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### Storage Meeting Key Takeaways Michael Basedow, Daniel J. Donahue, and Craig Kahlke

The following sheet discusses the key takeaways from Dr. Watkins's storage meeting held on Friday August 27. If you would like to view the PDF of the PowerPoint for Chris's data and additional recommendations, you can view the document at the following link: <u>https://</u>rvpadmin.cce.cornell.edu/uploads/doc 991.pdf

#### Gala

- PGR's (ReTain and Harvista) beneficial for delaying development of stem end flesh browning.
- 0.5% oxygen beneficial by delaying development of stem end flesh browning.
- 1% carbon dioxide is recommended.
- 1-MCP does not have consistent effects on stem end browning.
- Storage at 38°F reduces incidence compared to 33°F, but due to other quality concerns, we do
  not yet recommend storage at 38°F.
- Conditioning as carried out for Honeycrisp can work, but would require yet another management step.
- Delayed CA is still uncertain, but if you do try it, you should probably use 1-MCP with it.

#### Honeycrisp

- Do not apply PGRs to high bitter pit risk blocks.
- Follow standard postharvest recommendations for conditioning (50°F for 7 days, followed by storage at 38°F), unless you are following prediction models that suggest you have a high risk of bitter pit.
  - If bitter pit risk is greater than 30%, fruit should be cooled rapidly and stored at 38°F.
  - Only fruit with predicted bitter pit risk of less than 10% should be marketed immediately.
  - Do not market fruit with higher than 10% bitter pit risk within the first month as it continues to develop over time, with negative effects in the marketplace (conditioning this fruit will cause rapid development of bitter pit, and is recommended to allow bitter pit to express before marketing).
  - Where bitter risk is very high (above 50%), consider storing fruit at 33°F without conditioning for short term periods (less than a month, and only fruit in the Hudson Valley). Fruit must be carefully monitored, such as tasting several fruit per block to detect alcoholic off-flavors at weekly intervals.

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 1-MCP use should be carefully considered depending on history (be aware of interactions with preharvest 1-MCP).

#### Empire

- 2% O<sub>2</sub> / 2% CO<sub>2</sub> still recommended atmospheres (perhaps slightly higher if using manual CA control).
- If you are using DPA, no concerns about CO<sub>2</sub> injury.
- If not using DPA:
  - Rigid protocol as low as possible CO<sub>2</sub> in storage for first 4-6 weeks, but then must bring up to 1-2%.
  - Preferably delay 1-MCP treatments to 7 days.
  - Remember Harvista and ReTain increase risk of CO<sub>2</sub> injury.

### NY-1 Air Storage

- 38°F for storage temperature.
- 1-MCP is not recommended, but with a timing consideration (very little SEFB with or without 1-MCP after two months in air storage.
   1-MCP exacerbated SEFB after 4

months of air storage.

### NY-1 CA Storage

- 38°F for storage temperature.
- 1-MCP is not recommended.
- Possibly delay CA storage at least 7 days after last fruit are placed in the room. 1-MCP might then be useful to

maintain quality, but more work is required.

• DCA has potential to provide 1-MCP like benefits.

#### Evercrisp

- Greasiness was delayed at 33°F compared with 38°F, and 1-MCP treatment also delayed greasiness.
- 1-MCP treatment increased core browning development at two storage temperatures.
- Current storage recommendation is 38°F without 1-MCP.

#### NY-2

- DPA or 1-MCP needed for control of superficial scald.
- 1-MCP effects on disorders have not been significant.
- Conditioning effects on disorders not significant, except for softer fruit.
- DCA provides control of physiological disorders and sometimes fruit quality, with no negative effects detected.



Stem-end browning of 'Gala' apples. https://nyshs.org/wp-content/uploads/2017/12/Watkins-Pages-9-14-from-NYFQ-Fall-Book-2017.pdf

## Late Season Pest Considerations

## Art Agnello, Cornell University (retired); and Michael Basedow, CCE ENYCHP

With harvest now underway, there are just a few remaining pest management duties worth mentioning.

Of greatest potential concern are probably the **internal leps**. We have seen an uptick in oriental fruit moth activity this past week. We always see a third "flight" of codling moth, which normally doesn't result in larval populations of any consequence, but this year's extended stretch of favorable temperatures may carry that generation's development further than normal.

