Fruit Notes

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Cornell Cooperative Extension
Lake Ontario Fruit Program

Volume 18 Issue 11 July 18, 2018

Online Registration Now Open for NextGen Young Fruit Grower Study Tour in PA, August 2-4! More Sponsorship Needed As Well

Harvest at Mt. Ridge Farms, Biglerville, PA.
Photo courtesy Mt. Ridge Farms

The 3rd annual NextGen Young Fruit Farmer Study Tour will be held in the Adams County region of Pennsylvania August 2nd-4th.

The Young Growers Alliance (YGA) of Pennsylvania, the LOF team, the Future Fruit Growers of Lake Ontario, along with Matt Wells (New York Apple Sales), have organized an excellent itinerary.

The study tour is focused on helping next generation growers develop the knowledge and skills needed to take their family farms into the future.

There are no strict requirements to join. We have had people join the tour who are under 35, who are on family farms, who are growers in middle management positions, who may be beginning to manage farms, or who may be starting farms in the future. New growers are also welcome.

If you are not on the NextGen Young Fruit Growers email list (updates on the tour and any local events) and would like to be, please email Mark Wiltberger at mw883@cornell.edu.

For questions, don't hesitate to email or call Mark at 315-272-8530.

***Register for this event here**:*
https://lof.cce.cornell.edu/event.php?id=957 ***and click "Register for this Event Now" at the top of the page.***

If you have contacted us to pre-register, please register online now.

Feel free to forward this to anyone you think may be interested! ***Is there someone in your organization who would benefit from this experience?***

Trip Highlights:
The hosts at many of the stops are in the early years of their careers:

Visits to:

- ***Hollabaugh Bros**, fourth generation orchard, farm, farm market, and bakery which collaborates with PSU Fruit Research and Extension Center.*
- ***Three Springs Fruit Farm**, a progressive orchard operated by grower Ben Wenk.*
- ***Knouse Foods**, packer and processor, known for Musselman brand.*
- ***PSU Fruit Research and Extension Center**, a look at their current research.*
- ***Mt. Ridge Farms**, owned and operated by the Slaybaugh family.*
- ***Rice Fruit Company**, a large packer and buyer of primarily fresh fruit.*

Contents

Delicious food and beverages:

- ***Catered Dinner at Ragged Edge Coffee House & Local Hard Cider Sampling*** *in Gettysburg.*
- ***Hard cider and beer tasting at Thirsty Farmer Brew Works****.*
- ***Breakfast at Hollabaugh Brothers****, fresh bakery and farm market.*
- ***Lunch at The Apple Bin*** *– homestyle American food.*

Costs to you are:

- *Registration fee*
- *Hotel 2 nights @$143/night approx. = $286*
- *Thursday night dinner is at no cost to you, catered meal at Ragged Edge Coffee House.*
- *Other meals: meals during transit, breakfast at Hollabaugh bakery, lunch at the Apple Bin, dinner on your own Friday night in Gettysburg, hard cider and beer tasting at Thirsty Farmer Brew Works. The eating establishments on the itinerary are moderately priced.*

Event Registration:
Event Registration will offset some of the transportation and other costs of the event:

Register now and save! Early Bird Registration rates end Thursday July 19th!

Final deadline for registering the event is Wednesday July 25th!
We are limiting the tour to 30 spots!

Early Bird registration rate $50/person. Standard registration rate $75/person.

Register for this event here:

https://lof.cce.cornell.edu/event.php?id=957 ***and click "Register for this Event Now" at the top of the page.***

If you have contacted us to pre-register, please register online now.

Room reservations:
A block of rooms has been reserved at the Hampton Inn until Monday, July 30. It is up to each attendee to book their room. If you are unable to book a room at the Hampton Inn, please let us know, as we are planning logistics to depart from the Hampton Inn each day under the assumption that everyone is staying there.
The group rate is $129/night plus tax, for a total of approximately $143/night.

When you register, we will send you instructions on how to ask for the group rate for the room.

