



“Fruit Facts” – Wednesday, July 10th, 2024
Mario Miranda Sazo and Janet van Zoeren

**Mark your Calendars and plan to attend the upcoming Apple Social events,
to be held July 16th in Medina and July 31st in Williamson**

Please join us at this casual networking event for all apple industry folks from Western NY, proudly sponsored by Valent. There will just a brief introduction of the Lake Ontario Fruit Program. Each of the four specialists will share their programming areas, along with their current research and extension projects (3 minutes per person). The goal is to get folks meeting one another in a more casual environment than the usual structured educational programs. We would especially encourage young/new growers, processing growers, and folks who may not be very familiar with Cornell Cooperative Extension's Lake Ontario Fruit Program to join us.

Food and beverages will be available. Some new equipment will be displayed, including the latest in John Deere, with Erik Quanbeck of LandPro. Note to vendors - if you are interested in displaying any equipment at either venue, please contact Craig Kahlke (contact info below).

Come when you can, stay as long as you'd like!

Please preregister at https://lof.cce.cornell.edu/event_preregistration_new.php?id=1953 or with Craig Kahlke by phone/text (585-735-5448) or email cjk37@cornell.edu.

Save the Date
2nd Western New York Fruit Grower Tour
Tuesday, August 13, 2024

**The tour will be conducted in Orleans County and will feature the following fruit farms:
Toussaint Farms, Zingler Farms, Circle R Fruit Farms, and Orchard Dale Fruit Farm
Stay tuned for more details soon!**

To Do Today

- **Last hand thinning reminders:** We recommend that you count total fruit per tree on 5-10 representative trees in each block and reduce fruit number (via hand thinning, ideally with a platform) to the most profitable crop load (your targeted fruit number per tree). Hand thinning will be necessary in blocks where final fruit set (desired number of fruit/tree at harvest) is still relatively high in the tops of the trees.
 - Early hand thinning will help somewhat to mitigate biennial bearing in Honeycrisp, where floral initiation is earlier than the rest of the cultivars. Please review the recommendations for return bloom sent in previous Fruit Facts.
 - Early hand thinning will also improve fruit size in small-fruited varieties like **NY-1 and Gala**.
 - Take advantage of your platforms to get hand thinning done quickly and more efficiently this season.

- **Avoid the common mistake of excessive crop loads in years 2 to 4 which leads to too little tree growth** (varieties differ in their biennial bearing tendency and this must be incorporated into the crop loads allowed on young trees).

Cultivar ¹	Growth Habit	Biennial bearing tendency	Crop load per tree after hand thinning
Honeycrisp ²	Weak growing cultivar	Biennial	2 nd year: 12-18 apples 3 rd year: 20-35 apples 4 th year: 40-70 apples
Fortune, Fuji, Golden Delicious”, Jonagold, Mutsu, Spy	Strong growing cultivar	Biennial	2 nd year: 16-20 apples 3 rd year: 25-40 apples 4 th year: 65-80 apples
Gala, Empire, Mac, Rome, Idared	Medium growing cultivar	Annual (more reliable bearer)	2 nd year: 20-25 apples 3 rd year: 30-50 apples 4 th year: 80-100 apples

¹ For **NY1 trees** which had moderate or poor growth in the first year or were planted on a weak rootstock, these trees should be de-fruited because fruits will outcompete with overall tree and shoot leader growth for carbohydrates and water.

² Please remember that hand thinning in Honeycrisp should start not later than @ 38-42mm. It is critical and should be done for good return bloom next year.

- **Sudangrass and buckwheat have different properties, so the management goal and field condition will determine which is the right for you:**
 - **Sudangrass** is often chosen for **improving soil organic matter**. It produces a strong root system and lots of biomass. The deep root system helps reduce subsurface hardness. Sudangrass is also a good choice for reducing root-knot nematode pressure.
 - Sudangrass is suitable for short, 8-10 week plantings. Seeding rates are 30 lbs/acre for biomass and nematode control and 50 lbs/acre for weed control.
 - Seeding rates are June through mid-August (for sudangrass)
 - Seeding rates are July through mid-August (for sorghum-sudangrass)
 - This grass grows very fast, so keep an eye on it. Mow the first time when it reaches 3 feet and the second time while the flail mower can still chop it well.
 - If sudangrass gets too big to control, it will be killed by frost and make a nice winter mulch. However, the biofumigant effect will be lost.
 - Sudangrass needs a final flail mowing and immediate incorporation to suppress nematodes.
 - Please notice that we have seen good results with the additional strip-seeding of radish tillage (by around August 10-15) in the future in-row spacing of an orchard to be planted the following spring.
 - **Buckwheat** is best known for **weed suppression and mellowing the soil**. It covers the ground earlier than sudangrass, especially if seeded in early June, and outcompetes weeds that may establish in sudangrass. Sudangrass requires a higher seeding rate for effective weed suppression.
 - Both cover crops should be mowed after about 40 days. This is the end of the season for buckwheat, but the beginning of major root growth for sudangrass.
 - To avoid volunteer buckwheat seed, kill the crop before there are filled green seeds on the plant. This takes about 40 days from a July planting or 50 days from a June planting.
 - Buckwheat seed is available from some local farm seed retailers and is relatively cheap. The variety does not matter, and many suppliers don’t identify any variety. A bag is enough to seed an acre.
- **In previous Fruit Facts, we have mentioned that there is an opportunity to mix the sorghum sudangrass with cowpea or sunnhemp to get some nitrogen into the soil and maximize the sudangrass biomass this 2024 season.**

