43°F after first trap catch. These timings could line up with codling moth control timing so stay tuned to predictions through Fruit FAX and future newsletters. Bt can be used starting at first egg hatch and used on a weekly basis. Or you can use Proclaim (but not the best material for later codling moth), Delegate, Altacor, or Belt.

Fontelis plus captan leaf spotting on Crispin. See article on "Captan" page 2.

Sweet cherries are beginning to color – so brown rot and cherry fruit fly become

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concerns. It is time for the expensive, strongest fungicides for brown rot including Indar or Quash where not resistant to DMI's, rotating with Pristine. Cherry fruit fly can be controlled with pyrethroids **Berry rots and bugs!** We have high pressure for botrytis and other fruit rots in strawberries at harvest, botrytis in red raspberries and blackberries in bloom, and mummyberry and anthracnose in blueberries. Pay attention to label restrictions on sequential sprays of specific fungicides – Captevate, Elevate, Switch, Pristine, Cabrio, iprodione for botrytis in red raspberries and blackberries. Blueberries still need protection for plum curculio and cranberry and cherry fruitworm using Imidan or Assail among other choices. If you are done with your bumblebees, move them to a safe location before you apply insecticides. For mummyberry and anthracnose in blueberries, use Captevate, Indar, Quash, Switch, or Pristine. There have been no reports of spotted winged drosophila in western NY yet. Stay tuned.

(watch PHI), or Assail (7 day PHI), or Delegate (7 day PHI, Sevin (3 day PHI), Actara or thiamethoxam in premixes (14 day PHI).

Fuzzy Branches

Art Agnello

In most years at this point in the season, we start to receive reports of the first infestations of woolly apple aphid (WAA) in problem sites in western NY. WAA colonizes both above-ground parts of the apple tree as well as the roots, where it commonly overwinters. In the spring, nymphs crawl up on apple trees from the roots to initiate aerial colonies. Most nymphs are born alive to unmated females on apple trees during the summer. Colonies initially build up on the inside of the canopy on sites such as wounds or pruning scars and later become numerous in the outer portion of the tree canopy, usually during late July to early August.

The aerial colonies occur most frequently on succulent tissue such as the current season's growth, water sprouts, unhealed pruning wounds, or cankers. Heavy infestations cause honeydew and sooty mold on the fruit and galls on the plant parts. Severe root infestations can stunt or kill young trees, but usually do not damage mature trees. However, large numbers of colonies on trees may leave sooty mold on the fruit, which interferes with harvest operations because red sticky residues from crushed WAA colonies may accumulate on pickers' hands and clothing.

During late June, water sprouts, pruning wounds, and scars on the inside of the tree canopy should be examined for WAA nymphs. During mid-July, new growth around the outside of the canopy should be examined for WAA colonies. No economic threshold has been determined for treatment of WAA, but they are difficult to control, so the occurrence of any colonies should prompt the consideration of some remedial action.

WAA is frequently parasitized by *Aphelinus mali*, a tiny wasp that is also native to North America. Parasitized aphids appear as black mummies in the colony. *A. mali* has been successfully introduced to many apple-growing areas of the world, and is providing adequate control of the WAA in several areas. It does not provide sufficient control in commercial orchards in our region because of its sensitivity to many commonly used insecticides; however, the wasp is thought to reduce WAA populations in abandoned orchards.

WAA is difficult to control with insecticides because of its waxy outer covering and tendency to form dense colonies that are impenetrable to sprays. WAA is resistant to the commonly used organophosphates, but other insecticides are effective against WAA, including Diazinon and Thionex, and some newer products such as Admire, Assail, Beleaf, or Movento may offer suppression (for Movento and Assail, addition of a non-ionic surfactant or horticultural mineral oil will improve activity). Good coverage to soak through the insects' woolly coverings is integral to ensuring maximum efficacy. Additionally, a Lorsban trunk application for borers made at this time will effectively control any crawlers that might be contacted by these sprays.

