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Fruit Notes

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Cornell Cooperative Extension
Lake Ontario Fruit Program

Volume 22 Issue 10 June 9, 2022

LOF Summer Tour – Tuesday, August 9th

Craig Kahlke

The final pieces of our summer tour are coming together. We will be visiting four farms in Eastern Orleans County. Stop 1: Kast Farms, Inc. Hosted by Brett Kast and family. Topics include herbicide trial updates, soil health, mating disruption, and comparison of NY1 on G.41 vs. M.9-337 rootstocks. Stop 2: Fish Creek Orchards, LLC. Hosted by Jose Iniguez and Jason Woodworth. Topics include the use of pneumatic defoliation machines for summer pruning and a demonstration of Vivid Machines technology. Stop 3: Lunch at the Carleton Fire Hall & Rec Center. Lunch will be provided by Frank Penna Catering. Growers and other tree fruit industry folks will have the opportunity to visit with sponsors and likely view several demonstrations of new precision crop load management technology. Stop 4: Orchard Dale Fruit Farm. Hosted by the Brown family and employees. LOF's precision work with our SCRI grant, Farm Vision, and Fruit Scout will be featured. Stop 5: Nesbitt Fruit Farms. Hosted by Shane Nesbitt and family. Topics include bloom thinning results on Honeycrisp with the use of the Pollen Tube Growth model, and on-farm nursery production. Note: There may be some minor changes to the itinerary.

Register now for proper lunch counts and handouts! The tour is free for attendees, thanks to sponsorship support.

https://lof.cce.cornell.edu/event_preregistration_new.php?id=1669

There are still sponsorship spots available. For more information, go to:

https://lof.cce.cornell.edu/sponsor_new_event.php?event_id=1669

You may also contact Craig Kahlke at 585-735-5448 or cjk37@cornell.edu.



Practical Crop Load, Rootstocks, and Nutritional Concepts for 'Honeycrisp' Production

Anna Wallis (MSU Extension), Mario Miranda Sazo (CCE LOF), and Bernardita Sallato (WSU)

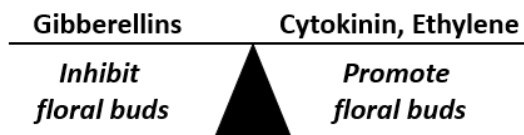
Crop Load Management

Why do we practice crop load management (in Honeycrisp)?

1. Control biennial bearing
2. Improve fruit size
3. Achieve desired fruit quality

How do we achieve successful crop load management and control biennial bearing?

Crop load management begins with understanding **floral bud initiation** (critical for Honeycrisp in June 2022). There are two competing forces in apple trees that control whether buds will become floral or vegetative. Gibberellins (GAs) inhibit floral bud initiation, while Cytokinins, ethylene, and other hormones promote it. GAs are produced in large quantities in the seeds, so the question becomes: how do we control 'seed load'?



To achieve the desired crop load, Dr. Robinson recommends the following program:

- Dormant pruning. Prune to a bud count 1.8x the desired crop load.
- Blossom thinning and early thinning. It is critical to remove blossoms and fruitlets as early as possible to reduce the seeds and gibberellins that are produced, before floral initiation during the period following bloom.
- Return bloom sprays. Use four sprays of ethephon beginning as early as 16mm, and repeating every 10 days. Be cautious when beginning early, as this will also lead to thinning (see details below).

Dr. Robinson's suggestions for Ethrel use in June 2022 (starting this week in WNY!)

- Start the first Ethrel spray when fruits are 16-18mm (approximately 21 DAFB). Estimated best timings are June 6-9 for

inland sites and late this week/during the coming weekend for lake sites in WNY

- Spray a dose of ½ pt. Ethephon per acre
- Do not spray if temperature will be over 80's on the day of spray or the next 2 days
- It is Ok to mix with CaCl₂ spray for bitter pit
- All Honeycrisp and Fuji should receive these Ethephon sprays even those with a light crop (the low dose and avoiding high temperatures will result in no thinning even on light cropping trees)
- After the first spray at 7–10-day intervals apply 3 more Ethephon sprays but with a higher dose of 1 pt./acre.
- Make sure the last Ethephon spray goes on by July 1
- After July 1, I suggest adding some NAA (4oz/acre) to each spray put on in July.

