Cornell University
Cooperative Extension

Lake Ontario Fruit Program
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"*Fruit Facts*" – Thursday, June 17 2021

You can still register for the second 'Honeycrisp Meetup'.

Note: In the first meetup we had over 200 participants and discussion was so active that we continued for nearly two hours. This week we have extended the webinar to 90 minutes in total.

Topic: Rootstocks
When: Thursday, June 17, 2021 - Today
Time: 7-8:30 PM (EST)
Registration link: https://lof.cce.cornell.edu/event.php?id=1544

All recordings of the previous Honeycrisp meetup on crop load management are available at:

https://mailchi.mp/wsu/virtual-honeycrisp-meetup-1305592?e=31e182fde1

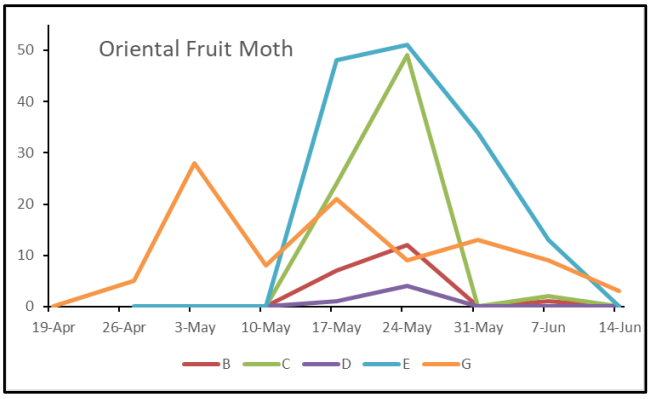
Our previous zoom meetings and much more is on our YouTube channel at:
https://www.youtube.com/channel/UC6PXjEkx7nLDY1A81Ek5brQ

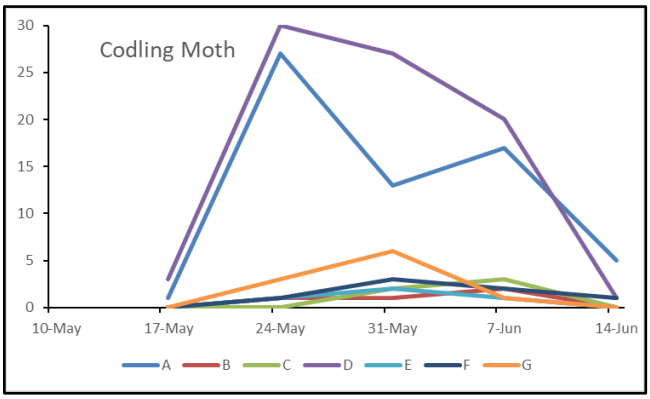
IPM Notes...*Janet van Zoeren*

Internal Leps

Oriental fruit moth first generation flight is basically finished (see below). The second generation flight will begin soon. No application is necessary at this time.

Codling moth is also tapering off the first generation flight, and the first application for caterpillar control should have gone on already, with a second application to come ~10-14 days later. This second application will continue to control the first generation of caterpillars, and so should be made using the same material as your previous CM application. Some good options for this first generation CM are the group 28s (Altacor, Exirel, Verdepryn), although there are many other options (i.e. Assail, Delegate, Imidan, Mustang Maxx).





Oblique banded leafroller flight begun last week, and some feeding damage on the outside of fruitlets has been observed. DDs are at 150-180, which is still a week or two away from optimal timing for a larvicide.

European Corn Borer. Begin scouting young plantings (especially nurseries) for browning leaves and dying terminal shoots. ECB is a sporadic pest but can be devastating when it does show up if not caught early. Cover sprays will control ECB in bearing blocks, so focus on scouting non-bearing and nursery blocks. More info can in Peter Jentsch's June 2020 blog post.

Fire Blight has begun showing up, especially in parts of Wayne County. **If you have any reason to believe you may have Strep resistance in your orchard, please contact me (contact info below) or Kerik Cox's lab, to have it tested!** If you find fire blight in your orchard, you may want to consider applying prohexadione-calcium (i.e. Apogee, Kudos) at the highest rate for the planting (6-12 oz/100 gal, or 3-6 oz/100 gal for young orchards). This will shut down shoot growth, but may save the tree. Allow 5 days for the product to take effect, then prune out any shoot blight strikes. Avoid additional streptomycin applications after bloom, unless an infection event is predicted.