The Captan Conundrum: Scab Control Vs. Phytotoxicity

Dave Rosenberger

Captan is a cornerstone fungicide for apples because it is very effective against apple scab and also controls summer fruit rots. Captan has long been noted for its ability to prevent scab on fruit even when scab control on leaves is less than perfect. In fungicide tests in replicated plots where

we purposely used lower than recommended rates, Captan 50W at 3 lb/A has usually provided better

Fungi do not become resistant to captan because it blocks multiple biochemical pathways (i.e., it is a multi-site inhibitor). Resistance to captan can occur only if fungi develop simultaneous mutations for all of the blocked pathways, something that has not happened in the 60 years since captan was introduced.

Captan kills spores that it contacts whereas many of our newer fungicides kill fungi or arrest fungal growth only after germ tubes emerge from the spores. As a result, when captan is applied in combinations with other fungicides in protectant sprays, captan usually does 90 to 99% of the work by killing spores on contact, thereby reducing selection pressure for fungicide resistance to the other product in the tank mix. We use tank mixes with other fungicides (dodine, benzimidazoles, DMIs, strobilurins, SDHIs) to expand the spectrum of disease control and/or to control/suppress the small amount of scab that may have escaped control from the last spray. Captan does not control powdery mildew or rust diseases, so tank mixes are needed to control those diseases even when captan alone might suffice for controlling apple scab.

Unfortunately, captan also has a dark side: it is toxic to plant cells if it penetrates into leaf or fruit tissue. Spray oil and other spray adjuvants that act as penetrants allow captan to move through the protective wax cuticle on leaf surfaces. When that occurs, we see captan-induced leaf spotting, usually on the two or three leaves on each terminal that were just unfolding at the time trees were sprayed. It takes time for cuticular waxes to develop on new leaves, so young unfolding leaves are the most susceptible to spray injury. The leaf cells directly killed or injured by captan provide entry sites for other leaf spotting fungi such as Phomopsis, Alternaria, and Botryosphaeria than can enlarge the spots. It may take five or 10 days for the injury to become visible, and by that time the injured leaves may be 5 or 6 nodes below the growing point on terminal shoots.

Captan injury on apples usually appears during the three weeks after petal fall because during that time period terminal shoots are growing very rapidly (i.e., producing lots of new leaves), and spray mixtures used at petal fall and in first and second cover sprays commonly include insecticides, growth regulators, foliar nutrients, and spray adjuvants. Captan applied alone almost never causes leaf spotting on apples. Rather, it is the other products in the tank that sometimes enhance captan uptake and trigger the resultant phytotoxicity. Increasing the number of products that are included in a tank mixture increases the probabilities that the mixture will enhance captan absorption and result in injury to leaves.

control of apple scab than mancozeb fungicides applied at the same rate.

Early last week we became aware that, under some conditions, spray mixtures that included Fontelis and captan were triggering unacceptable levels of leaf spotting or leaf edge burn (Fig. 1: Mutsu). Because orchards showing injury were always treated with spray mixtures that included more than just Fontelis and captan, we lack definitive proof that Fontelis was the key contributing factor. However, the other products in these spray mixtures had previously been combined with captan without causing noticeable injury. In Quebec, Vincent Philion noted severe damage on Spartan apple trees sprayed with a tank mix of Fontelis-captan-urea under slow drying conditions. Urea in that mix may have exacerbated the captan damage although urea-captan combinations have been used without incident in the past.

Following is a summary of our observations on injury associated with Fontelis-captan mixtures based on contributions from Vincent Philion in Quebec and crop consultants Jeff Alicandro and Jim Eve in Wayne County, New York:

1. Thousands of acres of apples have been treated with Fontelis-plus-captan combinations, and damage has been noted on only a very, very small percentage of the treated acreage.

2. Factors that seemed to increase the probability of injury were applications made under slow drying conditions (e.g., spraying at night) and applications that were made with low volumes of water (i.e., <100 gal/A).

3. Damage is primarily on leaves and is usually limited to a few leaves per terminal. In some cases, only occasional terminals show damage and the injury is very minor.

4. Cultivars vary in their susceptibility to damage, with the greatest damage being reported on Braeburn, Spartan (Acey Mac), Red Delicious, Empire, Gala, and Mutsu.