Therefore, to be cautious, we shouldn't rule out the possibility that blocks with a history of internal worm problems might need a lastminute application of an appropriate-length PHI material to help stave off the final feeding injury caused by young larvae. Before the



harvest period begins in earnest, a fruit examination could help determine whether the last brood of any of the likely species needs a final deterrent before the sprayer is put away. Potential choices (and PHIs) include Altacor (5/10 days, pome/stone fruits, respectively), Assail (7 days), a B.t. (0 days), Delegate (1 day, peaches; 7 days, apples/pears/plums), Exirel (3 days), Besiege (21/14 days, pome/ stone fruits, respectively), Minecto Pro (28/21 days, pome/stone fruits, respectively), a pyrethroid (PHI varies), or a sprayable pheromone (0 days), as applicable.

# Weekly season long OFM and CM captures in our Saratoga and Clinton county trapping sites (below and on page 3).



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**Apple maggot** adults are also continuing to emerge, albeit we are now past their peak activity, and have been catching them at below management thresholds. Should they be needed, possible lateseason options include Assail, Imidan (both 7 days), Altacor (5 days), Avaunt (14 days), Delegate (7 days), Exirel (3 days), and various premixes and pyrethroids.





Unlike last season, this appears to be more of a light year for **stink bugs**, including Brown Marmorated Stink Bug. However, management thresholds have been exceeded in portions of Ulster County this week, so keep an eye on your traps and trees on the orchard perimeter to prevent late season fruit damage. When

thresholds are exceeded or stink bugs become visible along the orchard edge, applications should begin. Border-row applications should be the first line of defense, followed by alternate-row

applications, and finally whole orchard applications. Wholeorchard applications should be made if nymphs are found further within the orchard. **Review your options** carefully with regards to harvest dates, PHIs, reapplication intervals, and seasonal a.i. amount maximums. Growers in Columbia, Dutchess, Orange, and Ulster are able to use the Bifenthrin products Bifenture 10DF,



Clear panel trap used for catching stink bugs. Photo: Steve Schoof, NCSU

Bifenture EC, and Brigade WSB through a Section 18 approval for BMSB. Note that bifenthrin has a 12 hr REI, and a 14 day PHI. Growers outside of those counties in need of BMSB control will need to rely on products such as the pyrethroids, the neonics, or some pre -mix products. Most of these products are rated as moderate efficacy. A full list of materials is available on pages 150 and 151 of the Cornell Tree Fruit Guidelines. (Special thanks to Peter Jentsch for

his stink bug management recommendations. Additional management information can be found in his recent <u>blog post</u>

here.)



External (left) and internal (right) damage to apple fruits due to BMSB feeding. Photo: Douglas C. Pfeiffer, Virginia Tech.

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A couple of less common last-minute pests can surface in certain cases. One is **western flower thrips**, particularly in nectarines growing in drought-stressed areas. Adults move from alternate weed or crop hosts to fruit just prior to and during harvest, feed on the fruit surface in protected sites, such as in the stem end, the suture, under leaves and branches, and between fruits. This results in silver stipling or patches; injury is particularly obvious on highly colored varieties. An application of Delegate or Entrust immediately before the first harvest may prevent subsequent losses; however, an additional application may be needed if pressure is severe. The PHI



varies from 1 day (peaches and nectarines) to 7 days (plums and prunes) to 14 days (apricots). Other options include Besiege, Endigo, and Voliam Flexi.

Western flower thrips adult. Photo: E. Beers

The **black stem borer** ambrosia beetle can still be found playing out its final few weeks of flight, although the literature indicates that this brood is probably not responsible for new infestations, so any direct treatments for this species probably should be deferred until next spring. However, it's not too early to begin removing any dead and dying trees having confirmed infestations, to eliminate them as a potential source of attacks next year. Pull out the roots as well, and burn all affected wood.

Another season-end problem that may deserve consideration now is **pearleaf blister mite**, a sporadic pest of pears that shows up in a limited number of commercial pear orchards and is a fairly common problem in home plantings. The adults are very small and cannot be seen without a hand lens; the body is white and elongate oval in shape, like a tiny sausage. The mite causes three distinct types of damage. During winter, the feeding of the mites under the bud

### EMR Model Hudson Valley Honeycrisp Bitter Pit Prediction Overview for 2021 Daniel J. Donahue, CCE ENYCHP

Figure 1. (right) Summary EMR model bitter pit prediction performance for nineteen Honeycrisp orchards in the Hudson Valley of New York State from 2016 through 2020 with a prediction for 2021.

