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Lake Ontario Fruit Program
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"*Fruit Facts*" – Friday, March 28th, 2025

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Don't Forget to Sign Up for the 2025 Fruit Facts!

Please make sure to sign up for a Fruit Facts subscription when you enroll in our program via your county office, if you wish to continue to receive Fruit Facts this year. In addition, there were some issues with emails bouncing last year, so if you do not receive any Fruit Facts newsletter next week, and think you should be receiving them, please reach out to Liz Tee asap (emt44@cornell.edu).

Respirator Fit Testing April 17th in Wayne County

If you live in Wayne county, there will be a fit testing clinic for you on April 17th in Pultneyville. There are still time slots available between 10am-3pm.

You must register before April 8th by contacting Janet van Zoeren at 585 797 8368 or jev67@cornell.edu.

You will receive a respirator medical certification, fit testing and training on the proper use of respirators for each applicant.

- $90 per person, checks can be made out to 'Finger Lakes Occupational Health Services'
- Must have a respirator with clean particulate filters for each person
- Individuals must be clean shaven where the respirator seals to the face.
- Paperwork can be requested ahead of time at Donna_Lawrence@URMC.Rochester.edu , if completing paperwork at the clinic arrive 10-15 minutes early to complete paperwork. Paperwork is also available in Spanish.

Phenology Updates

Phenology Update for Tuesday, March 28:

Growing Degree Day & Green Tip Prediction Model Updates…by Craig Kahlke
Continued cooler temperatures are in the forecast for the next 10 days, with most days having highs in the upper 40's and low 50's. This forecast differs quite a bit from the one 24 hours ago which showed more temperatures in the upper 30s and lower 40s. If this forecast holds, we should see bud development progressing. We are at or close to silver tip now, and we are still significantly behind last year at this time. The chilling and heat unit model from NC, as tweaked by Dr. Terence Robinson, is showing large variation in predicted green tip dates, which appears to be site dependent. I consider 2 of the stations I looked at as reliable. The Medina NEWA site is predicting green tip for early varieties (Idared, NY2, Ginger Gold, Zestar!, etc.) on **April 4**. Mid-to later varieties are predicting green tip on **April 7**. Quite a few NEWA sites are predicting green tip on the mid-to late season varieties **6-11 days after the early varieties**. This is due to the cold temperatures forecasted. My best guesstimate is for early cultivar green tip at most sites occurring between **April 4-8**, and **April 7-14** for the rest of the cultivars. Stay tuned for updates!

To Do Today

- If you need to send anyone for the **"Special Permit"** handlers course, to be able to apply certain restricted use pesticides, those courses will be offered in-person on April 7th (Wayne county) and April 9th (Orleans county). Register today by following the above links.
- Do you need a **respirator fit test** for anyone on your farm? There will be a fit test clinic in Pultneyville (Wayne county) on April 17th. To register anyone for that clinic, or to learn more, email me at jev67@cornell.edu.
- Check your **pesticide inventory.** Will you be able to source any products (including herbicides and mating disruptors) that you need?
- **Any blocks that have reached green tip begin to have a risk of apple scab infection events** with the weekend rains. Prioritize blocks with green tissue showing when making your copper applications, and get those sprays on this morning if possible.
    - A silver-tip application of a high (>15%) metallic copper equivalent (MCE) copper fungicide (e.g. **Badge, Kocide, Cuprofix**) will help clean up apple scab and fire blight inoculum in bud scales, as well as protecting against scab ascospore release for the following 7-10 days. You can make this application through green tip, and **this morning** would be a good window.
- Record green tip dates at several blocks/varieties around your farm, to use in the NEWA models this summer.
- **First evaluations of vegetative buds versus floral buds and pruning of Honeycrisp:** A quick evaluation of several branches on several trees found in site 1 (30% vegetative versus 70% floral), at site 2 (72% vegetative versus 28% floral), at site 3 (49% vegetative versus 51% floral), and at site 4 (8% vegetative versus 92% floral).
  Dr. Robinson's pruning suggestions:
    - The blocks with >50% floral buds (site 1, 3, and 4) should be pruned normally, or by following the precision pruning program of leaving 1.8x the total number of target fruit per tree, and factoring in the percentage that is floral. Let's use site 1 as an example. Assume we want to end up with 100 apples per tree. 1.8 times 100 is 180. Since only 70 percent are floral, we then divide 180 by 0.70 to arrive at 257 total buds should be left on each tree.
    - Site 2 should be pruned more lightly, removing only one to two large limbs per tree.

On The Horizon

- We've still got time to find a good window for an **oil spray**, which can be applied until ½" green or later. **Next weekend (April 5-6) *might* be a good window for horticultural oil.**
    - **No oil within 10 days of any Captan or Sulfur applications!**
    - **Avoid oil when temps are below 40F,** and when there are **below freezing temperatures forecast** in the two days prior or two days after application.
    - A 2-3% oil application will help with **mites**, **San Jose scale, aphids** and **pear psylla.**

- **Choosing the right soil for your Honeycrisp block**

  Which soils are the Honeycrisp soils? Those we used to call "McIntosh soils'
  We do know that many soils that are not perfect can be managed and modified to grow good apples. But the key point that I want to emphasize this morning is that not all those good soils are good for Honeycrisp. The best soils for Honeycrisp are not too fertile, they are not too high in potassium and this last aspect is a key thing. They are similar to what we used to call 'McInstosh soils'. We almost forget about it, but we had growers that for many years did not put a drop of nitrogen for 20 years and they still grew good Macs.

