Cornell University Cooperative Extension

Eastern NY Commercial Horticulture Program

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Tree Fruit News

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Regional Updates*:

North Country—Clinton, Essex, northern Warren and Washington counties

Tree phenology: Apple=post bloom

Current growing degree days 1/1/13 to 7/8/13	Base 43°F*	Base 50°F*
Chazy	1581	1017
Peru	1565	1025
South Hero, VT	1638	1077
Willsboro, NY	1568	1007
Shoreham, VT	1670	1112

Pest focus—Apple: scab, mildew, sooty blotch, flyspeck, codling moth, obliquebanded leafroller, San Jose scale, apple maggot.

Capital District—Albany, Fulton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, southern Warren and Washington counties

Tree phenology: Apple, pear, peach, cherry, plum, apricot=post bloom

Current growing degree days 1/1/13 to 7/8/13	Base 43°F*	Base 50°F*
Granville	1404	901
North Easton	1763	1178
Clifton Park	1682	1123
Guilderland	1690	1123

Pest focus—Apple: scab, mildew, sooty blotch, flyspeck, codling moth, obliquebanded leafroller, San Jose scale, apple maggot, Japanese beetle. Stone fruit: brown rot, oriental fruit moth, aphids, Japanese beetle. Pear: Fabraea leaf spot, pear psylla.

Mid-Hudson Valley—Columbia, Dutchess, Greene, Orange, Sullivan and Ulster counties

Tree phenology: Apple, pear, peach, plum, cherry, apricot=post bloom.

Current growing degree days 1/1/13 to 7/8/13	Base 43°F*	Base 50°F*
Hudson	1849	1262
Highland	1905	1279
Marlboro	1854	1245
Montgomery	1855	1251

Pest focus—Apple: scab, mildew, sooty blotch, flyspeck, codling moth, obliquebanded leafroller, apple maggot, San Jose scale, Japanese beetle. Stone fruit: brown rot, oriental fruit moth, aphids, Japanese beetle. Pear: Fabraea leaf spot, pear psylla.

Coming Events

Coming Events: Range (normal ± std deviation)	Base 43°F*	Base 50°F*
Apple maggot 1st catch	1243-1663	791-1067
Apple maggot first egglaying	1605-2157	1144-1544
Obliquebanded leafroller 1st flight subsides	1594-2028	1033-1361
Codling moth 2nd flight begins	1582-2256	1033-1513

**All degree day data presented are BE (Baskerviile-Emin) calculations.*

Serving the educational and research needs of the commercial small fruit, vegetable and tree fruit industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Rensselaer, Saratoga, Schoharie, Schenectady, Sullivan, Ulster, Warren and Washington Counties

Optimal Storage Conditions for Peaches and Nectarines

By Mike Fargione, ENYCH

All stone fruit have a limited storage life, particularly when growers are aiming to provide more mature, tree ripe fruit to their customers. Improper storage of stone fruit after harvest can reduce fruit quality and decrease storage life. Off flavors, mealiness, flesh browning and uneven ripening are all problems that can occur, usually while fruit are held at room temperature after cold storage. Cultivars differ in susceptibility to internal breakdown problems. In general, later-ripening peach and nectarine cultivars are often most susceptible to these problems. However, storage temperature after harvest seems to play a critical role in determining the onset of internal breakdown. Problems are most likely to appear when fruit are stored between 36° F and 46°F., a range termed the "killing temperatures" (Crisosto et al. 2004). Growers can reduce the speed at which internal breakdown occurs and thus prolong storability and fruit quality by:

Courtesy of HV Food Network http://www.hvfoodnetwork.com/page/hudson-valley-peach-guide