The data presented in Figure 1 are from 19 Hudson Valley M.9 clone, M.26 and Bud.9 blocks that have been monitored annually since 2016. Blue bars represent observed BP, red bars represent EMR predicted values. In this "view from 10,000 feet", the EMR model has been reasonably accurate in predicting the HV BP trend in four of the last five seasons, while over-predicting BP in 2018. As a practical matter, for a prediction model to be useful it must emphasize accuracy in the range of 0-20% BP incidence. Once BP levels are predicted to be high,

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Leaf damage caused by pearleaf blister mites. Photo: Art Agnello.

the most serious aspect of blister mite attack. It occurs as a result of mites feeding on the developing pears, from the green-tip stage through bloom, causing russet spots. These spots, which are often oval in shape, are usually depressed with a surrounding halo of clear tissue. They are 1/4-1/2 inch in diameter and frequently run together. A third type of injury is the blistering of leaves (Fig. 2); blisters are 1/8-1/4 inch across and, if numerous, can blacken most of the leaf surface. Although defoliation does not occur, leaf function can be seriously impaired by a heavy infestation.

For those plantings that might be suffering from this errant pest, a fall spray is recommended sometime in early October, when there is no danger of frost for at least 24–48 hr after the spray. Options include Sevin XLR Plus (1.5–3 qt/A) or 80S (1.88–3.75 lb/A); alternatively, next spring during the dormant period you can use Diazinon 50WP (1 lb/100 gal) plus 1–1.5% oil.

#### Looking for More Tree Fruit IPM Resources?

scales is believed

to cause the bud

to dry and fail to

type of damage is

may be confused

with bud injury

from insufficient

winter chilling.

Fruit damage is

develop. This

similar to and

For additional **apple IPM** information, we highly recommend reviewing the videos available at <u>https://www.youtube.com/playlist?</u> <u>list=PLoNb8IODb49vifrm9Tla4GmAVhIIL0527</u>

For stone fruit IPM information, visit our video playlist on Youtube at https://www.youtube.com/playlist? list=PLk2Qbw9Aiu5NUJa7IwI Obs1V5-RSUGb



EMR Hudson Valley Honeycrisp Bitter Pit Prediction History, 2016-2021. Blue Bars = Observed BP, Red Bars = EMR BP Prediction

say over 20%, the difference between 34% and a predicted 48% as observed in 2018 is interesting, but academic as levels this high are simply trouble all around. The EMR model is predicting a troublesome BP storage season for the HV crop in 2021, similar to what we experienced in 2016 with average BP incidence expected to be around 30%.

While this data provides a general overview of what we are facing, actual BP incidence in a specific HV orchard depends first on

rootstock, second on crop load (very light vs over-set) and third on your orchard management decisions. According to our historical published data, Honeycrisp produced on the Bud.9 rootstock express significantly less BP. However, only one of the four Hudson Valley Bud.9 blocks in our monitoring program has a typical prediction for low BP incidence. This low-BP block has a full crop load, while the other three blocks are significantly lighter with predicted BP values closer to what we expect from M.9 blocks. Historically, Bud.9 blocks should be your first choice for storage if your strategy is to minimize storage losses to BP. In 2021, I'd suggest you factor in crop load when making storage decisions on a block by block basis as



Bitter pit on Honeycrisp. Photo: Yosef Al Shoffe.

Professor Lee Kalcsits from Washington State University noted that excessive summer irrigation can aggravate bitter bit in Honeycrisp. In our case, its natural rainfall but the effect is the same and may be contributing to our high BP expectations.

If you implemented a spray program that included a single application of Apogee or Kudos at pink stage and a foliar calcium program that started at petal fall, those steps will help you beat the prediction odds. I haven't found the single pink application to have

> any effect on fruit mineral concentration. This being the case, any model which includes peel mineral evaluation would not pick up on the positive effect of a pink application. Well then why does it help if it doesn't affect mineral concentration in the fruit? We don't understand specifically what is happening, but the analysis of peel minerals can only explain around 60% of the variation in BP prediction. Therefore, you'll hear BP described as a calcium-related disorder, not a global calcium deficiency disorder. In the other direction, post-bloom Apogee or Kudos applications can aggravate BP incidence.