5. The unusually hot weather that prevailed throughout much of the northeast during the last few days of May might have contributed to the problem by favoring rapid terminal growth and/or by making trees more susceptible to damage via some other mechanism.

Although DuPont, the manufacturer of Fontelis, had run extensive trials to test the safety of Fontelis-captan mixtures, it is impossible to duplicate all of the tank mixtures that apple growers will ultimately use. Nor can test conditions ever duplicate all of the environmental factors that prevail during applications after products are commercialized. Thus, the discovery of occasional problems with Fontelis-captan mixtures is one of those unfortunate but perhaps unpredictable events that can occur in process of commercializing a new product. Fontelis will remain an important apple fungicide for controlling scab and rust, especially during the time period when it can be combined with mancozeb.

It is important to note that some pathogens cause leaf spotting that is very similar to leaf spotting caused by captan injury. Rust-induced leaf spotting occurs when cedar apple rust spores germinate on apple cultivars that are resistant to rust. The invading rust fungus soon dies due to the host incompatibility reaction, but the cells killed or damaged by the germinating rust spores provide entry points for leaf spotting fungi. Rust-induced enable captan to penetrate into leaves. leaf spotting can be differentiated from leaf spotting due to phytotoxicity by the fact that rust-affected leaves usually show some bright yellow-orange pinpoint spots either at the center of lesions or at other locations on the leaves where the rust spots were not followed by secondary pathogens. Frog-eye leaf spot caused by Botryosphaeria obtusa can also cause severe leaf spotting, but distribution of this disease is very uneven within trees, with most infections occurring below over-wintering fruitlet mummies that supplied the inoculum.

Finally, pesticides other than captan can also cause leaf spotting and/or leaf burn. Sulfur and liquid-lime sulfur can cause damage when applied ahead of hot weather and/or if mixed with or applied close to oil sprays. Last year, Topguard fungicide caused a leaf-edge burn when applied to Cortland trees in my test plots that had recently been treated with streptomycin plus Regulaid. Topguard injury has reportedly been observed on Braeburn when sprays were applied with enough water to allow droplets to accumulate on leaf edges. The Topguard label says not to use adjuvants in the tank.

Defining the exact cause of phytotoxicity on apple leaves is often difficult. However, we know that special cautions are required when applying captan because it has a demonstrated record of causing phytotoxicity to leaves if oils, adjuvants, or carriers in other pesticides

Considering H-2A Workers for the 1st Time? Apply <u>SOON</u> for Harvest Workers

A. De Marree

Contrary to a rumor currently circulating, growers cannot share H-2A workers. Each grower must be certified for a specific number of workers. Workers are issued visas for a specific time period and cannot move back and forth between farms. There are special circumstances where a worker can be transferred from one farm to another, but not without meeting specific requirements.

Here is a brief outline of requirements (for BOTH H-2A & domestic workers) when employing H-2A workers:

1. The NYS adverse effect wage rate that you must pay is at least $10.91/hr. Piece rates: $0.85/bu. dwarf fresh, $0.90/bu. standard fresh, $0.60/bu. process and $0.60/bu. for drops
2. You must submit a <u>carefully constructed</u> work order that describes your need for <u>skilled labor</u>, first to NYS DOL in Albany, then Chicago USDOL for certification with a start and end date. *Do not be afraid to require 1 to 6 months experience for crop workers or up to 12 months experience for an ag. equipment operator. Don't ask for workers without requiring a reasonable level of experience. You can view other growers work orders by going to the NYS DOL website and typing in "H-2A Clearance Orders" in the search box. Many growers are including worker expectations in the form of "work rules" in their work orders this year.*
3. If your work order is conditionally accepted, you must meet the requirements of the USDOL within a certain timeframe (ex. advertise for

domestic workers and hire any qualified domestic workers who respond to your ad or your work order which is posted on the internet through the US DOL, etc.) to continue to progress towards permanent certification.

