

# Cornell Cooperative Extension Lake Ontario Fruit Program

in Monroe, Niagara, Orleans, Oswego,  
and Wayne Counties

## SAP Analysis Submission Form

### CONTACT INFORMATION

Farm Name \_\_\_\_\_

Phone \_\_\_\_\_ Cell \_\_\_\_\_

Name \_\_\_\_\_

Email 1 \_\_\_\_\_

Address \_\_\_\_\_

Email 2 \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Number of Blocks Sampled for Analysis \_\_\_\_\_

### SAMPLE INFORMATION please write or check appropriate boxes for each block sampled (4 per form)

To ensure sample is processed include on each sample bag FARM NAME, GROWER NAME, BLOCK NAME, CELL/EMAIL, & SAMPLING DATE

Block Name \_\_\_\_\_

Block Name \_\_\_\_\_

Date Sampled \_\_\_\_\_ Orchard Age \_\_\_\_\_

Date Sampled \_\_\_\_\_ Orchard Age \_\_\_\_\_

Grafted  no  yes, over \_\_\_\_\_

Grafted  no  yes, over \_\_\_\_\_

Rootstock  G11  G41  G935  M9  M26  B9  
 other (please list) \_\_\_\_\_

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 other (please list) \_\_\_\_\_

Strain  regular  colored  early

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Soil Type  light  medium  heavy

Soil Type  light  medium  heavy

Soil pH  low  medium  high

Soil pH  low  medium  high

Bitter Pit History  None  low  medium  high

Bitter Pit History  None  low  medium  high

Hand Thinned at time of fruitlet collection  no  yes

Hand Thinned at time of fruitlet collection  no  yes

Irrigated  no  yes Year  on  off

Irrigated  no  yes Year  on  off

2020 Crop Load  light  medium  heavy

2020 Crop Load  light  medium  heavy

2020 Calcium Program  no  yes, # of sprays \_\_\_\_\_

2020 Calcium Program  no  yes, # of sprays \_\_\_\_\_

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For sampling questions please contact Mario Miranda Sazo [mrm67@cornell.edu](mailto:mrm67@cornell.edu) or 315-719-1318

### PAYMENT INFORMATION

**\$15 per sample**

Invoice for number of samples submitted \_\_\_\_\_ x \$15/sample = \_\_\_\_\_

Pay Online [https://lof.cce.cornell.edu/event\\_preregistration\\_new.php?id=1445](https://lof.cce.cornell.edu/event_preregistration_new.php?id=1445)

For payment questions please contact Craig Kahlke [cjk37@cornell.edu](mailto:cjk37@cornell.edu) or 585-735-5448



Cornell University

## Sampling and Submission Protocol for Taking 'Honeycrisp' Peel Tissue for Sap Analysis in July



Figure 1. Sample collection for Honeycrisp should be conducted at the average fruit weight of 50-55 gm/fruit (or golf ball size). It is expected that most Honeycrisp blocks in the Lake Ontario Fruit region will reach this size sometime in the week of July 13-17 in 2020. The picture shows a comparison of Honeycrisp fruits collected on June 25 with golf balls. The fruits were collected on June 25 and averaged 22 gm/fruit and 36.54mm in fruit diameter. Golf balls used for this comparison measured 42.6mm.

[Fruit Bites: Collection & Submission Protocol](#) on YouTube

1. During the week of July 13-17, 2020, select 30 trees that represent all the trees in 'Honeycrisp' block of interest and sample one exposed fruit per tree from the south part of the tree canopy at the height of 5' to 7' from ground, and put all the fruits in a plastic bag.
2. Clean the surface of the sampled fruits with a wet paper towel with purified bottled water that you can buy at any store (Aquafina, purified water brand names from Tops, Wegmans, etc.), squeeze off extra water, and wipe off any residue on the fruit surface.
3. Use a kitchen peeler to remove two pieces of peel on two opposite sides of each fruit from the stem end to the calyx end (Figure 2), and place them into a well labelled Ziploc bag with a permanent marker (include farm/grower name, block name, cell phone/email contact information, and sampling date). After finishing all the fruits, zip the bag tightly to prevent any moisture loss.



Figure 2. A front and top view of one Honeycrisp fruit peeled from stem end to calyx end. Both peels should be submitted for the sample. Growers should peel 30 fruits for the peel sap analysis.

4. Place the Ziploc bag in your freezer immediately.
5. Visit the CCE LOF website, complete submission form for your Honeycrisp peel sample, and **pay \$15 dollars/sample**
6. A member of CCE LOF team will pick up your frozen sample(s) and will transport them for peel SAP analysis at Cornell Nutrient Analysis Lab in Ithaca.
7. Peel SAP results will be reported to Honeycrisp growers who electronically submitted their samples via the CCE LOF website within 2 weeks (or 10 days).

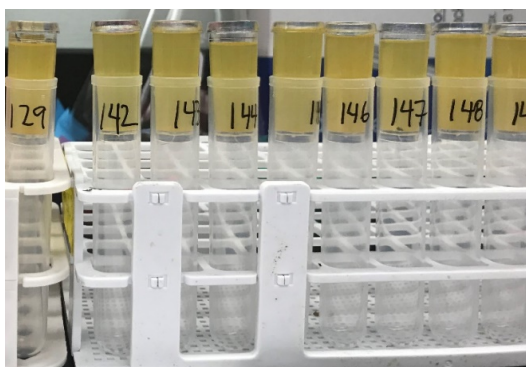


Figure 3. Freshly squeezed peel sap from Honeycrisp fruit samples collected from several research plots in July 2019. Peel sap is ready to be analyzed in Cornell Nutrient Analysis Lab with an ICP (Inductively Coupled Plasma)

This new diagnostic test analyzes peel sap squeezed out of peel tissue for all nutrients (macro- and micronutrients) with the exception of nitrogen and carbon (new analytical methods are being developed for this purpose at CALS analytical lab.). It is intended to compliment the traditional leaf analysis in early August and dried fruit peel analysis at fruit harvest. The Cornell peel SAP test measures the water soluble portion of the nutrients in the peel tissue that are released from the freshly squeezed peel tissue after freeze and thaw (Figure 3). Our results indicate that this method can detect nutrient imbalances sooner and more accurately for early prediction of bitter pit on Honeycrisp. This method is faster and much less expensive to run in the lab. For more details about this new Cornell analytical method, please contact Dr. Rutzke at 803 Bradfield, 306 Tower Road, Cornell University, Ithaca NY 14853, [mra9@cornell.edu](mailto:mra9@cornell.edu), cell (607) 327-2349, work (607) 255-1722.

We hope all Honeycrisp growers in cooperation with their packing and marketing company, will submit a sample from each Honeycrisp block in WNY for peel SAP analysis via CCE LOF to CALS analytical lab this season!