San Jose Scale crawlers are moving. Ideally, monitor for the bright-orange crawler emergence using black sticky tape (inside out electrical tape) on a branch of an infested tree to time your application for the beginning of crawler activity. Esteem, Centaur, Imidan, Admire Pro, Assail, Voliam Express, Endigo ZC, and Leverage 360 are effective products. You will likely need a follow up application 7 to 10 days later. A review of SJS management can be found in Peter Jentsch's 2017 blog post.

Mites. Consider scouting the underside of leaves for European red mite. If you find high populations, there are a bunch of highly effective products you can use: Agri-Mek, Apollo, Onager, Savey, Zeal, Kanemite, Nexter, Portal, Acramite, Envidor, Nealta, or Banter. If you already applied for ERM, be sure to rotate to a new IRAC code.

Powdery mildew. Continue to cover for PM approximately every 14 days until terminal bud set, rotating models of action. Options for PM include **Rally, Topguard, Flint, Sovran, Fontelis** and others.

Pear.

Pear psylla. If you had any signs of psylla this spring, continue monitoring through the summer. For summer monitoring, examine ~ 10 recently expanded shoot leaves per tree on ~5 trees per block. The action threshold during the summer is an average of 1.5 nymphs per leaf. We recommend you remove water sprouts from your pears trees in late June in blocks susceptible or at threshold for psylla. This will remove their best summer food source, keeping populations in check. If a spray is necessary, be aware that most of the products that are effective against psylla will have off-target effects on natural enemies, so be aware of you the costs and benefits.

Fabraea leaf spot. If you have had Fabraea in your peach block previously (note Bosc is especially susceptible), you will want to keep trees covered now through July 4th. Options include Topsin M, Ziram, Manzate and Syllit.

Stone Fruit.

Peach Diseases (rusty spot, bacterial spot, brown rot). Captan, Miravis, Inspire Super, and Merivon will control brown rot and peach scab. Be sure to rotate active ingredients to delay resistance. The addition of a copper (i.e. Cueva) will help blocks with a history of bacterial spot.

Any questions about pest management, please call or email me: jev67@cornell.edu, 585 797 8368.

Horticultural Notes…Mario Miranda Sazo

Tonight is the second 'Honeycrisp meetup' on rootstocks (June 17, 7-8:30pm): For the last three months, we have envisioned to have a nationwide conversation about best rootstock choices for Honeycrisp with fruit growers, extension educators and scientists this summer. With so much new information generated through the R2F project about this topic, there is a tremendous value in having an open discussion and in an inclusive virtual format this summer. Tonight webinar is accessible and free to all to participate. Please visit our website (see above link) and register today.

Example questions and rootstock summary tables: The below questions provide some ideas for you to ask tonight. I have also provided rootstock summary tables you should review before the webinar. Please have your questions ready for the Q&A sessions!

- What rootstocks you think is more drought tolerant?
- Differences between rootstock brittleness. Susceptibility to damage at planting?

- Hi Dear Panelist: You mentioned that the right rootstock is really the root of a grower's success, and growers can achieve far greater success if they avoid a few common mistakes.
    - Can you please mention the three common mistakes to avoid when selecting a rootstock?
- Can you suggest best rootstock options for organic production of Honeycrisp:
    - In WNY?, Hudson?, Champlain?
- Rootstock trials with Honeycrisp have shown that zonal chlorosis can range from 10 to 68%. Trees on PiAu 9-90, from Germany, have tended to have severe chlorosis. Rootstocks that tended to have little chlorosis (less than 45% averaged over all locations in all years) included B.10, B.7-20-21 and B.70-20-20. The commonly planted Malling and Geneva rootstocks tended to be intermediate.
    - What is the cause of zonal chlorosis in Honeycrisp? Can you explain how rootstock choice affect zonal chlorosis?
    - When is the best timing for leaf tissue collection and analysis based on zonal chlorosis development in the leaves? Why this timing is different than for the rest of the cultivars?

Questions from info shown in the 'Rootstock Summary Tables' (see below Tables 1 and 2):

- Can you mention rootstocks that can improve biennial bearing of Honeycrisp?
- Can you suggest rootstocks that have shown to lower Potassium/Calcium ratio in Honeycrisp fruit?
    - Why is this choice so important?
- Which rootstocks can improve productivity of Honeycrisp?
- What rootstocks do you recommend for a Honeycrisp orchard located:
    - On a virgin soil in WNY, Hudson, Champlain?
    - On a replant soil in WNY, Hudson, Champlain?
    - For organic production in WNY, Hudson, Champlain?