When does floral initiation occur in Honeycrisp?

Floral bud initiation takes place when bourse shoots slow down growth and set a terminal bud. Work by Poliana Francescato showed that this happens **early in Honeycrisp**, typically within 30 days of full bloom. In other varieties, floral initiation can be much later: for Fuji this is approximately 75-80 days after full bloom, Gala as much as 100+ days after full bloom. This difference is a key reason to thin early in Honeycrisp. Another good indicator of floral initiation is when the distance between nodes in the bourse shoot starts to shorten.

How is fruit quality influenced by crop load?

Overcropped Honeycrisp trees will produce smaller fruit with lower quality, including:

- **Poor Color.** Trees with the target crop load will have redder fruit than overcropped trees.
- **Delayed Maturity.** Overcropped trees will mature more slowly and may not catch up to the quality of well cropped trees. This was measured by DA index, quantifying chlorophyll content.

- **Decreased Dry Matter.** Trees with target crop load will have higher DM content. This is one of the most important qualities correlated with consumer perception.
- **Poor Return bloom.** Overcropped trees will have poor return bloom and associated poor quality.

There can be variability among rootstocks with respect to the effects of crop load on fruit quality. For instance, B.9 loses dry matter as crop load increases above desired levels. But this is not necessarily true for other rootstocks such as G.41 and G.935. Mineral content of fruit (e.g., K, Ca, Zn) is also affected differently by rootstock.

Rootstocks

What is the best rootstock for Honeycrisp?

The short answer is: it depends. When selecting a rootstock for any site, it is important to consider the scion, planting site characteristics (especially soils), orchard system, and climate. Over the past 20 years, a number of new rootstocks have become available, after rigorous testing through trials such as NC140 evaluations. ‘Designer rootstocks’, so called by Dr. Robinson and Dr. Gennaro Fazio that growers may choose to grow the tree well enough for their variety, their soil, their climate, so that it can fill the space by the end of the second year.

For Honeycrisp in particular, Dr. Robinson has outlined two primary goals: Select a rootstock that will 1) provide adequate vigor to balance the low-vigor scion and fill the canopy space in 2-3 years, and 2) produce high yields of bitter pit-free fruit.

Why are some rootstocks more susceptible to producing fruit with bitter pit?

Bitter pit is a complex disorder influenced by several factors, many of those factors are influenced by the rootstocks. One hypothesis is that some rootstocks are inherently more efficient at taking up potassium and nitrogen. This results in **higher K/Ca ratios**, resulting in higher bitter pit incidence. Dr. Essie Fallahi, University of Idaho, has indicated that larger rootstocks take up more water through the growing season leading to more

K and N uptake. This increases the nutrient imbalance in fruit and shoot/fruit ratio and is also known to affect fruit Ca partitioning. Vigorous rootstocks have higher shoot/fruit ratio and lower crop loads, leading to oversize fruit, shoot water demand and hormonal imbalance, all of which are predisposing factors for bitter pit susceptibility. (More on vigor and bitter pit in “nutrient management” section below.)

Which rootstocks are best for preventing bitter pit?

This question may be answered in more than one way. First, you can evaluate percent of fruit with bitter pit by rootstock. Budagovsky 9 (B.9) has earned a strong reputation for the **lowest percent of bitter pit**, According to Dr. Robinson’s data, B.9, G.30, G.65, and G.214 had the lowest observed bitter pit incidence compared with the highest in B.118, G.41, G.814, G.6210, and M.7. Intermediate levels of bitter pit have been observed in G.11, G.16, G.935, M.26, M.9 Pajam2, and M.9-337.

Alternatively, it may be more important to look at the **highest cumulative yield of bitter pit-free fruit** over time. This means evaluating percent bitter pit incidence, considering rootstock productivity. Dr. Robinson did this productivity adjustment by taking the recorded productivity per tree and multiplying it by “ideal” planting density, then subtracting the bitter pit percentage for each rootstock. Pit-free yield was reported as the calculated tons per hectare over a 14 year period. The “ideal” tree spacings were: 2 by 11 ft. for B.9 and G.65, 3 by 11 ft. for G.11, G.16, G.41, G.214, G.222, G.4202, G.5046, G.935, M.9 and M.26, 4 by 12 ft. for G.30, G.202, G.210, G.814 and M.7, and 6 by 11 spacing for B.118.

