Fruit Notes

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Cornell Cooperative Extension
Lake Ontario Fruit Program

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Dormant-Season Activities for Fruit Pest Management

Tess Grasswitz

Introduction

Harvest doesn't mark the end of the IPM year: there are still tasks that can be done in the off-season to enhance your pest management success next year. Pest management should be a dynamic process that is improved and refined by regular reflection, evaluation and forward planning. Winter is a good time to look back over the past season and decide what worked, what didn't, and (if possible), to determine why. Good growers are very observant: think about what you noticed this year in relation to your pest management problems: can your observations guide you to a different approach? What could you do better, and how? Consider, too, any anticipated changes, either on your own farm or in a wider context: for example, are there any market-related or regulatory changes that might affect your pest management program in the next few years? How could you be proactive in addressing them? Are you and your employees able to recognize new pests such as spotted lanternfly or European cherry fruit fly?

Winter is also an opportunity to evaluate and rectify any gaps in your IPM knowledge (for example, the biology of specific pests or diseases, the mode of action of different control chemistries or adjuvants, the applicability and timing of alternative control tactics, or how to use decision-support tools such as the weather-based models on NEWA). Identify your knowledge gaps and seek out resources and opportunities to overcome them—you may be able to earn pesticide applicator credits in the process. Several on-line courses covering a variety of pest management topics are available and are eligible for CEUs: for a current listing, please see http://pmepcourses.cce.cornell.edu/catalog?pagename=ny-credits).

Keep in mind, too, that pest management is impacted by crop management practices that are implemented for other reasons: for example, crop pruning and training systems can affect the growth and survival of pests and diseases, as well as the degree of spray penetration and coverage in different parts of the canopy. Similarly, fertilization practices can affect the susceptibility of the crop to pests and diseases, either through the direct effect of nutrients on the crop, or, more indirectly, through their effects on the composition and activity of the soil microbial community. Could adjustments to your crop management practices benefit your IPM program?

In addition to these strategic issues, there are also more immediate/short-term tactics that can be implemented during the dormant season. Cultural controls, such as sanitation, for example, are important components of integrated pest management that can also help prevent the development of pesticide resistance. Such tactics are particularly important for managing plant pathogens, as removing sources of overwintering inoculum can greatly reduce disease risk the following year. Depending on the disease, these tactics may include speeding the decay of fallen leaves, pruning out cankers and/or removing mummified fruit. A summary of the suggested approaches for dormant-season cultural controls of various pests and diseases of both tree crops and small fruits is provided in the accompanying tables.

Contents

In addition to cultural controls aimed at reducing overwintering populations of pests and diseases, improvements to the crop environment can be undertaken to help prevent problems next season. For example, correcting any drainage problems observed during the growing season will not only help reduce the risk of infection by root pathogens, but will also improve overall plant health and vigor—an important component in reducing crop susceptibility to pests and diseases during the growing season.

Summary of Suggested Cultural Controls by Crop

Table 1: Stone Fruits

Disease/pest problem	Control tactic	Rationale	Timing
Brown rot	Remove any fruit remaining on the tree after harvest (particularly in blocks with high disease levels). Avoid dumping rotten (cull) fruit in one location as it can become a focus of infection the following spring. If possible, bury culled or rotting fruit.	Reduction of over-wintering inoculum. Reduces risk of infection of adjacent blossoms the following spring.	Post-harvest
Black knot	Prune out and remove all shoots & branches bearing knots. Cuts should be made at least 6-8 inches below the knot. Burn, bury, or remove knots from the site. Remove knots from wild *Prunus* species (e.g. wild cherries or plums) in adjacent hedgerows.	Reduction of over-wintering inoculum.	Dormant season (before bud-break)
Cherry leaf spot	Rotary mowing of orchard floor after leaf drop.	Increase surface area of plant tissue to accelerate decomposition and reduction of over-wintering inoculum.	Just after autumn leaf drop
Scale insects	Train workers how to recognize different species. Inspect bark for overwintering scales and mark 'hot spots' for later treatments (e.g. with delayed dormant oils).	Dense overwintering populations are easier to see when no foliage is on the trees.	Scout, detect and mark infested trees any time over winter. Treatment can begin at delayed-dormant (e.g. with a dormant oil).