How to manage a challenging BP situation this season? I would continue

the positive effects of the Bud.9 rootstock may simply be overcome when the crop load is light under of 2021 growing conditions. Another factor is that the Bud.9 model uses calcium content alone, not the ratio of magnesium to calcium. Since calcium concentrations are low this season, BP predictions for Bud.9 fruit are influenced to a much greater extent than the more stable Mg/Ca ratio. My speculation is that I think EMR is over-predicting BP this season for Bud.9 blocks this season, but time will tell.

Using digestive tissue analysis (no sap), fruit peel mineral content at the end of July in the HV was found to be as follows:

- Manganese was 45% below the previous 5-year average
- Calcium, Potassium, Magnesium, and Boron were 35-36% below the 5-year average.
- Copper, Iron, and Zinc were close to average.

Peel samples were taken on July 30. The current version of the EMR model uses the magnesium/calcium ratio as one of the variables considered for the M.9 and M.26 rootstocks (calcium only for the Bud.9). The Hudson Valley experience above average rainfall this season, especially heavy in July. Fruit size this season is estimated to be larger than average. My estimate of the crop load overall is 85% of full. In July, fruits increase in size due to cell expansion as the cell division phase has completed by then. Considering the excessive rainfall, particularly in July, we may be observing a dilution of mineral content due to the rapid expansion of individual cells.

to prioritize Bud.9 blocks for long term storage. However, this is not shaping up to be a good year for a marketing strategy based on longterm storage of HV fruit even though I suspect FOB pricing for Honeycrisp will be strong this coming spring. Recently published research from ENY commercial orchards suggest that fruit from later picks will have up to 30% less bitter pit potential than 1st-pick fruit of the same quality and maturity status. The take-home from this is to prioritize the storage of your later pick fruit as long as it is still in good condition. Conditioning (yes or no) and storage temperatures (33 or 38F) are difficult decisions in the Hudson Valley. While soft scald is considered to be less of a risk in the Hudson Valley compared to other regions of NYS, it is still a very real risk with the potential to completely erase the value of an affected storage lot. My compromise choice is to store at 38F without conditioning unless the blocks in guestion have a history of soft scald, in which case conditioning for 7 days at 50F should be implemented. Again, if you prioritize Bud.9 blocks for long-term storage, the possibility of increased BP due to conditioning and warm (38F) storage is manageable since the starting point for BP incidence is significantly lower for Bud.9 blocks. It is common practice to store HV Honeycrisp at 33F, but I've observed too many cases of severe soft scald to recommend this practice. While conditioning would help, I still think the risk is too high.

# The Use of Reflective Materials and Other Technologies for Improving Fruit Color on High Value Apple Cultivars in WNY

# Mario Miranda Sazo, Craig Kahlke, Mark Wiltberger, Janet van Zoeren, and Elizabeth Tee, Cornell University Edited by Michael Basedow

Reflective Materials (or RMs) have become an effective technology for improving fruit color on high value apple cultivars. Two main materials have been adopted in our region.

(1) Reflective Fabric (brands include Extenday and Proline), a white cloth, more expensive, reusable material that can be rolled up and used again in subsequent years, with a lifespan of approximately 7 years.

(2) Reflective Film (including white films and Mylar®, a metallic film), a less expensive non-reusable material.

The basic idea of RMs is to improve the light environment by reflecting light from the ground back up to the trees, especially at the lower part of the canopy, onto high-value apple cultivars. In the last 2-3 years, most of the RMs have been installed the second or third week of August for cultivars to be harvested around Sept. 5-10. In 2020, several growers installed fabrics 7-14 days before anticipated harvest for a particular cultivar (early-season, mid-season, and late-season varieties). Reflective Fabrics can be installed with a tractor-mounted implement for unrolling, and attached to wooden posts with bungee cords. Reflective Films can be installed with grower-built roller machines. The learning curve for adoption of RMs has been very fast and collaborative between WNY growers. We envision that a significant amount of acreage will be covered with RMs in 2021 and the following years.



Extenday being rolled out, cut, and attached to secured under trees with bungee cords. Photo by Mario Miranda Sazo.

**Testing the use of fabrics in two very different fruit coloring seasons**: In 2018 and 2019, the Lake Ontario Fruit region experienced very different and almost opposite conditions for fruit coloring at harvest. In 2018, we had rainy and cloudy weather for approximately 10 weeks that made color on apples very challenging. In 2019, we had one of the most ideal stretches of good weather for excellent fruit color development and the production of high quality fruit.