Itinerary:
Thursday, August 2nd

7:30am – 1:00pm	***Geneva Experiment Station****, Geneva, NY to Biglerville, PA*	*Geneva, NY*	*Transit via mid-size shuttle.*
1:00pm – 2:10pm	***Lunch at Apple Bin***	*Biglerville, PA*	*https://www.facebook.com/The-Apple-Bin-Grill-Bakery-113499752168803/*
2:15pm – 3:50pm	***Three Springs Fruit Farm***	*Aspers, PA*	*http://www.threespringsfruitfarm.com/*
4:00pm – 5:15pm	***Knouse Foods***	*Biglerville, PA*	*http://www.knouse.com/*
5:30pm	***Dinner and Cider tasting at Ragged Edge Coffee House***	*Gettysburg, PA*	*http://raggededgecoffeehouse.four-food.com*

Friday, August 3rd

8:15am – 9:45am	***Breakfast at Hollabaugh Brothers***	*Biglerville, PA*	*https://hollabaughbros.com/*
10 am - Noon	***PSU Fruit Research and Extension Center***	*Biglerville, PA*	*https://agsci.psu.edu/frec*
12:15pm – 1:15pm	***Thirsty Farmer Brew Works (Round Barn)***	*Biglerville, PA*	*https://thirsty-farmer-brew-works.business.site/*
1:30pm – 2:45pm	***Mt. Ridge Farms***	*Biglerville, PA*	*https://www.facebook.com/mtridgefarms/*
3:00 pm - 5:00 pm	***Rice Fruit Company***	*Gardner, PA*	*https://ricefruit.com/*
	Dinner on your own	*Gettysburg, PA*	

Saturday, August 4th

After breakfast – early PM	***Gettysburg, PA to Geneva, NY***	*Depart from Gettysburg, PA for Geneva Experiment Station, Geneva, NY after breakfast, arrival by early PM*

Thank you Sponsors!

Here is a chance to thank the sponsors of the NextGen Young Fruit Farmers Study Tour. Thanks to them, costs for participants have been greatly reduced: ADAMA, Adams County Nursery, Bayer, DrapeNet, Finger Lakes Trellis, HH Dobbins, Inc., LaGasse Works & LaGasse Orchard, Lake Ontario Fruit Inc., Macro Plastics, New York Apple Sales, OESCO, Inc., Provide Agro Corp, PYGAR USA, Inc., Valent USA, Wafler Nursery, Winfield United.

Potential Sponsors – Please See** https://lof.cce.cornell.edu/sponsorship.php **to Sponsor Building the Next Generation of Leaders!

Mechanical Summer Pruning

Mario Miranda Sazo

In the last few years more NY apple growers have adopted mechanical summer pruning in their orchards (after removal of big wood through limb renewal during the winter months). This technique had produced a narrow fruiting wall with good light distribution and has not invigorated the trees. So far we only recommend the hedging of large fruited varieties like Honeycrisp at this time of the year. In fact some Honeycrisp blocks began to be hedged +/- 7-10 days ago in our region. Small fruited varieties like Gala (or NY1 in the future) should be hedged in the next 4-5 weeks (or 7-10 days before harvest) to avoid a negative effect on crop size reduction.

***Mechanical pruning for the Tall Spindle Apple Production System:** With a Tall Spindle tree and a row spacing of 12ft (3x12ft planting spacing) the mechanical winter or pink pruning should be done 18-20 inches from the trunk to form the box. Then from the pre-formed box the one-year old shoots that grow during the season are hedged at 22-26 inches from the trunk, leaving approximately a semi-angled wall of 4ft. wide at the base of the canopy. There is usually from 14 to 16 planar/horizontal fruiting units on one size of the canopy, each containing 4 apples and sometimes one more apple at the base of one-year old shoots, after mechanical summer pruning.*

***Mechanical pruning for the Super Spindle Apple Production System:** With a Super Spindle tree and a row spacing of 11ft (2x11ft planting spacing) the mechanical winter or pink pruning should be done 12*

inches from the trunk to form the box. Then from the pre-formed box the one-year old shoots that grow during the season are hedged at 13-14 inches from the trunk, leaving approximately a vertical wall of 2 ft. wide at the base of the canopy. There is usually from 18 to 20 planar/horizontal fruiting units on one size of the canopy, each containing two apples. There is not production of fruit in one-year old shoots, after mechanical summer pruning.