Table 2: Apples

Disease/pest problem	Control tactic	Rationale	Timing
[General pest and disease management]	Dormant pruning to open up the canopy.	Improve air circulation, accelerate drying and improve spray penetration.	Dormant season
[General pest and disease management]	Empty and clean apple bins that will be stored close to orchard blocks.	Reduce carry-over of pathogens from infected apples; eliminate any overwintering cocoons of internal fruit pests (e.g. codling moth) that may have exited infested fruit at harvest and which will emerge from the bin the following spring.	Before spring

Apple scab	Applications of 5% urea to newly fallen leaves on the orchard floor (40 lb feed-grade urea dissolved in 100 gallons of water per acre). If applying urea to control scab, reduce subsequent nitrogen fertilization to prevent over-fertilization.	Accelerates decomposition and reduction of over-wintering inoculum.	Autumn (as close to leaf fall as possible; urea can also be applied to fallen leaves on the orchard floor).
Apple scab	Flail mowing to chop leaf litter & dropped fruit.	Increase surface area of plant tissue to accelerate decomposition and reduction of over-wintering inoculum. (Urea + flail mowing can reduce inoculum by approx. 90%)	Late autumn
Fire blight	Dormant pruning to remove over-wintering infections (cankers). Make cuts at least 6 inches below any signs of dead bark (up to 12" if the canker edge is unclear). Remove & burn pruned material. Check orchard at a different time of day after initial pruning to more clearly see any cankers missed the first time.	Reduction of over-wintering inoculum. Also reduces sites conducive to the proliferation of white rot, black rot, bitter rot and *Nectria*.	Dormant season
Black rot & White rot ('Bot' rots)	Remove dead wood (including spurs & twigs), mummified fruit and cankers from affected trees. Remove prunings & burn them, or rake and chop them with a flail or rotary mower (piles of current-year prunings on the edge of the orchard can serve as sources of infection next season).	Reduction of over-wintering inoculum.	Dormant season
Bitter rot	Either completely remove decaying fruit from beneath trees in affected blocks, or rake them to the row middles to accelerate decomposition.	Reduction of over-wintering inoculum.	Post-harvest
Apple powdery mildew	In small, young orchards with low numbers of infections per tree*, prune out any whitened terminal shoots. (*Not economic on a larger scale)	Removal of primary inoculum sources (i.e., flower & shoot buds infected the previous year).	Winter or early spring
Sooty blotch & flyspeck	Remove brambles from hedgerows next to orchards.	Removal of alternate (reservoir) host plants to reduce inoculum sources.	Dormant season
Cedar-apple rust	Remove any Eastern red cedars in close proximity to orchards.	Removal of alternate host plants to reduce inoculum sources.	Dormant season
Scale insects	Train workers how to recognize different species. Inspect bark for overwintering scales and mark 'hot spots' for later treatments (e.g. with delayed dormant oils).	Dense overwintering populations are easier to see when no foliage is on the trees.	Scout, detect and mark infested trees any time over winter. Treatment can begin at delayed-dormant (e.g. with a dormant oil).

Table 3: Blueberries

Disease/pest problem	Control tactic	Rationale	Timing
[General pest and disease management]	Prune out weak canes, twiggy growth & all dead wood.	Improve air circulation, accelerate drying and improve spray penetration.	Dormant season
[General pest and disease management]	Protect crowns of bushes from winter injury with mulches of wood chips or straw.	Winter injury increases susceptibility to many diseases.	Dormant season
Blueberry anthracnose	Remove and destroy any fruit remaining after harvest.	Reduction of over-wintering inoculum.	Post-harvest
Phomopsis canker and *Fusicoccum* canker	Prune out and destroy dead twigs and canes; cut as deeply as necessary to ensure complete removal of cankers.	Reduction of over-wintering inoculum.	Before bud break
Mummyberry	Remove fallen mummified berries from under bushes by raking, sweeping, or hoeing into row middles. Bury mummies under 1–2" of soil (by disking or cultivating), or by applying a 1-2" layer of mulch.	Reduced survival of over-wintering inoculum.	Dormant season (before spring)
Stem gall wasp	Prune out and destroy (e.g. by burning) any galls present (do not leave them in the field).	The wasp larvae overwinter in the galls, which are more easily seen and removed during the dormant season.	Dormant season (before spring)
Scale insects	Train workers how to recognize different species. Inspect bark for overwintering scales and mark 'hot spots' for later treatments (e.g. with delayed dormant oils).	Dense overwintering populations are easier to see when no foliage is present.	Scout, detect and mark infested plants when foliage is absent. Treatment can begin at delayed-dormant (e.g. with a dormant oil).

Table 4: Cane fruit (raspberries, blackberries, etc.)

