



FRUIT NOTES

Lake Ontario Fruit Program



Spring Quarter Volume 11 Issue 15

June 22, 2011

Lake Ontario Summer Fruit Tour

Presented by Cornell Cooperative Extension, Cornell University,
& the New York State Agricultural Experiment Station
August 3rd, 2011

Featuring super spindle, tall spindle and V-axis apple planting systems, equipment innovations for improving labor efficiency, new pest management technology, weed management, and all about sweet cherries in Orleans and Niagara Counties.



Sponsors will talk about new products available to help you produce high quality fruit.



Cornell University
Cooperative Extension

Lake Ontario Fruit Program
in Wayne, Orleans, Niagara,
Monroe, Onondaga, and
Oswego Counties
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Building Strong and Vibrant New York Communities

Cornell Cooperative Extension provides equal program and employment opportunities. NYS College and Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.

**Thank You Sponsors! Bayer Crop Science, Bentley Bros., Chemtura,
CBC America, Chemtura, DuPont Crop Protection, Finger Lakes Trellis
Supply, Helena Chemical Company,
H.H. Dobbins, New York Apple Association,
NY Center for Ag Medicine and Health, United Phosphorus, Inc.**

**Join 250 growers, Cornell Faculty, and many supporting business representatives for the day.
Enjoy the *BBQ*, see how other growers produce fruit, network with sponsors and other
growers.**

Get new ideas for your farm and have fun!

There is no charge for attending this tour – just drive in at registration and follow us!

You must pre-register so we have adequate facilities and lunch.

Call or email to register: 585-798-4265 x 26, or krh5@cornel.edu

Registration starts at 7:45 AM at Lamont Fruit Farm, Stillwater Rd., Waterport, NY. Call for complete details of tour: **585-798-4265 x 26**. Or go to our website: <http://www.fruit.cornell.edu/lof/>

Lamont Fruit Farm, Rod Farrow, Waterport, NY – see super spindle apple plantings of all ages and equipment to improve efficiency, weed control in new plantings using new herbicide options.

Staples Fruit Farm, Tom Staples, Appleton, NY – see the planning process in establishing a new orchard, fertigation system, and a NEWA weather station.

Russell Farms, Peter Russell, Appleton, NY – see mature V-axe systems compared to tall spindle. There are many equipment innovations to share from platforms in high

density but also modified to work in lower density plantings from 12-20 foot row spacing to increase labor efficiency. Enjoy a BBQ lunch and refreshments, compliments of the sponsors.

Jesson Farm, Mark Russell and Jill MacKenzie - have been transforming this farm to “tall spindle” plantings and have made their own innovations in equipment in managing this system. They have modified a mouse guard applicator, a weed sprayer, innovative tree training systems and an apple picker with platforms.

NewRoyal Orchards- Alan, Tim, and Dennis Buhr, Gasport, NY are operating a 380 acre vertically integrated family business - we will focus on sweet cherry production for yield and quality, rootstocks, pruning practices, bacterial canker and brown rot control.

Obliquebanded Leafroller & Internal Lep Status D. Breth

OBLR trap biofix was set for 3 locations across the region, and first catch was noted in Baldwinsville representing a site that is about 5 days earlier in tree/pest development than the earliest sites in the LOF region, such as Albion, Brockport, and Wayne County sites south of the ridge. These will then be followed by orchard sites close to the Lake. In the earliest, high pressure sites such as

Baldwinsville with a biofix of Jun 5, we have accumulated 350 DD43F as of Jun 19, and will generate 25-30 DD per day the week of Jun 19. In high pressure orchards that consistently have damage at harvest, along with leaf feeding and fruit damage from the overwintering larvae that can easily be seen at thinning time, you need to treat for first egg hatch. Although first egg hatch occurs at

350DD 43F after biofix, we seldom can find the newly hatched larvae until about 10% egg hatch. Therefore, waiting to treat at about 400 DD will give you good results as well. This early spray can be a Bt formulation, but must be followed a week later with a second Bt, or follow up with the new insecticides that are better for OBLR control – Altacor, Belt, Delegate, Voliam Xpress. Or you can skip the Bt and apply one of the new insecticides about 400DD43F and repeat 2 weeks later.