In 2018, with a more stressful fruit coloring season in WNY, in one of our on-farm studies we measured better results only with a reflective fabric (Extenday) deployed between rows in a MinnieskaTM trial. But when we repeated the same study in 2019 with almost ideal weather conditions for fruit coloring, results from both methods (reflective fabrics deployed in the in-row and between row spacings) still improved fruit coloring more than the control trees (without nets and fabrics). In this two-year study, the use of fabric without nets significantly improved color development and a greater amount of fruit were harvested during the first and/or second picks in 2018 and 2019. Control

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Treatments	1 <sup>st</sup> Pick				
	2018		2019		
	% Red	Increase (%)	% Red	Increase (%)	
No extenday	59		71		
Between row	76	16	82	11	
In-row	67	8	83	12	

We measured an increase of 12% in red color in the  $1^{\text{st}}$  pick in 2018 and 2019

Treatments	2019 season				
	1 <sup>st</sup> Pick		2 <sup>nd</sup> Pick		
	% Red	Increase (%)	% Red	Increase (%)	
No extenday	71		65		
Between row	82	11	72	7	
In-row	83	12	78	13	

We measured an increase of **12% and 10%** in red color in the  $1^{st}$  and  $2^{nd}$  picks in 2019, respectively

trees always produced more fruit (number of fruit/tree and pounds of fruit/tree) at the end of the picking window in both seasons.

In another on-farm study in 2018, we measured that reflective fabric treatment with Extenday (without hail netting) yielded the highest percentage of Extra Fancy grade fruit for Fuji (a single pick harvest).

In a 2020 trial with Evercrisp, Extenday increased red blush color by 13%. (We thank Terence Robinson and Luis Gonzalez Nieto of Cornell AgriTech for this data.)

Last year we conducted an economic analysis by using some of our results from the 2018 studies. Assuming a seven-year life on the fabric (Extenday), the cost of the material would be \$358/acre. Annual labor costs for installation and removal are approximately \$150 acre. This totals an average annual cost of \$508/acre. A farmbuilt spool would have a one-time cost of ~ \$2,000. Storage in a dry/ covered area is also needed. Assuming a yield of 1,000 bushels/acre, with an average return of \$10/bushel:

- 5 % increase in Extra Fancy grade would increase revenue by \$500 /acre
- 10 % increase in Extra Fancy grade would increase revenue by \$1000 /acre
- 15 % increase in Extra Fancy grade would increase revenue by \$1500 /acre
- 20 % increase in Extra Fancy grade would increase revenue by \$2000 /acre

Some data given by growers showed up to a 20% increase in Extra Fancy grade last year. For more details on this analysis, see <u>htps://</u> <u>blogs.cornell.edu/treefruitbusiness/files/20 19/08/Reflective-</u> <u>Groundcover-Infographic 05.pdf</u>.

**Other Technologies to Improve Fruit Color**: In addition to the adoption of fabric materials in our region, some innovative WNY apple growers have also conducted leaf pruning (manual) and applied plant growth regulators. A more recent development has been the purchase of pneumatic defoliation machines (prices around US\$40- 45k/machine) for improved fruit coloring by a few WNY fruit growers last season.

Leaf pruning (leaf stripping): Leaf pruning can precisely expose shaded fruit to sunlight for better fruit color before harvest. It is an effective but more expensive technique (US \$700-800/acre, or in some cases as much as US\$1,000/acre). It should be conducted from the base of the tree up to about 6-7ft above the ground (the tops of the trees should not be leaf pruned). We also recommend you stop leaf pruning at least 48 hours before the beginning of a period of hot temperatures. If you cannot wait, and you have the time and labor available for any type of leaf pruning, please consider conducting the pruning only on the east side of the canopy (assuming your rows are oriented North-South), to minimize any potential sunburn issues at the hottest time of the day. A more aggressive leaf pruning would be less detrimental if (1) it is coupled with an effective sunburn spray program, (2) it has at least targeted the east side of the tree rows, (3) it has been applied every 15-20 days, and (4) it was started in the middle or end of June.

A few growers have conducted leaf pruning on both sides of a single row. For this more intensive approach, growers leaf prune both sides of the rows at different timings, pruning first the east side and then the west side, 3-7 days apart. The time interval between leaf pruning for both sides of a single row depends on cultivar, canopy width, crop load distribution, and weather conditions.