When to hedge or not to hedge in the summer in NY? *In the past we studied the effect of timing of mechanical summer pruning when one-year old shoots had from 12 to 15 leaves in June, July, and August. The sidewall shearing treatments did not induce vigorous shoot regrowth regardless of the timing of the mechanical pruning. However, with the early timing (early June) we saw the development of short re-growths (6-8 inches) with a terminal bud, which resulted in a flower bud next spring. With the July timing regrowth was about 5 inches and at the August timing there was no regrowth at all. There were no large differences in return bloom among the different timings of mechanical summer pruning the following year.*

So when should you hedge your trees? *We encourage growers to target their mechanical summer pruning timing based on the fruit size characteristics of the apple cultivar instead of the exact number of leaves per shoot at a particular time during the growing season. This new timing approach to mechanical summer pruning has become a more practical method for some NY fruit growers. Therefore, for large fruited varieties like Honeycrisp (where we intentionally want to control or reduce an excessive fruit size at harvest and especially in a rainy summer) we recommend an "early" timing for mechanical summer pruning and a "late" timing for small fruited varieties like Gala to avoid a negative effect on crop size reduction before harvest. Medium-size fruited varieties should be mechanically summer pruned after Honeycrisp and before Gala to have the same controlling effect on fruit size. Under NY weather conditions, a mechanical summer pruning program should be started for Honeycrisp as early as June 15-20 and for Gala approximately 4-5 weeks later. In some cases, a Gala block could be even hedged 7-10 days before harvest to facilitate the use of harvest platforms.*

Need/Opportunity

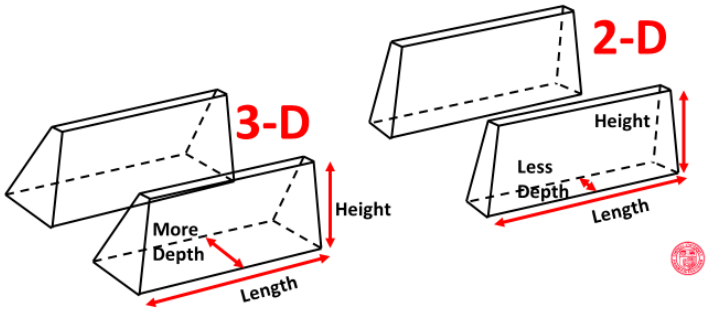
- *Some 3-D spindle orchards can transition to 2-D canopies via hedging (mechanical pruning)*
- *The transition or conversion to a narrow, semi-tall, or tall fruiting wall can facilitate high yields of high quality fruit due to good light exposure in the narrow canopy from the bottom to the top of a tree*
- *Narrow canopies are more suitable for orchard mechanization and/or robotics (pruning, hand thinning, and harvest)*
- *Mechanical pruning (conducted during the winter or summer) doesn't mean that hand pruning is not needed or is less important*