Many orchards have low OBLR pressure and can wait until about 600 DD when scouting will show if populations are an issue. We will get to that timing in early July when we will also be targeting the “B” peak of first generation codling moth egg hatch and provide a good window for control of both pests using the insecticides mentioned above (except for Bt, which is not very effective for CM).

NEWA Location	Biofix for OBLR	DD Accumulation Jun 19 + estimated 200 DD43F (Jun 26)	Biofix for CM	DD Accumulation Jun 19
Baldwinsville	Jun 5	350 + 200	ND	xxxx
Albion/Williamson/Sodus	Jun 9	224 + 200	May 23, or 27	410, 370
Appleton North/Williamson Lake	Jun 14	108 + 200	May 31	350/300

The biofix for CM has varied from orchard to orchard, depending on population and proximity to the lakeshore. In low populations located inland and along the lakeshore, Jun 20-21 is the window of treatment for CM using the 350 DD 50F mark for 1 spray per generation or following a Rimon application at petal fall. Continue to monitor traps closely toward the end of the month to detect any significant “B” peak of

flight which often surprises growers and results in late first generation damage and late harvest damage.

It is critical for those of you with peaches that plan to use pheromone disruption for Oriental fruit moth control, now is the time to install the pheromones and they should be installed by the end of the week.

Managing ‘Honeycrisp’ Crop Load This Season

Terence L. Robinson & Mario Miranda Sazo

The ‘Honeycrisp’ apple can be a very profitable cultivar for apple growers in the Northern production areas. Fruit prices in the market are high and although yields per acre are often lower than other cultivars, crop value is often much higher. However, Honeycrisp is prone to several storage disorders (e.g. bitter pit, soft scald, soggy breakdown, senescent breakdown) and storage rots, which make placing it in long-term storage extremely risky. An additional problem is that Honeycrisp is highly biennial with trees cycling between low crop load and high crop loads. With either high or low crop loads, fruit

quality is not optimal before storage. There are many pre-harvest factors which influence fruit quality after storage including mineral nutrition, irrigation and crop load. The Honeycrisp has also shown extreme variability in fruit-eating quality ranging from in-edible to superb.

Crop load appears to have a dominant effect on Honeycrisp fruit quality both at harvest and after storage. Crop load has a large impact on Honeycrisp fruit size, color, soluble solids, storage disorders, storage rots and crop value. With either high or low crop loads Honeycrisp

fruit quality is not optimal. If crop load is too high then (1) fruit size is reduced, (2) fruit quality is poor, and (3) crop value is reduced. If crop load is too low then (1) yield is low, (2) fruit size is too big, (3) storage disorders are increased, and (4) crop value is reduced. It appears this cultivar requires **precise** crop load management for optimum fruit quality. In today's market, a Honeycrisp fruit size between 200-220g is considered optimal. Therefore, we suggest strict crop load management of 6-8 fruits/cm² TCA on mature trees and 4-5 fruits/cm² TCA on young trees.

This year hand thinning will be critical, especially for those few Honeycrisp blocks that were not chemically thinned (or received very low rates of thinners). This week you have to spend the extra money and adjust

proper crop load to optimize early cropping, tree growth, fruit quality, and return bloom for next year. There is a new tool (the Cornell University young apple thinning gauge) that will help you to measure trunk cross-sectional area and more precisely determine the final crop load for young apple trees. Just hold this gauge along the trunk at a distance of one foot from the ground. Then match the trunk diameter to a half-circle on the gauge and read the corresponding pair of numbers to determine the appropriate final fruit number per tree. Please remember that **early** hand thinning of this variety is **critical** (this past weekend Honeycrisp fruits averaged 26-28 mm in lake sites), so start this task as soon as possible!