4. You must keep a log of all persons inquiring about the job, interview and hire any qualified domestic workers and be prepared to explain why some persons were not hired (keep copies of rejection letters). We recommend having ALL job inquirers complete a job application form to allow you to **verify experience** with former employers. We have sample job application forms available.
5. If you receive final approval, you must complete another set of paperwork to the US Customs & Immigration Service in California.
6. You must pay the transportation costs to & from your work site along with meals during travel.
7. You must keep detailed records of hours of work offered and actual hours worked and include this on the H-2A worker pay stub, as well as the domestic workers pay stub (doing the same work as in the work order).
8. You must provide housing, including bedding and either meals or a kitchen with cooking utensils which has been permitted and then inspected & approved by the NYS DOL.
9. You must GUARANTEE ¾ of the hours in the work contract. So if your work contract says you will employ the workers for 10 weeks at 40 hours per week (400 hours) – you must guarantee a minimum of 300 hours, even if your yield falls short of what you had anticipated for crop.
10. You MUST hire any qualified domestic workers who apply for the job up to half way through the time period the work contract is in effect (ex. first 5 weeks of a 10 week contract). As long as H-2A workers are on your premises in the first half of the work contract, you need to **keep hiring** ANY qualified domestic workers who apply, no matter how many people are listed on your work order.
11. There are provisions for making changes in the work order up to a few days before the workers leave to travel to your farm. ANY changes require notification and official approval by specific labor department personnel.

If you are considering H-2A workers for the first time, I strongly recommend that you use an agency with an excellent track record to assist you in the process. But first, you need to do some homework by reading the resources provided by the US DOL! The H-2A Employers Handbook is available to download at: http://www.foreignlaborcert.doleta.gov/pdf/H-2A_Employer_Handbook.pdf This publication walks you through applying for H-2A workers and the regulations governing the employment of H-2A workers.

I also recommend that you download all **six** *Frequently Asked Questions* fact sheets on this website and review them. Finally, H-2A workers earning more than the standard allowance will have an income tax liability. The following website may be useful: http://www.irs.gov/businesses/small/international/article/0,,id=96422,00.html Be sure to read the Voluntary Federal Income Tax Withholding section. Please feel free to contact me if you have any questions by email: amd15@cornell.edu or phone: 315-573-8881.

Hedging Tall Spindle Trees in 2013 – Second Year Project

M. Miranda Sazo and Terence L. Robinson

When managed correctly, the Tall Spindle apple system at maturity gives a narrow, tall fruiting wall with good fruit quality due to good light exposure in the narrow canopy. After year 5, partial mechanization of dormant pruning by using labor positioning platforms has increased dormant pruning labor efficiency by 25-40%. Further mechanization of pruning by using side wall shearing of the tree canopy in the summer with a cutter bar may offer further reductions in annual pruning costs of the tall spindle. Mechanical pruning that was conducted in the 1960's and 70's was generally unsuccessful because it resulted in excessive regrowth and poor fruit quality due to vigorous rootstocks and the cutting of large limbs. However, current NY high-density Tall Spindle orchards are now more suitable to mechanized pruning due to the use of dwarfing rootstocks, a better managed and calm tree, and the presence of smaller pendant fruiting branches (15-18 branches) at year 5 or 6.

The recent efforts to mechanize pruning were begun by Alain Masseron and Laurent Roche of CTIFL (Center for Techniques of Production and Distribution for Fruit and Vegetables in France) about a decade ago. They began mechanically shearing Tall Spindle trees in the early summer to develop a narrow fruiting wall they named "Le Mur Frutier" (The Fruiting Wall). The trees were sheared in early June (when shoots had about 8-10 leaves) about 15 inches from the trunk. The tops of the trees were also cut mechanically at 10-11 feet height. This left a tall rectangular tree which was confined to a space 32 inches wide by 10 feet tall. Little shoot regrowth occurred at this timing and especially when the trees were carrying a full crop which utilized much of the carbohydrates the tree produces for fruit growth. Some commercial fruit growers who have adopted this system prune only mechanically each year in June with no additional hand pruning. Other commercial fruit growers who have adopted this system implement a follow up dormant hand pruning every third year. The mature fruiting wall tree has many weak and fruitful side branches within the rectangular space allowed by the hedging machine but no branches that extend out into the alleyway between rows.