Disease/pest problem	Control tactic	Rationale	Timing
Anthracnose/ Cane blight	Remove and destroy infected canes. Prune as close to the ground as possible.	Reduction of over-wintering inoculum.	As soon as possible after harvest.
Anthracnose/ Cane blight/ Spur blight	Remove and destroy wild brambles in hedgerows adjacent to plantings.	Removal of alternate (reservoir) host plants to reduce inoculum sources.	Dormant season.
Anthracnose/ Cane blight	Prompt removal of floricanes (those that have already fruited). Prune as close to the ground as possible.	Reduction of over-wintering inoculum.	As soon as possible after harvest.
Spur blight	Remove and destroy all old fruited floricanes and any infected first-year primocanes.	Reduction of inoculum sources.	Early winter (once canes are dormant), or early spring (before new primocanes emerge).

Orange rust (& various other pests & diseases	Eradicate wild brambles in hedgerows close to commercial plantings of crops susceptible to orange rust (e.g. black & purple raspberries, and most blackberry varieties). [Red raspberries are not susceptible to orange rust].	Reduction of inoculum sources/pest overwintering sites.	Before spring.
Cane borers	Remove and burn any canes with symmetrical swellings (usually 1–3" long and often close to soil level)	Larvae overwinter in the stem galls, which should be removed and destroyed before spring to prevent adult emergence	Before spring.

"Lessons Learned": End-of-Season Review is the Beginning of Next Season's Plan

Mark Wiltberger

All the fruit is harvested, snow has started to fall, and it's finally time to kick your feet up, eat some Thanksgiving turkey, and look forward to your holiday vacation somewhere warm.

Although it certainly time for a well-deserved rest, I've talked to some growers who take a few hours to look over the past season while their memory is fresh. The two things they take a look at are how the use of resources worked out this past season: primarily equipment and labor.

One grower sits with the farm team and discusses what equipment people think are a priority for next year. Team members may have a variety of perspectives on which equipment is most important. Talking about why a particular piece of equipment is important will naturally lead to talk about how operations are done. Discussions can be about new equipment to acquire (or at least, "new to you"), and also about likely maintenance that will be needed on existing equipment. You may also end up identifying equipment you no longer need and can sell or trade-in (and have some cash for the shiny equipment you would replace it with).

Discussing this can help to shape the necessary budget for acquiring and maintaining equipment, and start to take a look at the books to decide what is possible and what makes sense. Also, some equipment may take some time to order and ship, especially if it is from overseas. Additionally, over the winter you have time to maintain your existing equipment to assess whether it actually needs to be replaced instead of repaired.

The other grower told me they take a look at labor. While the season is fresh in your mind, you can remember with the team the times during the season you had an excess of labor and when you were in short supply. Perhaps you had a mismatch between the skills necessary for a field operation and the skills the workers had.

If you are considering H2A labor, this discussion can help shape your plan for when to apply for labor and the amount of labor you need. It can also help with any plans for training your workforce. Again, as with equipment, you can get an early start at looking at your budget for labor for the coming year. You can also take a look at your housing to check that it is sufficient to house the number of workers you are considering.

You may also wish to make an estimate of necessary replants and what action you need to take to have them available for next season or later. It may be a good time to assess your trellis system and whether you will need to make any significant purchases of trellis supplies to maintain the existing system.

In corporate or military or NASA parlance, this exercise is sometimes called "Lessons Learned". Although that could be construed as a negative way to look at it, the glass half-full would suggest that it is a way to build off of past experience to make the next year better, a process of continuous improvement. It can be a way to avoid a crisis of labor or equipment by doing some planning. Possibly it is a way to leverage the power and knowledge of the team to improve your farm, increase the enjoyment of working on it, and become more profitable.

Sexual Harassment Prevention: New York Updates the Model Policy, Training and Requirements

Richard Stup, Cornell Agricultural Workforce Specialist

Update: The New York State Department of Labor released translations of the model sexual harassment prevention policy and training. (https://www.ny.gov/combating-sexual-harassment-workplace/combat-harassment-translations). You will find it in Spanish, Haitian-Creole and five other languages.
The New York State Department of Labor released the updated model sexual harassment prevention materials (https://www.ny.gov/combating-sexual-harassment-workplace/employers).