  The most important soil characteristics for Honeycrisp
  Soil drainage is one of the most important. And growers should be tilling at least every 30 feet across the field. But

the most important factors are soil pH and soil organic matter because higher organic matter soils give too much nitrogen. But too high soil potassium content is a problem too. It is important for bitter pit incidence. And soil calcium content is also important because it is directly related to bitter pit.

What we have learned about Honeycrisp and nutrients

- Honeycrisp requires less K than other varieties for optimum fruit quality
    - Too much K results in bitter pit
    - Soils with high amounts of K are difficult to manage successfully with Honeycrisp
- Honeycrisp requires high amounts of Ca for optimum fruit quality
    - Low Ca results in bitter pit
    - Soils low in Ca can be managed successfully but require high additions of lime
- Honeycrisp requires less N than other varieties
    - High N results in poor fruit color and increased bitter pit
    - N fertilizer inputs must be limited but many growers use N to obtain adequate tree growth to fill the space and then suffer from high bitter pit.
    - Soils with high organic matter, can supply too much N to Honeycrisp and result in bitter pit

Types of soils and their impacts on Honeycrisp

- WNY soils
    - Relatively high in pH
    - Relatively high in Ca
    - Moderately high in K
    - Moderately high in Mg
    - Easy to prepare for Honeycrisp by small additions of calcitic Lime
- Appalachian soils
    - Relatively low in pH
    - Relatively low in Ca
    - Relatively low in K
    - Relatively low in Mg
    - Difficult to prepare for Honeycrisp. They require high additions of lime
- Western US soils
    - Very high in pH
    - High in Ca
    - Very high in K
    - High in Mg
    - Impossible to prepare for Honeycrisp. They have too much K and Mg and don't need lime.

Effects of soil organic matter on Honeycrisp

- WNY soils
    - Relatively high in organic matter (3-5%)
    - Each 1% of organic matter produces ~20 lbs N per acre each year
    - Easy to prepare for Honeycrisp by additions of almost no N
    - However, soils that are high in organic matter are difficult to manage with Honeycrisp
- Appalachian soils
    - Moderately levels of organic matter (1-3%)
    - Easy to prepare for Honeycrisp by additions of moderate amounts of N
- Western US soils
    - Very low in organic matter (0.1-0.5%)
    - Easy to add nitrogen but often over-applied in the West
    - Western growers often 'push' young trees with 200-500 lbs/acre of N

Conclusions

1. The natural levels of pH, soil Ca and soil K have a large effect on Honeycrisp fruit quality especially bitter pit
2. Some soil characteristics are hard to change and may take 20+years to influence
    - High K levels decline slowly over time
    - High organic matter produces excess N and declines very slowly

3. Performing soil tests before planting and thoughtful plans for soil modification are essential for successful Honeycrisp

- Pre-loading the soil with the proper amount of Ca is essential
- Increasing soil pH to 7.2 will make overall performance of Honeycrisp higher

New Preplant and Maintenance Soil Preparation Recommendations for Maximum Honeycrisp Tree Performance (remarks presented by Dr. Terence Robinson at the recent Honeycrisp intensive school in Syracuse).

Soil targets for Honeycrisp:

Soil pH

- Raise pH to 7.2-7.3
- Soil organic matter
    - 2-3% Organic matter
    - Every 1% of organic matter generates about 20 lbs N per year
    - Soils high in organic matter (>4%) will have greater tree growth but more bitter pit
- Soil Ca content
    - Target 5,000-6,000 lbs per acre
- Soil K content
    - Soil K content should be 15-20X lower than Ca content.
    - In the past we have suggested that the ratio of Ca:K of the soil should be at least 15:1
    - For Honeycrisp, we suggest the ratio of Ca:K should be 20:1
    - High K content results in large fruit size but high bitter pit
    - Most corn growers put on little K so planting Honeycrisp on corn ground is often desirable

Target of 5,000 to 6,000 lbs of calcium per acre for Honeycrisp:

- High Ca content in the soil will help ensure that the maximum amount of Ca will be deposited in the fruit (depending on the many factors that influence Ca uptake and movement into the fruit each year).
- Since both K and Mg are involved in high incidence of bitter pit, it is desirable to apply only calcitic lime ($CaCO_3$) to Honeycrisp blocks (avoid dolomitic lime which has Mg).

Maintenance plan for soil calcium:

- The pre-plant loading of the soil with Ca will last for several years.
- To maintain soil Ca levels at 6,000 lbs/acre, add 1-2 tons of calcitic lime every 2-3 years beginning in year 4.

Target of soil K or Mg content per acre should be 15-20X less than Ca:

- If Ca content is raised to 6,000 lbs /acre then K or Mg should be ~300 lbs/acre

Other recommendations for pre-plant soil modification:

- Add P preplant as Mono Ammonium Phosphate ~125 lbs MAP
- MAP is 52% P_2O_5 thus 125 MAP=65 lbs P_2O_5
- Other elements such as B and N can be added as a part of the annual fertilization

Conclusions:

1. Apple trees grow very well at pH's above 7.0 We suggest a target pH of 7.2-7.3.
2. Lime applications before planting can be plowed down and are more effective than lime applications after planting (Ca as lime moves down in the soil about 1 inch per year)
3. Target 5,000-6,000 lbs of Ca /acre
4. Apply ~60 lbs of P before planting and plow it down since P moves very slow in the soil.
5. Apply K sparingly if needed.
6. Add 1-2 tons of lime every 2-3 years beginning in year 4.

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 2025. 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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