The initial good success of mechanized summer pruning conducted by CTIFL in France was followed by research trials in Italy (Alberto Dorigoni), Spain (Ramon Monserrat), and Germany (Gerhard Baab). In 2011 and 2012 we began several hedging trials in NY State to study the benefits of mechanized summer pruning of NY Tall Spindle orchards. Our experiments involve both Tall Spindle trees and Super Spindle trees on M.9 or B.9 rootstocks. Our main goal of mechanized summer pruning is to have a narrow fruiting wall with good light distribution but not create a vigorous response in the tree and reduce pruning costs by two-thirds. A second important research objective is to study the shoot response of several important apple cultivars in NY State to mechanized summer pruning timings and severities. The ideal response to the mechanical summer cut is to generate short shoot regrowth (3-8 inches long) with a terminal floral bud instead of a vegetative bud. The correct timing of mechanical summer pruning is critical for maximum floral bud initiation during the early part of the summer so a very a productive and efficient fruiting wall can be started. This season we hedged tall spindle trees in Geneva on Monday June 10, and trees at grower farms will be hedged during the weekend.

Our first results from 2012 with summer shearing were positive but will require 2 more years (2013/14) to fully determine if this approach has long term positive results or if negative tree growth will negate the labor savings from mechanical sidewall shearing. If side-wall shearing in the summer can reduce summer pruning costs by 95% and improve fruit color without negative effects on return bloom or vigorous growth response it will also have a significant impact on orchard profitability. Results from 2012 are encouraging so far in that there was little or no regrowth from the sidewall shearing treatments with the Tall Spindle system. It appears that the early July timing was the best since it had short regrowth with terminal flower buds.

A long-term strategy that a grower in France (Pomanjou) has implemented is to use annual side-wall shearing of Tall Spindle trees for 3 successive years with no other dormant pruning but in the third year to add a dormant winter corrective pruning to remove limbs that have become large and are causing internal canopy shading and poor fruit quality. Such a pruning strategy could reduce total annual pruning costs in Tall Spindle orchards by about 65% and help NY apple growers remain profitable and competitive.

Bruno Billote, another French apple grower converted his orchard seven years ago to mechanical pruning. His orchard has only had a modest manual pruning input in three of the intervening years and had been able to keep a narrow wall with mechanized pruning. He prefers the early timing (March/early April). When he tried mechanical pruning in early June, mildew and scab became a problem. He concludes there are some limitations with a fruiting wall: (1) tree height is limited, (2) production (on Gala) is limited to 70-80 ton/ha, and (3) fruit size tends to be about 5 mm smaller. He suggests Golden Delicious performs well with a wall width of 60cm, and Gala requires a wall width of 80cm.

Alberto Dorigoni, an Italian scientist from the Agrarian Institute of Saint Michele (who also spoke at the past 2013 IFTA annual meeting in Boston) suggests that different mechanical pruning timings could provide different benefits. Mechanical pruning in winter could be used in moderate-growing orchards, with the aim of shaping trees for the following early summer shearing. Hedging at pink bud is useful to prevent a little bit of regrowth,

while early summer (8-12 leaves) to maximize flower differentiation and reduce regrowth. Mid-summer minimizes regrowth, and hedging pre-harvest increases fruit color, while hedging after harvest reduces regrowth and shape trees and the fruit wall for winter pruning. He is currently studying the use of a "Window Pruning Machine", or WMP.

Wanted – Sweet Cherry Interested in Extending Shelf Life & Marketing Window

Craig Kahlke

Craig is looking for any size sweet cherry growers to continue to test modified atmosphere packaging (MAP) that can extend sweet cherry shelf life up to 6 weeks. This is passive, inexpensive packaging that does not need any gases pumped in. The sweet cherry liners hold 10-20 pounds of fruit. If you farm in a partner LOFP county, Craig will be available for on-farm visits to give instructions in use. If you are outside the 5-county Lake Ontario Fruit Program territory, you can still try the sweet cherry liners – the instructions are relatively simple and the MAPs could be shipped anywhere or picked up in Western NY. The cherry liners are inexpensive- only about 50 cents each. You can try just a few if you want; there is no need to buy a whole 250-liner box. The sweet cherry liners have extended shelf life by 5-6 weeks in firmer cherries such as Hudson, Sam, and Schmidt, and by 4 weeks in some other varieties compared to 2 weeks maximum for control fruit. If you have a glut of certain varieties and you want to try extending your market, it is easy to test the MAPs with as little as 50 pounds of fruit. Also, if you already have plenty of unused (**do not re-use!)** MAPs leftover from previous years and plan on using them, please let Craig know so he can add the results to his database. For more information please contact Craig at 585-735-5448 or cjk37@cornell.edu.