Employers, here are your key action items for right now:

1. **Put your policy in place now.** All New York employers are required to have a sexual harassment prevention policy in place **beginning October 9, 2018**. Your policy must meet or exceed all of New York's requirements in the model policy. Most farms don't currently have a policy so it's OK to just use the state's model policy. There are a couple of things your should do to customize it for your farm:
    - Download the policy from the state's website in either PDF or Microsoft Word format.
    - Change the yellow highlighted "Employer Name" text to your farm or business name.
    - Designate a contact person. On pages 1, 2, 5, and 6 of the model policy there is yellow highlighted text that refers to the "person or office designated." You are supposed to insert the name or office of the person to whom any harassment complaints should be reported. In most farms this will be the owner, ideally you should list two people here so that the employee has an option of at least two people they could go to. (This is to avoid the situation where the person doing the harassing is the same person designated to receive harassment complaints.)
    - Print copies and provide to your employees or inform employees and give them electronic access to your new policy.
2. **Provide the "Combat Harassment Complaint Form."** Scroll down the state's website (https://www.ny.gov/combating-sexual-harassment-workplace/employers) to find the model complaint form, also in PDF and Word format. Incorporate this form into your handbook right after the sexual harassment policy or print copies and provide it to your employees.
3. **Customize and post** the "Sexual Harassment Prevention Poster" (https://www.ny.gov/sites/ny.gov/files/atoms/files/SexualHarassmentPreventionPoster.docx) in your break room or office. This is optional but it is a good practice.
4. **Plan to provide training.** We have **until October 9, 2019** to provide training for all employees, that's a welcome relief of one year thanks to the great input provided by farm organizations and other employer groups. Yes, that means all employees must get training, full-time, part-time, seasonal, permanent, H2A, managers, non-family, family, and that high school kid who runs the weed whacker in the summertime. Plan to have a refresher training once per year for all employees and to incorporate sexual harassment training into your new employee onboarding program.

All of the materials are available only in English right now. You will be in compliance if you put your policy in place in English for now. Later, when other translations are provided by the state, you will be required to provide the policy and training in a language that your employees can understand.

The post Sexual Harassment Prevention: New York Updates the Model Policy, Training and Requirements (http://agworkforce.cals.cornell.edu/2018/10/01/sexual-harassment-prevention-new-york-updates-the-model-policy-training-and-requirements/) appeared first on Cornell Agricultural Workforce Development. (http://agworkforce.cals.cornell.edu/)

A Quick Survey (4 Minutes Max) on Fire Blight & Current Management Practices - Please Respond!

Awais Khan, Cornell AgriTech

Dear NY Apple Growers:

A U.S. research team including plant pathologists, horticulturalists, and economists has been formed to address and improve fire blight disease management. We wish to apply for a USDA Specialty Crops Research Initiative proposal tackling stakeholder-driven applied objectives to develop region-specific optimal and sustainable best management options for blossom blight and shoot blight, to understand the economic impacts of these practices, and to deliver new information to growers in a timely manner.

The Team consists of:
Dr. George Sundin, Michigan State University
Dr. Jim Adaskaveg, University of California-Riverside
Dr. Awais Khan, Cornell University
Dr. Tianna DuPont, Washington State University, TFREC
Dr. Karina Gallardo, Washington State University
Dr. Frank Zhao, University of Illinois
Dr. Kerik Cox, Cornell University
Dr. Tom Kon, North Carolina State University
Dr. Sara Villani, North Carolina State University

We would like to request you to answer a short survey about fire blight on your farm and your current management practices. The survey is anonymous, to answer it:

CLICK HERE: https://cornell.qualtrics.com/jfe/form/SV_dp385clFPItcT6R

Thank you very much for your assistance!

Awais Khan (awais.khan@cornell.edu)

Cornell Seeks Input from Berry Growers with 2 Surveys

New York Berry Grower Pollination Survey

A proposed research project at Cornell University will involve planting and managing shrub willow next to berry crops to attract wild pollinators and to measure the 'spillover' effect of pollinators on berry yield (quantity and quality). As a preamble to this project, grower feedback is sought on the following:

- Use of managed bees (honey bees and bumble bees) for pollination services in NY berry crops
- Perceived need for improving pollination services in NY berry crops
- Likelihood of grower adoption of vegetation management strategies in non-crop areas to increase berry pollination.

If you are a NY berry grower, please answer 10 pollination-related questions in a brief, confidential Berry Pollinator Survey*. No information will be shared without your permission. (*The direct link to the Berry Pollinator Survey is: cornell.qualtrics.com/jfe/form/SV_2fuycOLqpAxuRVP)

The research is currently focusing on strawberry production in NY State. For further information, please contact Eric Fabio, esf56@cornell.edu.