Leaf pruning should be conducted from the base of the tree up to about 6-7ft above the ground (the tops of the trees should not be leaf pruned). Photo: Mario Miranda Sazo.

**Leaf removal machines**: In 2019 WA growers were introduced for the first time to leaf removal machines that used air pressure to blow leaves for improved fruit coloring. Two machines were used at the

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orchard demos: one developed by German company Fruit Tec and the other developed by Italian company Olmi. Wine grape growers have used pneumatic defoliation for canopy control for years, but the bursts of air generated by those machines were not powerful enough to be effective in apple orchards, where the leaves have a stronger attachment. Last year, a few WNY growers decided to invest in modern leaf removal machines to guarantee fruit coloring on high value apple cultivars. Removing leaves a few days before anticipated harvest can help to speed up the coloring process. Preliminary work done in WA orchards in 2019 showed promising results by removing leaves in the season at pre-harvest. The machines can be used up to 3 weeks before harvest, depending on variety and conditions, but more often it should be used closer to harvest, 5-10 days out. Leaf removal for Minnieska<sup>TM</sup> and Gala should be done around 5-8 days before harvest. Pneumatic machines for leaf removal are a lot faster than humans with hand pruners and can cover an orchard in just 2-3 hours or less. There will be a lot more investigation and learning about the specific timings for pneumatic defoliation for important NY apple cultivars under our weather conditions.





Pneumatic leaf removal machine in action. Photos: Mario Miranda Sazo.

**Plant growth regulators:** The use of plant growth regulators (PGRs) is the only chemical method described in this short article. There are currently two options which have been successful in trials conducted by Dr. Robinson at Cornell AgriTech.

<u>Ethrel</u> (300ppm) improves fruit color if applied 1 week before harvest but stimulates ripening and excessive drop 10 days after application. If NAA is mixed with Ethrel then drop can be delayed 10 days, but if the fruit is not harvested on time then excessive drop will occur.

<u>Blush</u> is a plant growth regulator featuring a jasmonate PGR (active ingredient prohydrojasmon PDJ). Dr. Robinson found modest but significant improvement in red color when Blush is applied twice (3 weeks and 1 week before harvest of Honeycrisp). Its response was improved by combining with Stimplex (an algae extract that has low levels of hormones). Also the response was improved by waiting for application until fruit are entering maturation (DA meter reading of 1.25).

#### Summary

- There has been a rapid adoption of reflective materials (mostly Extenday and similar heavier, longer-lasting fabrics) in WNY in the last 4 years.
- Leaf pruning is also effective for enhancing fruit coloring but it can be very expensive.

• Early WNY adopters will be able to tell if the leaf removal machines will eliminate the need for reflective fabric and the extra cost and labor for installation/removal, along with the associated need for storage (Extenday) or waste with fabrics (Mylar<sup>®</sup>).

• Maximum fruit coloring improvements will be achieved in modern, narrow, mechanically-pruned orchards by using one of the above technologies, or a combination.

Acknowledgements: We would like to thank Tom and Alison DeMarree, Chris Whipple, and Ted Furber for their collaboration in the reflective and netting studies conducted in 2018 and 2019. Funding was provided by the NY Apple Research and Development Program.



## How-To Video on Apple Maturity Testing for Long-Term Storage Michael Basedow and Andy Galimberti, CCE ENYCHP

Your apple harvest should be timed to provide the best quality fruit to your specified market. While fruit destined for immediate sales and eating can be picked for optimal color and flavor, fruit destined for long-term storage need to be picked while less mature, to prevent the fruit from being over-ripe when they reach the consumer.

To help determine when your blocks are ready to be harvested for long-term storage, there are a few maturity metrics you or an employee on your farm can test, including fruit firmness, brix, and the starch pattern index.

If you would like a brush up on the basics of these tests, or would like to train some of your new employees, we developed a short training video last fall demonstrating how to perform these tests on the farm to help key in on your optimal harvest windows.

The video can be viewed on the ENYCHP YouTube channel at the following link: <u>https://www.youtube.com/watch?v=V6WjbQ2v6w0</u>



Maturity Testing for Long-Term Storage Harvest Planning



The Eastern New York Commercial Horticulture Program is a Cornell Cooperative Extension partnership between Cornell University and the CCE Associations in these seventeen counties: Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Orange, Montgomery, Putnam, Rensselaer, Saratoga, Schenectady, Schoharie, Ulster, Warren & Washington.

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