The Size Thinning Method - 'It is easier to make a big apple small than a small apple big' Steve McArtney, NCSU

The goal of hand thinning is to reduce the number of fruit per tree to a more commercially acceptable level when there has been a poor chemical thinning response. There are some principles that are commonly followed when deciding which fruit to remove at the time of hand thinning. Damaged or misshapen fruit are normally the first to go. Then the number of fruit per spur might be reduced down to one or two; and finally fruit are removed so that the remaining fruit are spaced 6-8 inches along the branch. Do these hand thinning rules sound reasonable? Note however, that the number of fruit per tree and fruit size was a primary consideration in any of these decisions. One problem with the traditional approach to hand thinning is that in the process of reducing the number of fruit per spur and spacing the remaining fruit at intervals along a branch, many of the largest fruit may be removed and many of the smallest fruit may remain on the tree.

You can make a big apple small, by leaving too much crop on the tree, but you can also

grow a crop of small apples by leaving the smallest apples on the tree and removing many of the largest apples when you hand thin. I visited several 'Gala' orchards in Henderson County (NC) the day after the trees were hand thinned in 2008 and measured the diameter of a random sample of 100 apples on a tree and the diameter of a further 100 apples lying on the ground beneath the same tree. When I compared the sizes in these two samples, I found that there was no difference between them. After hand thinning, many of the smallest fruit remained on the tree while many of the largest fruit on the tree had been removed.

'Size-thinning' is an alternative approach to hand thinning that uses fruit size (diameter) as the primary basis for deciding which fruit to remove. This method places a lower priority on the number of fruit remaining per spur and on the spacing between fruit compared to traditional hand thinning methods. Before adopting this method, there are a couple of things you need to know. You must have an

accurate count of the number of fruit on each tree after the completion of fruit drop (pre-thin number), and you must have determined a crop load target (target number) for your trees that is based on fruit number. The actual number of fruit per tree can be counted on five or six representative trees, taking two people three or four minutes per tree for typical trees on M.9 or M.26 rootstock. From these two numbers (the actual fruit number and the target fruit number), the percent of the crop that must be removed in order to reach a crop load target can be calculated. For example, if an average of 400 fruit were counted on each tree and the target is only 300 fruit then 100 fruit, or 25 percent of the total number, will need to be removed from each tree.

The 'size thinning' method of hand thinning ensures that only the smallest fruit on the tree are removed. In order to do this, you will need to determine the size limit that defines the upper limit of the smallest 25 percent of all the fruit on the tree in this example. This is achieved by first measuring the diameter of a random sample of 100 individual fruit; a procedure that will take approximately ten minutes with a digital caliper. Then you will need to arrange the diameters in order from the smallest to the largest, which is easily done using the sort command in any spreadsheet. Finally, run down the column of sorted diameter measurements until you find the 25th data point from the smallest and you will have the upper size limit. Hand your thinning crew an apple the same diameter as the upper size limit and instruct them to remove all fruit that size or smaller and you should end up with the largest 300 apples remaining on each tree and the smallest 100 apples on the ground. The size thinning method has two main advantages: first it ensures that only the largest fruit remain on the tree after hand thinning, and second it can be a reliable way to reduce the number of fruit

per tree to a desired target crop load based on fruit number. The size thinning method may have some disadvantages that you will need to consider. Size thinning will probably result in more spurs in the tree carrying multiple fruit which will negatively impact red color development in some cultivars such as weak coloring strains of Gala. In the southeast, we have also found that hand thinning according to the size thinning method can result in an uneven distribution of fruit throughout the canopy with fewer fruit in the lower, shaded regions of the canopy and more fruit in the upper canopy. This phenomenon is probably a result of the uneven pattern of flowering that can occur across the tree here in the southeast, and may not occur in areas where flowering is more synchronous.