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

Characteristics that could use improvement	**Fuji** **Too much vigor** **Biennial** **Color**	**Gala** **Fruit size** **Productivity** **Color/maturity** **Fire blight**	**Honeycrisp** **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

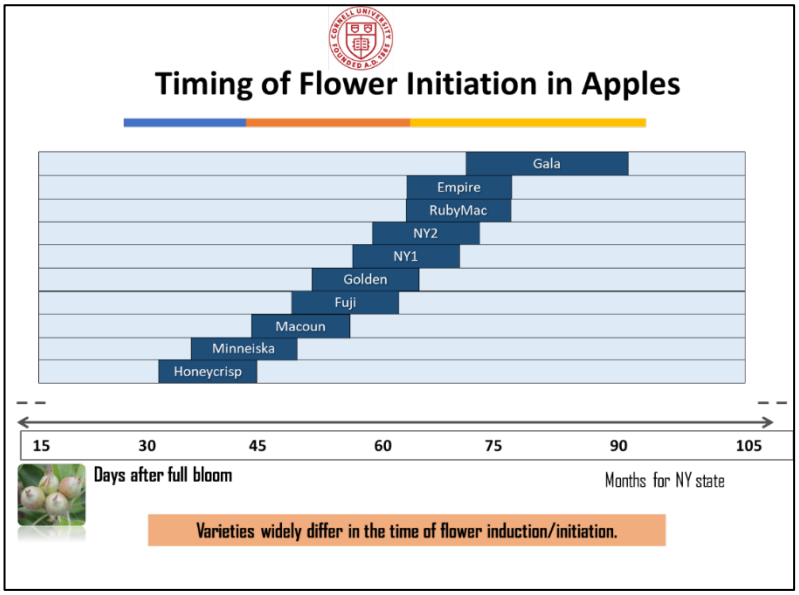
Table 2. Rootstock recommendations for two production regions in NY State based on performance and availability in 2019.

Western NY and Hudson Valley	**Fresh Fruit Orchard (3x11ft)**	**Processing Orchard (5x14ft)**
	Rootstocks ranked by 1st, 2nd, 3rd, and 4th choice	
Strong variety on virgin soil	G.11, G.213, G.41, G.214	G.41, G.214, G.935, G.814
Weak variety on virgin soil	G.41, G.214, G.935, G.222	G.969, G.814, G.210, G.202
Strong variety on replant soil	G.41, G.214, G.935, G.814	G.969, G.890, G.210, G.202
Weak variety on replant soil	G.969, G.814, G.935, G.890	G.969, G.890, G.210, G.202
Very weak varieties (spur types) on replant soil	G.969, G.890, G.814, G.202	G.969, G.890, G.210, G.202
Organic production	G.969, G.890, G.210, G.202	G.969, G.890, G.210, G.202

New Cornell recommendation for an 'early' kick-start to flower bud initiation for Honeycrisp (see below graphic): Two weeks ago we sent the last issue of our CCE LOF newsletter (issue 8, please review your inbox!). There you should read the article titled "New recommendation for Return Bloom sprays applied in 2021 for good repeat bloom in 2022" by Dr. Robinson. His article has a significant amount of information and good physiological principles for you to understand why Honeycrisp, especially in the 'on' year, may benefit by incorporating this new practice. More details about this new recommendation were also discussed at the rescue thinning meeting (review the recordings in the YouTube channel).

Suggestions for return bloom sprays in 2021:

- For mildly biennial varieties spray 4 sprays of Ethrel (1pt/100) or 10ppm NAA beginning when fruits are 25mm in diameter at 10 days intervals (probably beginning June 10)
- For strongly biennial varieties (Honeycrisp and Fuji) spray 4 sprays of Ethrel beginning when fruits are 16mm in diameter at 10-day intervals (first 2 sprays ½ pint/100 and last 2 sprays 1pt/100). Follow the Ethrel sprays with 2 more sprays of 10ppm NAA



The Lake Ontario Fruit Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extension Associations in Monroe, Niagara, Orleans, Oswego and Wayne counties.