The Challenge

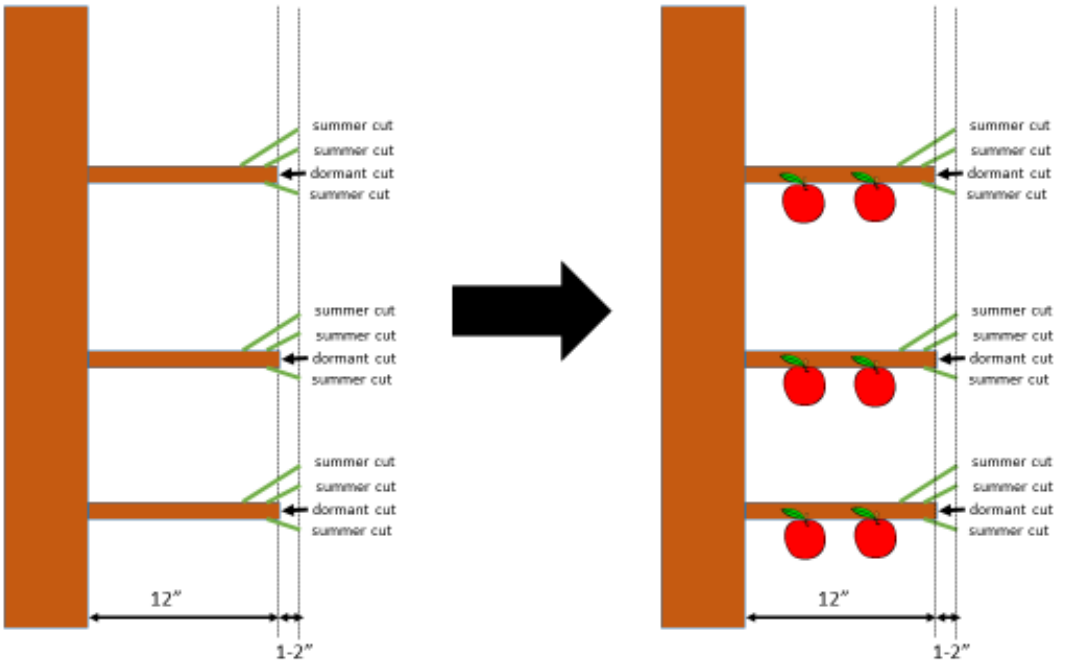
- *The minimal pruning concept for years 1, 2, 3, and 4 can be easily misunderstood*
- *Delayed renewal pruning can create dense canopies, especially for high vigor trees on high soil fertility situations*
- *The lack of systematic pruning for the lower, middle, and top portions of a single tree can create excessive shading*
- *The growth habit of the cultivar can challenge the management of a 3-D spindle tree*
- *Tall trees are not easy to reach without the use of ladders or platforms for pruning and other orchard tasks*
- *Limb bending is required (but seldom practiced in NY) for vigorous cultivars (i.e. Fuji, Macoun, Linda Mac)*

Benefits of a narrower canopy

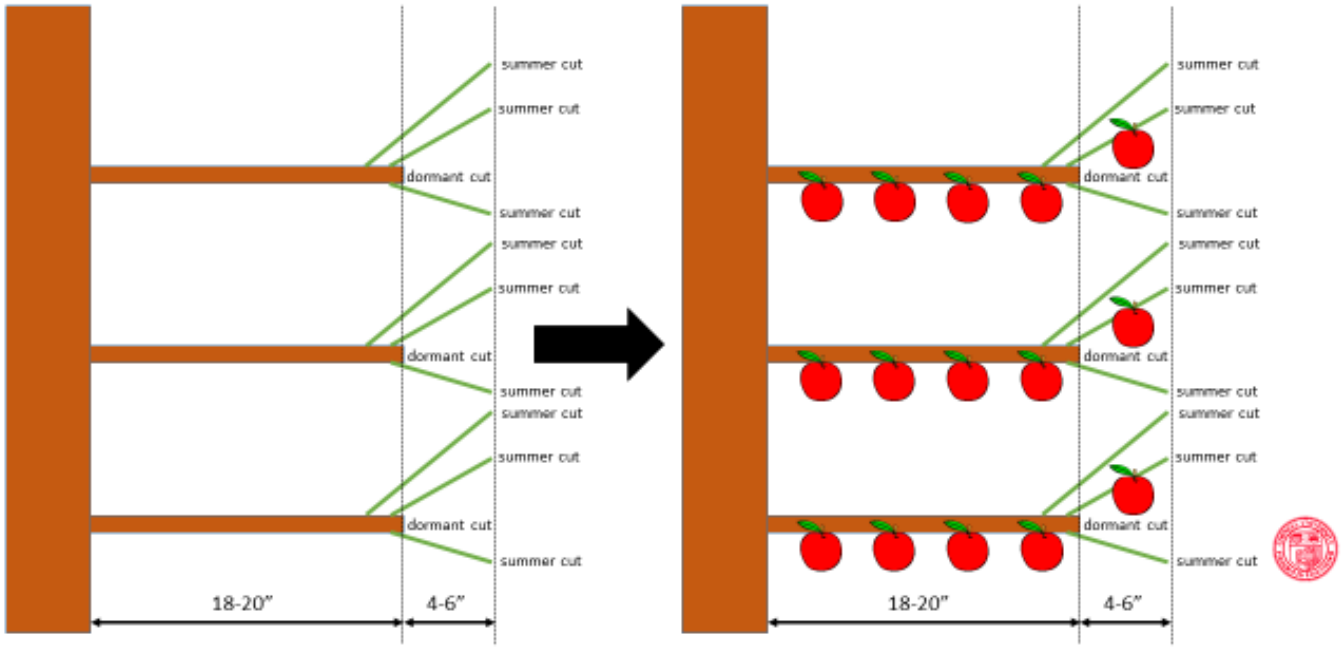
- *Fruiting canopy structure is more efficient and simplified*
- *Light penetration and distribution is improved*
- *Fruit size is more uniform*
- *Final pack out is increased (more dollars/acre)*
- *See table below for more benefits about this technology*