Summary

Apple fruits grow first by cell division and then by cell expansion. The cell division phase continues for the first 5 to 6 weeks after bloom. Large fruit have more cells than smaller fruit, indicating that the fruit size potential is determined within 5 to 6 weeks after bloom. Fruit growth can still be limited after the cell-division phase by factors which will slow cell expansion, such as excessive crop load or drought. Fruit are weaker sinks than shoots, and the weakest fruits are more likely to drop, either in response to adverse environmental conditions (cloudy days and/or warm nights) or to a chemical thinner. You can make a potentially big apple small but you cannot make a small apple big. The smallest fruit should be targeted for removal in the hand thinning process. Size thinning is a method for reaching a crop load target based on fruit number per tree that removes only the smallest fruit.

Note: This modified article was presented at the 2011 Mid-Atlantic Fruit & Vegetable Convention, Hershey, PA.

Prepare for I-9 Audits A. DeMarree

Growers in New York State have received notices of I-9 audits since 2010. I strongly recommend preparing for an I-9 audit BEFORE receiving a notification. This will allow you to be prepared in advance and be

less nerve-wracking! Please check the following website and print out an I-9 Audit Checklist: www.shrm.org **and type in I-9 Audit Checklist** for a two page checklist on preparing for an I-9 audit.

Preparing for H-2A Audits A. DeMarree

Changes in H-2A regulations last year forewarned growers of the possibility of future H-2A audits. Growers began receiving audit notices as early as April 2010. Fortunately, growers whom have received audit notices have shared those notices with us to enable other growers to prepare for future audits. Growers generally have 3 weeks to send documentation on 13 or so items ranging from substantiating that the business is a bona fide US business and has a physical location in the US to copies of the first and second **signed**

recruitment reports. The list of information that a grower must provide is generally at three pages long. Please contact me for a copy of the list. Failure to comply with any portion of the list can result in a grower being banned from the H-2A program. H-2A employers should prepare for an audit of 2010 records and prepare in advance for a 2011 audit. The 2010 regulation changes allow the US Department of Labor can go back up to three previous years for future audits.

Farmers Market Promotion Program Notice of Funds

Farmers Market Promotion Program Notice of Funds Availability has been posted on the AMS website at <http://www.ams.usda.gov/AMSV1.0/fmpp>

SUMMARY: The Agricultural Marketing Service (AMS) announces the availability of approximately \$10 million in competitive grant funds for fiscal year (FY) 2011 to increase domestic consumption of agricultural commodities by expanding direct producer-to-consumer market opportunities. Examples of direct producer-to-consumer market opportunities include new farmers markets, roadside stands, community supported agriculture (CSA) programs, agri-tourism activities, and other direct

producer-to-consumer infrastructure. AMS hereby requests proposals from eligible entities within the following categories: agricultural cooperatives, producer networks, producer associations, local governments, nonprofit corporations, public benefit corporations, economic development corporations, regional farmer's market authorities, and Tribal governments. The minimum award per grant is \$5,000 and the maximum award per grant is \$100,000. No matching funds are required.

DEADLINE: Applications must be delivered no later than July 1, 2011

STORAGE WORKSHOP - 2011

August 2nd

Ithaca, NY

Get up to date information on Honeycrisp, flesh browning, CO₂ injury, NY-1 & NY-2, DPA, fungicides and SmartFresh!

REGISTRATION: Cost of the workshop is \$55/person if paid by July 26th. \$65 after July 26th and at the door. **Only payments BEFORE July 26th will include lunch and a parking permit.**

LOCATION: Cornell University School of Veterinary Medicine, Tower Rd. Lecture Hall 1.

LODGING: A block of rooms is being held at a conference rate at the Best Western. Rooms are \$109 plus tax (free breakfast and free shuttle to CU) and must be booked by July 2nd to guarantee that rate. Phone 607/272-6100. Please state that you are attending the Storage Workshop.

GETTING TO THE VET SCHOOL: Please check out the following web site:

<http://www.cornell.edu/maps/> A map will be sent with parking permit and confirmation letter.