Cornell Berry Grower Survey

Attention New York State berry growers - Help us better understand the current status and future growth potential of New York's berry industry, as well as identify the best approaches to support and developresources to help berry growers.

This survey, a collaborative effort between the New York Berry Growers Association and Cornell Cooperative Extension, will provide critical information needed to obtain additional funding from the State for research and extension efforts. Please click here for the survey: https://www.surveymonkey.com/r/YP22Y6K

Final Request for Winter Fruit School Topics

While we have some good topic suggestions, we could use more! What would you like to learn more about? Please email your suggestions to Liz Tee (emt44@cornell.edu) or Craig Kahlke (cjk37@cornell.edu). Would you like to discuss on the phone? Call Craig at 585-735-5448, or any of the other LOFT specialists. Save the dates – Monday, Feb 4 in Lockport, Tuesday, Feb 5 in Wayne County, location TBA. Stay tuned to our newsletter and website for more details. Sponsors, see the link for online registration now on our webpage at https://lof.cce.cornell.edu/sponsor_event.php?event_id=1023.

Thanks for your continued support. Without it, our events would not be possible.

Save the Date for the 2019 Becker Forum on Farm Labor

Farm worker housing, labor law compliance, and the federal guest worker program (H-2A) are key themes for the 2019 Becker Forum. The event will take place on Monday, January 14 at the Holiday Inn in Liverpool, New York. Employer compliance with new sexual harassment prevention laws will also be a prominent topic.

Featured speaker Lynn Jacquez, from the CJ Lake law firm in Washington, DC will address what policy positions to expect from the new Congress and the Administration in the year ahead. She will also address immigration enforcement trends and worksite issues that are important for farm employers.

Three presentations will focus on farm-provided employee housing. Nancy Hagopian from the NYS Department of Health will provide recommendations for improving existing housing. Ed Urbanick from Farm Credit East will discuss financing for construction and renovation of housing. A featured farm employer panel will discuss best practices for managing worker housing.

The forum will also provide information related to the H-2A guest worker program, including how some dairy farms successfully using it to access workers. Current changes in the H-2A program will be reviewed and information will be provided on how to effectively hire foreign-born workers through the program.

Attorney Michael Sciotti from the Barclay Damon Law Firm in Syracuse will inform farm employers about what they must do to comply with New York's new regulations on sexual harassment prevention policies and training.

At the end of the afternoon there will be an opportunity for questions and discussion regarding critical workforce issues. For a complete agenda and to register go to http://nysvga.org/expo/information/, or email nysvegetablegrowers@gmail.com.

PathStone Corporation is currently accepting applications for their 2019 On-Farm Housing Grant

This program is a matching grant of up to $2000 to repair and upgrade existing farm labor housing. Examples of eligible repairs include, but are not limited to: bathrooms, plumbing, laundry facilities, recreation rooms, upgrading kitchens and appliances, heating, floors, walls, windows, ceilings, doors and other major structural components. Special consideration will be given to projects that positively impact the quality of life for farmworkers during off work hours. Farm Owners must agree to provide $1 for every $1 provided by PathStone Corporation. This grant is available in Monroe, Wayne, Ontario, Orleans and Genesee counties. If interested, or if you have questions, please contact Susan Lerch at 585-546-3700 x3020 for an application. The application deadline is currently March 1, 2019 and the work will need to be completed by May 15, 2019. Please help us spread the word as we want to assist as many farms as possible!

Web-Based Training for Trainers of Agricultural Workers and Pesticide Handlers under the National Worker Protection Standard (WPS).

The Pesticide Educational Resources Collaborative (PERC) has released an on-line course for those who provide training for agricultural workers and pesticide handlers under the WPS. The course guides you through the necessary procedures to provide effective training on pesticide safety and is one way to become qualified to train agricultural workers and pesticide handlers under the WPS.

This is a self-paced on-line course that takes about 2–3 hours to complete; you will review learning modules, take quizzes, and complete a final exam at your own pace. Once you have successfully completed all the course requirements, passed the final exam (with the minimum passing score of 70%) and completed the course evaluation, you will be issued a WPS pesticide safety trainer certification. The course costs $35 and is available at: http://pesticideresources.org/wps/ttt/course/index.html

Completion of this course certifies you as a qualified WPS trainer of agricultural workers and pesticide handlers in the continental U.S, Alaska, Hawaii, Puerto Rico, Guam, and the U.S. Virgin Islands.