Super Spindle Tree Converted to a 2-D Narrow, Fruiting Wall



3-D Tall Spindle tree converted to a 2-D Narrow, Fruiting Wall



3-D to 2-D Spindle-shaped canopies	
Why?	• *If you want to make a mature 3-D spindle orchard more uniform, efficient, narrower, and fully suitable for orchard mechanization*
When?	• *Start today, the sooner the better, the conversion won't happen instantly* • *If you misunderstood the minimal pruning concept* • *If you delayed renewal pruning too much* • *If you have done a poor pruning job* • *If you have created a dense "bushy" canopy*
How?	• *Via detailed and precise manual and mechanical dormant and summer pruning* • *Set the box once you have removed all big wood through renewal pruning* • *The entire process of conversion can take up to 3-4 years*

Sunburn: Apples Become Susceptible to Sunburn at about 38 – 40 mm fruitlet diameter – or Roughly Golf Ball Size

Byron Phillips, National Crop Specialist, Valent USA

Sunburn can be caused by either heat or light, or both.

When caused by heat, ambient air temperature is not as important as fruit surface temperature. Each variety has its own fruit surface temperature threshold for sunburn to occur. Some varieties, like Cripps Pink, require a very high FST – something like 120° F. Other varieties have a much lower threshold. For example, sunburn occurs on Cameo when the FST reaches 115° F. Many of the newer managed varieties appear to have an even lower FST threshold, Minneiska appears to be one of those as does Smitten.

Sunburn caused by light can be from UV-A, UV-B, or both. There is also another type of sunburn called photo-oxidative sunburn that is caused by sudden exposure to light, as occurs after hand thinning, summer pruning, or re-positioning limbs by tying.

The best method for preventing sunburn is 1st) the use of shade cloth. This reduces both heat and light exposure.

Next best is 2nd) overhead evaporative cooling in combination with Raynox. The cooling prevents / reduces sunburn caused by heat, and the Raynox prevents / reduces sunburn caused by both heat and light.

3rd best is overhead evaporative cooling by itself, but this is only effective for sunburn caused by heat.

Finally, there are the sprayable protectants. These basically come in two categories – particle films like Surround (Kaolin clay), and the calcium carbonates like PurShade. There are others as well, but these all work by creating a whitish film on the apple that reflects both heat and light. These will typically reduce sunburn incidence by up to 50%. The problem with these is that they do leave a heavy white film on the apple that can be very difficult to remove from the fruit on the packing line, especially from the stem bowl and calyx where brushes can't reach. Also, bi-colored apples do not color well under these coatings. Under heavy splotches and droplets, the fruit develops a mottled appearance.

The other sprayable protectants are the Raynox brands. These are a carnauba-based waxy matrix that filter light and reduce FST. These also typically reduce sunburn incidence by about 50%. These do not leave the heavy white film residue, so fruit colors normally underneath, and there are no issues on the packing line. There are a couple of different formulations of Raynox – Raynox; Raynox Plus; and Raynox Organic. Regular Raynox requires the addition of a water conditioner, and it contains two emulsifiers – one of which is morpholine. Morpholine has a low or no MRL tolerance in many export markets, so a grower should check with his/her packer before using it. Raynox Plus needs no water conditioner, and uses a nonionic emulsifier so there is no morpholine to worry about. Same with Raynox Organic.

Some growers may be tempted to use Pinolene films or other antitranspirants, but I strongly advise against that. Antitranspirants cover / block / plug leaf stomata, reducing or stopping transpiration, and interfere with the tree's natural ability to cool itself through the evapotranspiration process. Antitranspirants may be helpful in reducing stress from drought or wind, but should not be used for heat.