BBQ: You are invited to attend a free BBQ on August 1st from 6 – 9PM at the Cornell Orchards.

(\$15/registrant's guest)

FURTHER INFORMATION:

Inquiries should be addressed to Max Welcome, Department of Horticulture, 133 Plant Science Building, Cornell University, Ithaca, NY 14853, phone 607/255-5439, email mw45@cornell.edu

PROGRAM

8.00 – 8.30: Registration

8.30-8.45: Introduction

8.45-9.15: Risks and benefits of using non-recycling drenches to apply DPA and postharvest fungicides (David Rosenberger)

9.15-9.45: DPA and Europe – prospects & challenges from a member of the EU DPA Task Force (Daniel Alabadi, Decco)

9.45-10.00: Predicting storage disorders by developing diagnostic toolboxes (Chris Watkins)

10.00-10.30: Refreshment breaks

10.30-10.55: Thermofogging of new fungicides and updates on wax issues (Roberto Carpentier, PACE)

10.55 – 11.45: Flesh browning again! Updates on effects of temperature, CA, glyphosate and minerals (Chris Watkins, David Rosenberger, Lailiang Cheng)

11.45-12.15: Updates on Harvista research (Jennifer DeEll, Chris Watkins, Steve Hoying)

12.15-1.15: Lunch

1.15-1.35: Aerosol technology for application of DPA (John Holowid, Decco)

1.35-2.05: Maturity & storage of NY-1 & NY-2 (Susan Brown)

2.05-2.25: Killing little critters to get fruit into Israel (Harvey Reissig)

2.25-2.50: Honeycrisp storage in air & CA (Chris Watkins)

2.50-3.00: Update on storage technologies (Jim Schaefer, Storage Control Syst.)

3.00-3.15: Break & stretch

3.15-3.45: Postharvest fungicides options & fungicide resistance management (David Rosenberger)

3.45-4.15 Multiple SmartFresh applications (Jennifer DeEll & Chris Watkins)

HAVE A SAFE JOURNEY HOME

Registration Form Storage Workshop August 2nd

Fee:

\$55 if postmarked by July 26th
\$65 after July 26th

Name: _____

Address: _____

City: _____ **State:** _____

Zip code: _____

Telephone: _____

e-mail: _____

Affiliation: _____

Parking permit: yes ___ no ___

BBQ: yes ___ no ___

Please make check payable to:
Cornell University
Please send form and check to:
Maxine Welcome/Storage Workshop
Department of Horticulture
133 Plant Science Building
Cornell University
Ithaca, NY 14853

**Lake Ontario Fruit Program
Cornell Cooperative Extension
12690 NYS Rt. 31
Albion, NY 14411**

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Changes to Thionex Label

Save the Dates

Changes to Thionex Label

A. Agnello

On May 17, 2011, the DEC approved revised labels for Thionex 50WP and Thionex 3EC, both of which list reductions in the allowable rates in apples plus increased REIs (Restricted-Entry Intervals). The new labels show a rate of 0.75 lb/100 gal or a maximum of 4 lb/A (50WP), and 1/2 qt/100 gal or a maximum of 2-2/3 qt/A (3EC) for apple pests such as aphids, green fruitworm, tarnished plant bug, spotted tentiform leafminer and white apple leafhopper. The new REIs are 20 days for the 50WP and 7 days for the 3EC. As on

the previous labels, pomace or culls from treated fruit may not be fed to livestock. Additionally, be aware of newly imposed restrictions on Thionex-treated fruit destined to be sold to a number of buyers and distributors, particularly those outside of the US.

Labels for these products will expire July 31, 2012 for: apricots, cherries, peaches, plums, prunes; on July 31, 2013 for pears; and on July 31, 2015 for apples.

Save The Dates

Mark your calendar for the following:

Premier Apple Marketing Forum, June 27-28, Syracuse.

Apple Storage Workshop, August 2, Cornell Campus in Ithaca.

CCE-LOF Summer Tour, August 3, Niagara & Orleans counties.