- If you have any doubt about this new recommendation and/or how to get the best use of cover crops during pre-site preparations this summer, don't hesitate to contact Dr. Deborah Aller (Cornell soil health specialist for tree fruit perennial systems) to da352@cornell.edu and/or call 631-902-1582 (cell phone).
- **We are getting to the end of the window for leaf sampling collection for Honeycrisp in WNY (don't collect/submit leaves with severe leaf chlorosis):** In the last four years we have recommended that growers collect Honeycrisp leaf samples for nutrient analysis about one month earlier than traditionally suggested dates for other apple varieties in early to mid-August. This season the optimal timing for leaf sampling collection is finishing **this week** in WNY. There are two reasons for this early leaf sampling:
 - Honeycrisp trees typically stop their shoot growth by the third week in June, earlier than many other apple varieties.
 - Development of zonal leaf chlorosis affects leaf nutrient concentrations, particularly leaf nitrogen status.
- **Growers should start implementing mechanical summer pruning of 2-D Tall Spindle and start first Premier Honeycrisp trees:** We encourage growers to target their mechanical summer pruning time 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 timing approach to mechanical summer pruning has become a more practical method. Therefore, for large fruited varieties like **Honeycrisp** (where we intentionally want to control or reduce an excessive fruit size at harvest) we recommend an "early" timing for mechanical summer pruning. Under current WNY weather conditions, a mechanical summer pruning program should be started for Premier Honeycrisp this week (after the summer solstice).
 - A "late" timing should be used for small fruited varieties like **NY-1** and **Gala** to avoid a negative effect on crop size reduction before harvest. Varieties like Gala, Ambrosia, NY-1, and NY-2 should be done approximately 2 to 3 weeks before harvest to facilitate the use of platforms and/or equipment for harvest.
 - Medium fruited varieties should be mechanically summer pruned after Honeycrisp and before Gala to have the same controlling effect on fruit size (from about July 15 until early August).
- **Increased water holding capacity is an important characteristic for high yields of high quality fruit in Western NY:** It is even more crucial in blocks without trickle irrigation.
 - At the beginning of this 2024 summer, a mature spindle tree needs around 4-5 gallons of water per day to keep up with tree evapotranspiration needs.
 - Water stress can lead to small-sized fruit and calcium disorders, like bitter pit in Honeycrisp.
 - Young trees need only small @ 2-3 gallons/tree/day, 2-3 times per week, but frequent doses of water for additional tree growth this year.
 - Focus irrigation on small-fruited varieties like Gala and continue "babysitting" NY1 with frequent but small amounts of water applied at least 2-3 times per week, providing 2-3 gallons per tree as minimum.
 - With this hot weather watch irrigation needs also for new plantings. New plantings can stop growth if irrigation is not applied (if available at your farm). Please remember that irrigation is an essential tool for maximum tree growth on new plantings.
 - Frequency of irrigation depends on soil type. With sandy soils, water should be added either daily or every 2 days. With silt or clay soils, the daily amount of water needed can be added up for several days.
 - Please remember that any lack of rainfall coupled with a heat can affect growth of a weak tree and fruit growth rate at this stage.
 - **Remember, if irrigation fails, fails nutrition (including the needed soil calcium uptake for Honeycrisp!).**
- **We are getting to the end of the window to prune one-year old shoots in the orchard and the nursery:**
 - This recommendation is applicable for almost any grafted orchard situation (side-grafted, top-worked, or beaver-grafted), green or 'ellepot' trees planted in previous summers, plant-in-place projects (budded or bench-

grafted trees established in previous seasons), multileader trees, and for the 'grow-through' apple tree nursery production method.