Overhead evaporative cooling that is cycled on and off is great, and should be used if available. However, under-tree irrigation will do nothing to reduce sunburn, and if left on continually will cause more problems with water-logged, anaerobic soils and creating ideal environments for several disease pathogens to flourish.

If you have a hot spell coming up, it would certainly be worthwhile to get ahead of that with one of the sprayable protectants. While not as effective as starting the program earlier (apples become susceptible to sunburn at about 38 – 40 mm fruitlet diameter – or roughly golf ball size), it is better than doing nothing and should still provide enough protection to be worth the cost.

A couple of tricks that can help:

- If you have a tower sprayer that can apply from the top of the canopy down, those are more effective than traditional airblast sprayers because they apply the product where it is most needed.
- Also, if your rows are oriented north-south, you can spray only the west sides of the rows. Most sunburn comes from afternoon sun exposure, not morning.

If you do apply sprayable protectants, they should be applied in the morning before ambient air temperature reaches 85° F. One application should last for a few weeks until the fruit grows through it.

Pest and Disease Update

Tessa R. Grasswitz

General notes:

- Given the current and predicted weather conditions, remember that the risk of **vapor drift** increases when volatile pesticides are applied in hot weather. Products that can volatilize into a vapor (including some herbicides) may drift farther (and for a longer time) than they would as liquid spray droplets. Check product labels for warnings regarding the risk of vapor drift, and avoid applying volatile pesticides on hot days; keep in mind that some formulations can volatilize several hours after application, so avoid applying such products if high temperatures are predicted for later in the day. When such conditions are forecast, choose a low-volatility formulation if possible.
- Remember to check the expected field life of any **pheromone lures** used for monitoring traps: replace them as needed to ensure accurate trap catch data.
- Residues of **pyrethroid insecticides** tend to break down more rapidly under high temperatures and intense sunlight and may not persist as long as normally expected under such conditions. With the risk of mite problems increasing under hot, dry and dusty conditions, keep in mind, too, that pyrethroids in general are highly toxic to beneficial predatory mites and can disrupt biological control of pest mites: choose controls for other pests with this in mind.

Spotted wing drosophila. Although this species was off to a slow start this year, trap catches are now starting to increase as preferred hosts such as red raspberries and blueberries ripen. Some adults have also been caught in traps in tart cherries. Rapid population increases can be expected as more host material becomes available. A reminder that detailed information on the insecticides currently registered in NY for this pest are available, by crop, at: http://fruit.cornell.edu/spottedwing/management/. Growers are advised to use products with the highest efficacy rating, to maintain tight spray schedules, and to rotate between different chemical classes to reduce the risk of insecticide resistance developing. Keep a close eye on pre-harvest intervals, seasonal use limits, and any particular market restrictions. Regular and thorough harvesting will help slow the rate of population build-up and rapid cooling of harvested fruit will slow development of any eggs or small larvae already present in the fruit.

The second flight of **Oriental fruit moth** is well underway. For this generation, OFM trap catches i**n excess of 10 per trap per week** are considered to be of concern in both peaches and apples. Where trap catches exceeded this threshold, the first application of larvicides (e.g. Altacor, Assail, etc.) should have been made at approximately 1150–1200 DD (base 45 °F) after the first (spring) biofix; with the current high temperatures, this first window has already passed at our monitoring sites. If adult trap catches continue to exceed the action threshold, a second application is warranted at the labelled re-spray interval for whichever product you are using for this generation (which should be from a different chemical class to that used for the first generation). Pay attention to any seasonal use (or market) restrictions and pre-harvest intervals.

The second generation of **codling moth** adults should be emerging soon. The suggested timing for applying larvicides for the second generation of codling moths is at or around 1200–1250 DD (base 50 °F) after the biofix for the first (spring) generation; as a very approximate guide, at current and predicted temperatures, this is estimated to occur between 22nd–29th July. However, this timing depends very much on the individual site, the precise timing of the initial biofix at that site, and on the actual temperatures that occur between now and then. It is a rough guide only. Remember to rotate to a product from a different chemical class from that used for the first generation to help prevent resistance development. Note, too, that for products with ovicidal activity (i.e., which can kill eggs prior to hatching), the timing is earlier: 1000 DD after biofix for Rimon, approx. 1000-1100 for Esteem. In planning for the management of this next generation of codling moth, keep in mind prior applications and seasonal use restrictions for all products (Rimon, for example, is restricted to one application per season). Consider including Madex HP: this virus-based product is specific to codling moth and oriental fruit moth, and can complement the effects of conventional products, both by additional toxic effects on the larvae, and also on the successful pupation and adult emergence of any survivors. These additional effects can contribute to the long-term reduction of populations in treated orchards.