If you have any questions, please direct them to the PERC contacts listed below.

Suzanne Forsyth, PERC Director,
UC Davis.
Tel.: 530-757-8603
E-mail: spforsyth@ucdavis.edu

Kaci Buhl, PERC Deputy Director,
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SmartMarketing: How 'Bout Them Apples? Dyson School Releases Study Results on Direct and Indirect Economic Impacts of Apple Supply Chain in New York State

Mark Wiltberger

Todd M. Schmit, Roberta M. Severson, Jesse Strzok, and Jose Barros of the Dyson School of Applied Economics and Management, Cornell University, conducted a study on the direct and indirect economic impacts of the apple supply chain in New York State.
The economic impact of production agriculture and the food processing sector can be difficult to quantify and may even appear small relative to other sectors as investment in mechanization may reduce the number of jobs and payroll. The NYS Apple Association asked the question, "What does the apple industry contribute to the NYS economy?" Todd Schmit, Associate Professor, Cornell University with a team of researchers worked together to answer the question.

The results show $1.3 billion in direct contributions (total gross output) from the apple supply chain. The apple supply chain also created an additional $441.3 million and $314.3 million in indirect and induced effects, respectively. When the direct, indirect, and induced contributions are combined, we see that the apple supply chain contributed $2.1 billion to the industrial sales in NYS in 2016.
For full article follow this link https://dyson.cornell.edu/outreach/documents/smart-marketing-2018-09-2.pdf.

Increasing Irrigation Access/Water Availability & Reliability: Erie Canal and Streams Flowing North from the Canal

Elizabeth Buck, CCE Cornell Vegetable Program

A proposal for enhancing irrigation from the canal was a finalist in the NYS Canal Corporation's recent Reimagine the Canals Competition (http://www.canals.ny.gov/reimagine/irrigation.html). The proposal was submitted by the SUNY College of Environmental Science and Forestry, Cornell Cooperative Extension, and C&S Engineers. At the request of the Canal Corporation, a follow-up study is being conducted to 1) **identify farms with an interest in new or additional canal irrigation infrastructure** and 2) to understand the potential economic benefits of this new infrastructure to farms and the regional economy.

If your farm has an interest in adding new infrastructure that allows irrigation via the canal (either **directly from the canal or from streams fed by the canal**), we would be interested to **hear from you**. Please contact Steve Shaw from the SUNY College of Environmental Science and Forestry (607-435-9848 or sbshaw@esf.edu).

Feedback is sought from growers backing the canal in Erie, Niagara, Orleans, and western Monroe Counties **and from growers with current/potential irrigation access to the following streams**:

Niagara: Eighteenmile and some branches thereof, Johnson, and Jeddo Creeks.

Orleans: Beardsley, Fish, Jeddo, Johnson, Marsh (central/eastern Orleans County), Otter, East branch Sandy, and Sandy Creeks.

Monroe: Buttonwood, Larkin, Round Pond, and Sandy Creeks (no tributaries). Brockport, Moorman, Northrup, Otis, Salmon, and West Fork Creeks and their tributaries.

Mark Your Calendars

Meeting Title	**2019 Empire Producers Expo**
Dates	January 15-17, 2019 (Becker Forum on Labor is on January 14 at the Holiday Inn-Liverpool-see info this newsletter)
Time	All Day
Location	SRC Arena & Events Center, Onondaga Community College
Cost	Varied, see website
Brief description of	Annual statewide educational meeting for the commercial fruit &
Registration/Contact	See website at : http://nysvga.org/expo/information/

Meeting Title	2019 LOF Winter Fruit Schools
Dates	February 4-5, 2019
Time	All Day
Location	Monday, Feb.4 at CCE Niagara, Lockport; Tuesday, Feb. 5 in Wayne County, venue TBA
Cost	TBA, stay tuned to our website.
Brief description of meeting	Annual educational meetings for commercial tree fruit and small fruit growers in WNY
Registration/Contact	See website in January at: https://lof.cce.cornell.edu/

Meeting Title	2019 NASGA Annual Meeting & 9th North American Strawberry Symposium (NASS)
Dates	February 3-6, 2019
Time	All Day
Location	Orlando, Florida
Cost	Varied, see registration page on website
Brief description of meeting	Annual Educational Meetings & Symposium for Strawberry Growers in North America
Registration/Contact	See website at: https://www.nasga.org/n-american-strawberry-growers-conference.htm

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

http://lof.cce.cornell.edu

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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