Based on this adjustment, rootstocks producing the highest bitter pit-free fruit were G.11, G.30, G.214, and G.935, which translated to a higher crop value. Data on bitter pit-free yield that included additional rootstocks also highlighted B.10, G.11, G.214 and M9-337 as better performers compared to B.9. Much of the work presented in this session was conducted in NY.

Table 1. Rootstocks which impart beneficial characteristics to 3 common apple varieties.

Characteristics that could use improvement	Fuji	Gala	Honeycrisp
	Too much vigor Biennial Color	Fruit size Productivity Color/maturity Fire blight	Weak vigor Biennial Fruit disorders
Rootstocks that have shown to improve Biennial Bearing	G.935, G.214, CG.5257, G.41, CG.4004, CG.4011		G.935, B.10, G.814, G.41TC, G.202, CG.4003
Rootstocks that have shown to lower (better) Potassium/Calcium ratio in fruit	CG.5257, G.222, G.935, G.814, G.214		CG.4003, G.214, G.16, G.814, G.969, CG.6001, CG.6976
Rootstocks that have shown to increase Fruit Size	G.11, G.41, CG.5257, G.222, G.935, CG.4004, CG.3001	G.11, G.41, G.814	
Rootstocks with improved Productivity	G.11, G.41, G.214, G.935, CG.4011, G.814	G.41, G.214, G.814, G.935, G.11, CG.4004	G.890, G.41, G.935, G.814, G.969

Nutrient Management

Nitrogen management – How much should be applied and at what time?

Adequate N is necessary for Honeycrisp, particularly because it is a weak growing variety. Most N is supplied by mineral content of the soil, provided mostly by organic matter. In highly demanding crops, N applications are necessary. The amount needed can range from 0-25 lbs actual N per acre on Honeycrisp, although this is highly dependent on yield per acre. Leaf analyses should be done annually to determine the amount. Take samples near the **end of June or early July**, before zonal chlorosis begins to develop (don't sample at the middle or end of July-early August!).

Nitrogen applications should be made early in the season when shoots are actively growing, and N demand is highest. This is prior to petal fall; after petal fall there is higher risk of increasing N levels in fruit.

- Fertigation: apply from pink to petal fall.
- Ground application: should be made in a split application, at bud break and again at petal fall.

Are post-harvest applications of N beneficial?

Post-harvest (early October) can be beneficial for Honeycrisp when vigor is low. At this time in the season, we do not have to worry about affecting fruit quality. Post-harvest applications will promote root growth and help replenish N reserves for early growth in the following season. Apply 3% foliar urea (25lbs/100 gal).

What is Bitter Pit and why does it occur in Honeycrisp so frequently?

Bitter pit is a physiological disorder, caused by an imbalance in calcium (Ca) in the fruit. Cell membrane integrity (stability) relies on Ca. When Ca is insufficient, cells become leaky and break down leading to cell death. Pits, typically seen in the calyx end of the fruit, are pockets of these dead cells.

Inadequate Ca in the calyx end of the fruit is the result of internal deficiency. Ca comes from the soil and then is transported and partitioned throughout the plant, via xylem with the transpiration flow:

- 1) It is taken up by the roots from the soil, along with other nutrients (K, Mg, N) and transported plant organs,
- 2) Then partitioned between transpiring organs: shoots and fruits,
- 3) Next it is transported through fruit from stem to calyx end, and
- 4) Finally, it is partitioned within the cell to the membrane and other cellular components.

In Honeycrisp, xylem functionality is reduced compared with low bitter pit cultivars like Gala, and less effective at transporting Ca. Other susceptible cultivars include Cortland, Cox Orange Pippin, Braeburn, Golden Delicious, Juici, among others.

How do rootstocks affect the risk of bitter pit?

Dr. Lailiang Cheng has indicated that some rootstocks (e.g., G.11 & G.41) are more efficient at taking up K compared to others (G.214 & B.9). If you are using a rootstock that is more efficient at K uptake you need to compensate for this by lowering the K supply to allow more Ca to be taken up. Honeycrisp requires lower K levels for optimum growth and fruit size compared to Gala. Dr. Cheng is recommending leaf K levels of 1.0 to 1.3% and fruit K levels of 0.5 to 0.7%.