Apple maggot Continue to check monitoring traps once or twice per week for adult apple maggot flies, looking for the characteristic wing pattern (a distinctive black, angled 'F' shape toward the wing tip) and a white dot on the thorax (just behind the head). A suggested action threshold is when 5 or more adults have been caught on red sphere traps within a week, with follow-up applications if necessary (at the labelled re-spray interval) if adult flies are still being caught. Some products used for other pests at this time also have activity against apple maggot: a good summary of the activity spectrum of a range of products is given on p. 65 of the Cornell tree fruit guidelines.

Adult **Japanese beetles** are active and their feeding damage (skeletonized leaves) is now becoming apparent. The adults feed on a wide range of host plants (more than 300 species) and amongst their more preferred fruit hosts are Honeycrisp apples, Bluecrop blueberries and Chinook and Heritage raspberries; they may also damage fruits of early-ripening peach varieties. The adults are long-lived (~ 30 days) and are highly mobile, moving readily from crop to crop, so scout regularly. Some of the products applied against other fruit pests (e.g. Assail) will also provide incidental control of Japanese beetles: check individual product labels for details.

Continue to check regularly for both **European red mite** and **two-spotted spider mites**, as numbers can build rapidly under our current hot, dry and dusty conditions. A sampling plan for mites is given on p. 76 of the 2018 Cornell tree fruit guidelines, with a suggested treatment threshold corresponding to 5 mites per leaf at this time of the season.

Potato leafhopper. Maintain vigilance for signs of damage in nursery blocks and young trees. Feeding injury is characterized by V-shaped brown, necrotic patches at the leaf margins (particularly towards the tip of the leaf); if several feeding sites occur on a single leaf, the leaf may curl downwards. The adult insects are pale green, slightly wedge-shaped insects up to 3 millimeters long, while the nymphs can be

recognized by their ability to walk in a sideways (crab-like) fashion as well as forwards. There is no established treatment threshold for this pest, although it has been suggested that, in young trees (1–2 years old), treatment may be warranted at a level of 1 or more nymphs (on average) per leaf. If treatment is necessary, options include Avaunt, several pyrethroids, and various others.

In **pears**, continue to remove watersprouts to reduce the availability of succulent growth for **pear psylla**.

Fireblight. If removing fireblight strikes, remember to cut well back (~12") into healthy tissue. Keep in mind that fireblight cankers may still be active and oozing when conditions are warm and humid. In at-risk blocks, keep this in mind and restrict activities such as sucker removal, hand-thinning, etc., to periods when conditions are dry.

Both **powdery mildew and green aphids** should decline as terminals set and active shoot growth comes to an end.

Interest in FSMA is *GROWING* on New York State Farms! Get Your Farm FSMA Ready with a Confidential On-Farm Readiness Review

In preparation for the launch of the Food Safety Modernization Act (FSMA) Produce Safety Rule, the New York State Department of Agriculture and Markets together with food safety specialists from Cornell University, are offering confidential On-Farm Readiness Reviews (OFRR). A visit from the OFRR team will focus on working with you, the grower, to review your operation and offer suggestions for possible enhancements and/or modifications for successful operation within the Produce Safety Rule.