Cornell Fruit Field Day

This is the Summer Tour for LOF- which this year is hosted at NYSAES

Cornell University will host the 2013 Fruit Field Day at the New York State Agricultural Experiment Station in Geneva, NY, on Thursday, August 1, from 8:00 a.m. to 5:00 p.m. The field day will be composed of two concurrent day-long tours, one of tree fruit presentations and another tour of grapes, hops and small fruit presentations. Fruit growers, consultants, and industry personnel are invited to tour field plots and learn about the latest research and extension efforts being carried out by Cornell researchers in Geneva and Ithaca and on commercial farms around the state. The event will focus on all commodities of key importance to New York's $350 million fruit industry: apples, grapes, cherries, raspberries, strawberries, blueberries and other berry crops, plus hops. During lunch, equipment dealers and representatives from various companies will showcase their latest products and technologies to improve fruit crop production and protection.

The list of presentations will include the following topics:

Tree Fruit Tour

- Apple breeding at Cornell and new varieties in the pipeline.
- Precision apple thinning.
- Apple mechanization.
- Tall Spindle management in years 1-6.
- Spray volume for Tall Spindle planting systems.
- Precision spraying in the orchard.
- Fruit russet control on NY1.
- CG rootstocks.
- Nutrient removal by fruit harvest and maintenance application of fertilizers.
- Impacts of glyphosate on apple tree health.
- Evaluation of bactericide programs for fire blight management.
- Persistent NY nematodes for plum curculio biocontrol.
- Peach rootstocks.
- Rain protection in cherries.
- Pear systems and rootstocks.
- Organic apple production trials.
- Apple scab management in a fungicide-resistant orchard.

Berries/Grapes/Hops Tour

- Soil and root factors in improved blueberry productivity.
- Mass trapping and exclusion tactics to control Spotted Wing Drosophila in organic blueberries.
- Limiting bird damage to small fruit crops.
- SWD trap network in NY.
- Day-neutral strawberries and low tunnel production.
- SWD, a new threat to strawberries and raspberries in NY.

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Contents:

- Enhancing pollination and biological control in strawberries.
- Training systems for Arandell.
- New hops variety trial and pest management trials.
- Biology and control of sour rot in grapes.
- Precision spraying in the vineyard.
- High tunnel raspberry and blackberry production.
- A fixed-spray system for SWD control in high tunnel raspberries.

The event will be held on the Experiment Station's Fruit and Vegetable Research Farm South, 1097 County Road No. 4, one mile west of Pre-emption Road in Geneva, NY. Signs will be posted. Attendees will travel by bus to the research plots to hear presentations by researchers on the work being conducted. The cost of registration is $30 per person ($40 for walk-ins) for all-day attendance. Lunch will be provided.

Pre-registration is required for the $30 rate, register on-line at: http://is.gd/ffd2013
For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

Save the Dates

June 24-5 – Premier Apple Marketing Forum, Syracuse – See program and registration info in last issue: Note there was a missing address to send the reg. form- Mail to: Premier Apple Cooperative, Inc. 50336 Telegraph Rd, Amherst, OH 44001. For late registration or questions, call (440)670-2883

July 16 – 17 - IFTA Summer Study Tour, Gettysburg, PA. Registration, itinerary, other info at https://ifruittree.site-ym.com/default.asp?page=2013StudyTour

August 1 – Summer Fruit Tour, NYSAES, Geneva- see this issue for more info and link to register.

August 6 – Cornell University Storage Workshop, Ithaca, NY – Full Program coming in an upcoming issue.