What is the efficiency of Ca foliar sprays?

Calcium sprays have shown low effectiveness, ranging from 1 to 2% uptake. This can increase Ca levels in fruit by approximately 10%, which is insufficient to overcome Ca deficiencies at a cellular level in bitter pit susceptible cultivars. Dr. Lee Kalcsits has recommended focusing on crop

load and rootstocks and using Ca sprays as a complement to other practices.

What harvest and post-harvest practices should be used to manage bitter pit?

Fruit that is harvested at greater maturity is more susceptible, so fruit should be harvested at optimal timing and not delayed. Application of the PGRs ReTain™ and Harvista™ increase the risk of developing bitter pit. Controlled atmosphere storage, application of 1-MCP, and storage temperatures of 33F reduce the risk of BP.

How can I test my fruit for risk of BP?

Dr. Lailiang Cheng and Mario Miranda Sazo have conducted significant research to identify the best tissue and method for testing fruit for the risk of developing bitter pit. Peel sap (the water soluble nutrients in the peel) of fruitlets of 55 grams size was found to be the best indicator. It is the site of water transpiration, and higher concentration of nutrients including Ca, Mg and K end up in the peel.

The peel sap analysis method is currently being used by NY State to help growers predict BP risk. Research this season (2022) is being conducted in WA and MI to evaluate this method for other regions.

This video provides instructions to prepare samples for peel sap analysis:

<https://www.youtube.com/watch?v=hYCqEOFWANI>

We'll be providing you with forms for submission as we get closer to July.

Strawberry Mold Management During Harvest

Anya Osatuke, CCE Harvest NY

Strawberry season is just around the corner. We are seeing red fruit in early June-bearing varieties, such as Annapolis, AC Wendy, Earliglow, and

Galletta, and day neutrals such as Albion, Evie, Mara Des Bois, and Seascape.

Strawberries have a thin skin, and diseases such as gray mold can easily grow through that skin and cause market losses. While the primary way that gray mold enters a strawberry patch is through the open blossoms, we can prevent its spread after fruit set by limiting contact between moldy berries and ripe berries.

As berries are harvested, future disease in the patch can be limited by having two harvests, or assigning different tasks to members of the harvest crew. First, pass through a row and try to harvest only the marketable berries. Wearing disposable gloves can be particularly helpful in case a moldy berry is unintentionally handled. The moldy berry can be placed in a separate bucket for rots, and the gloves changed out for new ones. After the ripe and marketable berries are harvested, pass through the row again and remove any moldy, pecked, or bug-infested berries. Removing these berries second can prevent juices from dripping onto ripe berries.

Harvesting berries is a labor-intensive task, and incorporating a second harvest isn't likely to pay off in U-pick strawberry fields. If you can answer yes to several of these questions, consider allocating extra time to manually remove moldy and damaged berries from your fields.

- 1) Do you expect an increase in profits from berries that can last longer and/or ship to a farther location?
- 2) Have fruit rots been an issue on your farm in the past year?
- 3) If the berries are June-bearers, have you applied more than 30 lbs/acre of nitrogen fertilizer this spring?
- 4) Are you harvesting a variety such as AC Wendy that is likely to give multiple good harvests throughout the early season?
- 5) Does your field have wind blowing perpendicular to the rows, increasing chances of mold spores blowing into rows with later varieties?

Strawberry Harvest & Storage/Shipping Considerations

Craig Kahlke

Strawberry harvest will be underway shortly. Thus, now is a good time to discuss handling of the fruit associated with harvest and post-harvest activities. Strawberries are among the most perishable of all fruits, and thus it is critical that marketing channels are open before harvest starts. Strawberries are extremely susceptible to bruising, and rough handling at harvest and during any time thereafter will encourage fungal growth and decay. It is especially important that personnel be trained in the careful picking and handling of fruit. In addition, fruit quality declines as the season progresses, so the highest quality fruit will be earliest in the season. With varying degrees of ripeness in single plantings, it is also extremely important that the fruit is harvested as near peak ripeness as possible.