- You can prune the one-year old shoots and leave them with a stub of 4-fingers length (for all at the top and some in the middle of the tree). Leave a longer fruiting unit especially at the bottom of the tree if they have 2-3 flower buds. Use your own hand or 'una cuarta' in the Spanish language (shown in previous drawings in the Fruit Facts) to guide the length of the pruning cut. The fruitful fruiting units after this type of pruning should be 12-16 inches length (according to the in-row spacing or the space between leaders/root if it's a high density grafted orchard).
 - Always favor/produce a more tubular type of tree via pruning now.
- **Listen Scaffolds Podcast (last episode was posted this week!)** if you are interested to learn more about this type of pruning that we have been discussing in the last two weeks. Check the following link: <https://open.spotify.com/episode/0oJyXBRlghBsWlwagesqB1>
 - A single **apple maggot fly** was trapped in Orleans county this week, on a baited red sticky sphere. If you plan to monitor for apple maggot, hang traps now. The threshold for a baited trap is a cumulative 5 apple maggot flies per trap. Apple maggot management options include the diamides: Altacor (5day PHI) and Exirel (3day PHI), neonicotinoid: Assail (7day PHI), organophosphate: Imidan (7day PHI), and the pyrethroids: Baythroid (7day PHI) and Danitol and Mustant Maxx (both 14day PHI).
 - **Japanese beetles** are beginning to congregate on trees, and skeletonizing the leaves as they feed. The gold standard for JB is Sevin XRL Plus (3day PHI), which should be rotated with Imidan (7day PHI), Assail (7day PHI), or Mustang Maxx (14day PHI).
 - **Woolly apple aphid** populations have been expanding rapidly with the heat the past couple of weeks! They are now easy to see in the leaf axils of affected blocks. Manage WAA problem blocks now, before they have time to build up large colonies that can protect the center aphids from any contact with a spray. WAA can be controlled by Beleaf (21day PHI), Sefina (7day PHI), Sivanto Prime (14day PHI), Versys (7day PHI) at this timing. **Coverage is critical** so drive slow and use a high gallons per acre.
 - **Summer diseases** such as **sooty blotch and flyspeck, black rot, white rot and bitter rot** are now a main focus as we move into mid-summer.
 - Products that are effective for SBFS, and black, white, and bitter rots include Flint Extra (14day PHI), Inspire Super (14day PHI), Luna Sensation (14day PHI), Merivon (0day PHI), and Pristine (0day PHI).
 - **In general, fungicide covers for the rots go on every 14 days**, but remember that 1.5" of rainfall would trigger a re-cover (rule of thumb, varies some by product).

Stone Fruit

- **Spotted wing drosophila numbers are very high in cherry orchards this week!** Plan to get fruit off the trees as soon as possible, and keep insecticide coverage tight. View the [quick guide of products used for cherry fruit flies and swd](#) and remember to rotate modes of action!
- **Oriental fruit moth** larvae are expected to hatch this week, so the management window (in peaches!) is beginning. Mating disruption provides season long management of OFM, but the window for applying mating disruption has closed. Larvicides registered for use in peaches with high efficacy for OFM include the diamides: **Altacor** (10day PHI) **Exirel** (3day PHI) and **Verdepryn** (7day PHI), neonicotinoid: **Assail** (7day PHI), and the spinosyn **Delegate** (1day PHI).

Good to Know

Organic matter tends to act like a sponge: It holds water and nutrients in the soil and releases them slowly over time. Soil scientists report that for every one percent of organic matter content, the soil can hold 16,500 gallons of tree-available water per acre of soil down to one foot deep.

- **Increased water holding** is an important characteristic in our soils of Western NY. It is even more crucial in blocks without trickle irrigation. At this time of the year, a mature spindle tree needs around 4-5 gallons of water per day to keep up with tree evapotranspiration needs. Water stress can lead to small-sized fruit and calcium disorders, like bitter pit in Honeycrisp. Young trees need only small @ 2-3 gallons/tree/day, 2-3 times per week, but frequent doses of water for additional tree growth this year
- **Soil organic matter acts like a bank for soil nutrients.** Think of each of the negative charges on an organic matter particle like a **parking spot** for a nutrient ion. Cationic nutrients, such as calcium (Ca^{2+}), are parked and ready to be knocked out into the soil solution where tree roots can access them. Root exudates from tree's rootstocks help "knock" nutrients into solution by trading these nutrients (such as calcium) with hydrogen ions. The higher the cation exchange capacity (CEC), the more of these parking spaces for nutrients are present in the soil. More nutrients can then be held instead of being washed away into deep soil layers where trees cannot access them.
- Organic matter not only banks nutrients but also supplies **nitrogen through mineralization**. Organic matter contains about five percent nitrogen, and two to four percent of this is mineralized every year. For example, a soil with three percent organic matter can make available sixty pounds of nitrogen per acre every year (as long as soil organic matter is maintained).

Every effort has been made to provide correct, complete, and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide. Copyright 2024. All rights reserved. No part of this material may be reproduced or redistributed by any means without permission. Cornell Cooperative Extension provides equal program and employment opportunities.

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