Benefits of Participating in a Review:

- Enhance your knowledge of the Produce Safety Rule
- Receive important recommendations to help you make a smoother transition into FSMA compliance
- Become better prepared for your farm's official FSMA inspection

All On-Farm Readiness Review visits are voluntary & confidential. Findings are shared only with the farm owner/grower who requested the review. Visits are already occurring throughout the state so call and schedule your visit now. You can contact the New York State OFRR team by phone: (518) 457-3846 or by email: steve.schirmer@agriculture.ny.gov

Is an OFRR right for you? You can contact Craig Kahlke at 585-735-5448 or cjk37@cornell.edu

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Grower Survey on the Cosmetic Diseases of Apples

Dr. Sara Villani, an apple pathologist at North Carolina State University, is seeking input from growers on the economic impact of cosmetic diseases of apple for a panel discussion at the American Phytopathological Society/International Congress of Plant Pathology Meeting in Boston at the end of July. Issues to consider include Sooty blotch/flyspeck, apple scab, powdery mildew, and non-mildew associated fruit russeting (e.g. *Aureobasidium pullulans* colonization, frost injury, and chemical damage). Responses will be kept as anonymous as possible (your name/farm name will not be associated with any of the presented data), although your location (state only) may be presented. All responses are optional. The survey can be accessed on-line at: FILL OUT FORM. Please contact Sara Villani with any questions at: smvillan@ncsu.edu

Mark Your Calendar

Meeting Title	**IFTA 2018 Summer Tour**
Dates	July 22-25
Time	All Day
Location	Kelowna, British Columbia
Cost	Varied, see website at : https://www.ifruittree.org/
Brief description of meeting	Annual Summer tour featuring cutting edge farms in an outstanding location
Registration/Contact information	See website at : https://www.ifruittree.org/

Meeting Title	**NextGen Young Fruit Grower Study Tour**
Dates	August 2-4
Time	Depart (via bus) WNY Thursday morning, travel home Saturday AM
Location	Adams County Region, Pennsylvania
Cost	See article in this issue or online info, partially subsidized by sponsors. Sponsors, online sponsorship here: https://lof.cce.cornell.edu/sponsorship.php
Brief description of meeting	See more details in this newsletter or on our website.
Registration/ Contact for information	Please **REGISTER online at: https://lof.cce.cornell.edu/event.php?id=957** **Note, if you previously pre-registered with Kim, please register online now** For more info or to be put on the Young Growers email list, contact Mark at mw883@cornell.edu, 315-272-8530

Meeting Title	**Western NY Hard Cider Tour**
Dates	Monday, August 6
Time	9 AM- 3 PM, with optional cider tasting in Rochester @ 3:30 PM
Locations	Wafler Nursery in Wolcott (Bill Pitts, commercial nursery production of hard cider varieties) , Lagoner Farms & Embark Ciderworks (Jake & Mitzi Lagoner, new hard cider plantings, and lunch), DeFisher Fruit Farm and Rootstock Ciderworks (Dave DeFisher, hard cider plantings at more traditional densities). After the conclusion of the educational program, there is an optional stop to taste local ciders at Müllers Cider House, Rochester.
Cost	Only $5! Please pre-register online for lunch count below
Brief description of meeting	Come visit the nursery and orchards of some of the first NY growers of European and American Hard Cider varieties.
Registration/ Contact for information	Only $5, includes lunch. Register online at: https://lof.cce.cornell.edu/event.php?id=962 For questions, more info or to be put on the Cornell PWT Hard Cider list, contact Craig at cjk37@cornell.edu, 585-735-5448

For additional information about upcoming events and registrations visit our website at

http://lof.cce.cornell.edu

Thanks to Our Sponsors!!!!!!

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Keith Culver

Cornell Cooperative Extension
Lake Ontario Fruit Program
12690 Rt. 31
Albion, NY 14411

Fruit Notes

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Fruit Specialists

Craig Kahlke I 585-735-5448 I cjk37@cornell.edu
Team Leader, Fruit Quality Management

Areas of Interest: Fruit Quality and factors that affect fruit quality before, during, and after storage,

Mario Miranda Sazo I 315-719-1318 I mrm67@cornell.edu
Cultural Practices

Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants, Gooseberries, Nectarines, Peaches, Pears, Plums

Tessa Grasswitz I 585-261-0125 I tg359@cornell.edu
Integrated Pest Management (IPM)

Areas of Interest: IPM of tree fruit and berry pests, biological control, pollinators, and impact of climate change.
Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants, Gooseberries, Nectarines, Peaches, Pears, Plum

Mark Wiltberger I 315-272-8530 I mw883@cornell.edu
Business Management

Crops: Apples, Cherries, Nectarines, Peaches, Pears, Plums

For more information about our program visit us at lof.cce.cornell.edu