[Worker Hygiene](#)

From a food safety standpoint, (microbial contamination with the potential to cause foodborne illness) strawberries, raspberries, and blackberries are considered high risk. One reason is because often the last person to touch the fruit prior to it being eaten by the consumer is the picker, as postharvest on-farm washing soon after harvest reduces shelf-life considerably in soft berries. Therefore, proper worker hygiene training is paramount. Workers should ALWAYS wash their hands before entering the fields, and before/after eating and during breaks, prior to re- entry into fields. This needs to be an enforceable rule. Workers should be trained in proper hand-washing techniques, and always use soap and potable water, with single-use paper towels. There should be no smoking or eating in the fields, and there should also be designated areas for breaks/lunches

(these can be on the edges of harvest fields but not between the rows). Of course, the majority of our farms in the region must follow the federal FSMA regulations and voluntary 3rd party GAP audits, so food safety is already implemented in their operations.

Strawberries Destined for Direct Markets

Since most strawberry markets in the Northeast are consumed very close to the farms in which they are produced, many growers lack and may not need the cooling methods and storage facilities used by long- distance shippers such as those employed by the production areas in California and Florida. Direct market channels are ideal for many growers in the Northeast, as fruit loss is further accentuated from shipping from the farm to wholesalers, and from the wholesalers to retail markets. By bypassing wholesale shipping, fruit loss due to bruising and fungal decay can be reduced by an average of 20%. For optimum quality, it is critical that direct market fruit is harvested at or very near peak ripeness. Top quality strawberries should be fully ripe, with a uniform red color, be firm, flavorful, and show no signs of decay or disease.

Temperature is the single most important factor affecting shelf life of strawberries.

If cooling down to the recommended 32 F is an issue for growers, research shows that strawberries held at 50F storage at high humidity will benefit storage life greatly as compared to room temperature storage. In addition, strawberries at 50F tend to retain their color and glossy appearance better than berries stored at 32F. Many direct-market local growers claim approximately 90% of their strawberries are consumed the day they are harvested, thus in these cases, it is very critical that the berries be at peak ripeness. The berries are most often harvested in morning only when field heat is low, are usually then shipped out to markets on refrigerated trucks the same morning, reach the retail shelves by afternoon, and are bought and consumed within a day or two.

Strawberries Destined for Long-Distance Markets

For strawberries that are being transported beyond local markets, there are two factors that impact on maximum shelf life potential. First, the fruit will hold up better if they are harvested at the white tip stage, rather than fully ripe. Second, cooling is critical. As soon as harvest occurs, it is imperative that field heat is removed from the fruit. It is recommended that cooling is started within an hour of harvest. Ideally, 32F forced-air cooling with high humidity (90-95% RH) is recommended. Refrigeration without forced air can also be used; however, shelf-life will be shortened. Proper forced-air cooling removes field heat from fruit in 90 minutes or less, while simple refrigeration without forced air can take 7-9 hours.

Proper ventilation around, below, and above the fruit is essential for removing field heat quickly. Covering containers with plastic prior to cooling, and not removing plastic until berries are at room temperature for several hours after reaching market shelves will prevent condensation buildup on the inside of the packaging and delay fungal growth. It is estimated that for each hour delayed in cooling the fruit results in reducing shelf life of fruit by one day.

Following field heat removal, shipping on refrigerated trucks to market destinations is essential. If cold storage will be limited at market destination, as stated in the section on direct marketing, research shows 50F storage at high humidity will benefit storage life greatly as compared to room temperature storage. If all precautions are taken from harvest to cooling to storage, shelf life from harvest to market and on the consumer's table can be up to 10-14 days maximum for strawberries, but likely averages more like seven days in the Northeast. For growers interested in exploring the potential of longer distance markets, including more information on how

to set up an inexpensive forced-air cooling system for berries and many other types of perishable produce, please contact Craig Kahlke at 585-735-5448, or email at cjk37@cornell.edu.

Acknowledgments – I wish to thank the late Jim Coulter, Marvin Pritts and Chris Watkins for their help in providing information for this article.

Sign Up to Receive the 2022 Census of Agriculture Closes June 30

Donnie Fike, USDA-NASS, 518-457-5570

ALBANY, NY --- Agriculture producers who did not receive the 2017 Census of Agriculture and do not receive other USDA surveys or censuses have until June 30 to sign up to receive the 2022 Census of Agriculture at nass.usda.gov/AgCensus. USDA’s National Agricultural Statistics Service (NASS) will mail ag census survey codes for responding securely online to every known U.S. producer this November. Hard copy questionnaires will follow in December.

The ag census, conducted for over 180 years, remains the only source of comprehensive and impartial agricultural data for every state and county in the nation. It includes every operation – large or small, urban or rural – from which \$1,000 or more of agricultural products are produced and sold, or would normally be produced and sold, in the ag census year.

“The Census of Agriculture is a complete count of U.S. farms and ranches and the people who operate them,” said Donnie Fike, state statistician of the USDA’s National Agricultural Statistics Service (NASS), New York Field Office.

“Every response is important. The Census of Agriculture is only taken once every five years and documents the value of America’s rural and urban farmers and ranchers”.

On the NASS webpage, producers can also access frequently asked questions, explore past and current ag census data, access tools to help spread the word about the upcoming ag census, learn about ag census special studies, and more.

NASS builds its distribution list for every Census of Agriculture between and during ag census through the official sign-up webpage and multiple National Agricultural Classification Surveys. To learn more about the 2022 Census of Agriculture, visit nass.usda.gov/AgCensus, or call the NASS New York Field Office at toll free 800-821-1276.

NASS is the federal statistical agency responsible for producing official data about U.S. agriculture and is committed to providing timely, accurate and useful statistics in service to U.S. agriculture. USDA is an equal opportunity provider, employer and lender

Mark Your Calendars

Meeting Title	2022 Virtual Orchard Meetup Summer Series Orchard Efficiency: Labor and Technology
Date	Second meetup (with invited specialists discussing labor regulations and challenges) is next Thursday June 16. Two additional meetups are scheduled on June 30 and July 14
Time	7:00-8:30pm EST

Location	Meeting via Zoom Register Here or by following this link bit.ly/orchardmeetups
Cost	Free
Contact for Info/Registration	Mario Miranda Sazo (cell 315-719-1318; mrm67@cornell.edu)
Brief description of Meeting	Webinars will showcase growers and other specialists leading the development of these aspects of the industry. We will hear about their experiences managing the current challenges and participating in novel solutions.
Meeting Title	Premier Spring Spanish Fruit School
Date	Next Friday, June 17
Time	12:00-4:30pm
Location	CCE Orleans County Office, 12690 NY-31, Albion, NY 14411 (pavilion and indoor class)
Cost	Free, no registration required
Contact for Info/Registration	Mario Miranda Sazo (cell 315-719-1318; mrm67@cornell.edu)
Brief description of Meeting	This event will feature talks from Alejandro Calixto (New York State Integrated Pest Management), Mario Miranda Sazo (CCE Lake Ontario Fruit Program), and Mildred Alvarado (Cornell Small Farms Program).
Meeting Title	2022 LOF Summer Tour
Date	Tuesday, August 9 th
Time	All day
Location	Orleans County
Cost	Free, thanks to our sponsors
Contact for Info/Registration	Preregistration required for lunch counts: https://lof.cce.cornell.edu/event_preregistration_new.php?id=1669
Brief Description of Meeting	See article in this issue
Meeting Title	NASGA Summer Tour
Date	August 16 th -17 th
Time	All day
Location	South central Ontario, Canada
Cost	\$150-325
Contact for Info/Registration	https://www.nasga.org/n-american-strawberry-growers-summer-tour.htm
Brief Description of Meeting	See website above. They are visiting eight unique farms.

Cornell Cooperative Extension
Lake Ontario Fruit Program
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Contents

LOF Summer Tour – Tuesday, August 9th

Practical Crop Load, Rootstocks, and
Nutritional
Concepts for 'Honeycrisp' Production

Strawberry Mold Management During
Harvest

Strawberry Harvest & Storage/Shipping
Considerations

Sign Up to Receive the 2022 Census of
Agriculture Closes June 30

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Fruit Specialists



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

Areas of Interest: Fruit Quality and factors that affect fruit quality before, during, and after storage,
Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums



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

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



Janet van Zoeren | 585-797-8368 | jev67@cornell.edu
Integrated Pest Management (IPM)

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



Mark Wiltberger | 315-272-8530 | 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