- Cooling internal fruit temperatures to 30.5° F - 32° F within 8 hours of harvest. Hydro-cooling or forced air cooling can enhance this process. Temperatures slightly lower than 32° F. may be optimal but are risky if you cannot effectively control room temperature (peaches have been reported to freeze at 26.5-29.5 ° F. depending on soluble solids content).
- Keeping the storage room at 90-95 percent relative humidity. At least one local grower has expressed concern that fans blowing over open baskets for extended periods may desiccate fruit even in rooms with water on the floor. You may want to keep fruit from the direct air path of cooling fans. Another suggestion was bagging fruit such as is done for 'Golden Delicious'. I found no reference that reported on using this technique, and thus cannot recommend it.
- Preventing internal fruit temperatures from holding in the "killing temperatures" (36° F - 46° F.) during cooling, storage or while on display for the customer. Cooler or even warmer temperatures would seem to be a better choice to minimize internal breakdown. Remember that storing fruit at warmer than 46° F. may help delay breakdown symptom development but will also speed up fruit ripening.
- Research on CA storage (Crisosto et al. 2004) suggested that a 24-48 pre-cooling period at 68° F was an effective treatment for extending market life of internal breakdown susceptible peaches. Careful monitoring during the pre-cooling stage followed by rapid cooling to near 32 ° F. was recommended for successful use of this technique. Rapid cooling after preconditioning was recommended to stop further fruit deterioration such as flesh softening, senescence, decay and weight loss. Controlled delayed cooling was also suggested as a method for pre-ripen susceptible and non-susceptible peaches to deliver a ready-to-buy product to the consumer. However, the usefulness of this technique with our system of harvesting and marketing tree-ripe fruit is not clear.

References:

Nectarine & Peach: Recommendations for Maintaining Postharvest Quality. **http://postharvest.ucdavis.edu/PFfruits/NectarinePeach/**

Crisosto, C., Garner, D., Andris, H and K. Day. 2004. **HortTechnology 14(1) 99-104.**

Time for Tree Fruit Leaf Analyses

By Mike Fargione, ENYCH

Plant vigor problems, poor fruit set, and inadequate fruit quality and storability may all be related to nutritional deficiencies. Leaf analysis gives you the best indicator of tree health, and knowing this status will reduce under or over-fertilization. Cornell no longer offers commercial leaf sample analyses. In July 2009, Dairy One, with Cornell's assistance, launched a new venture called Agro-One (http://www.dairyone.com/AgroOne/PlantTissueAnalysis/), which combined the soil and plant testing services previously provided by Cornell. Agro-One maintains Cornell's analysis guidelines and procedures.

Sample collection time varies by crop. Strawberry leaves should be collected within the first six weeks after harvest, or after renovation, when the first fully expanded leaves emerge. Raspberry leaves should be collected from non-fruiting canes between August 1st and August 20th.

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Blueberry leaves should be collected between July 1st and August 30th. Tree fruit should be sampled between 60-70 days after the average petal fall date, normally in mid-July.

For tree fruit:

- Select at least 60-100 disease/insect-free leaves for each sample. Leaves are normally collected from the middle of this current season terminal shoots if you are collecting 60-70 days after petal fall. However, if sampling is done later, select the first full-sized mature leaves behind the shoot tip. Select 1 or 2 leaves/shoot from several shoots on each of several trees located throughout the area being sampled.
- Rinse leaves in distilled water and pat dry if they have recently been sprayed or if little rainfall has fallen since they were last sprayed (some chemicals, particularly zinc-containing fungicides, can throw off test results).
- Store samples in open paper lunch bags (use separate bags for each sample) that you can purchase at most grocery stores (Cornell no longer provides these bags). Label each bag with your name, site, variety and date collected.
- Allow the leaves to air dry a couple of weeks in the open bags. Fill out and include a copy of "Form P" with each sample you submit. Be sure to write down the soil classification name on the form to ensure you get back full fertilizer recommendations.
- Air-dried samples can be mailed to Agro-One at 730 Warren Rd, Ithaca, NY 14850. The fruit analysis (called the "180 Package") costs $24.00 per sample and includes total N, P, K, Ca, Mg, Zn, Cu, Fe, B, and Mn.

Full directions for collecting samples can be found at: http://www.dairyone.com/AgroOne/PlantTissueAnalysis/Tissue%20Analysis%20Guidelines%20Fruit.pdf.

Using the Apple Irrigation Model to Assist Precision Irrigation Decisions

Adapted from "Precision Orchard Irrigation" by Robinson, Lakso, Dominguez. Kevin Iungerman, ENYCH

The timely availability of water during the growing season is one of the two most critical factors in achieving fruit of optimal economic size with high-density orchard management systems. Achieving balanced crop loads via precision pruning and thinning is the companion critical factor to realizing economic success.

Net present value analysis of orchard investment costs, indicates that significant yields must be realized in the third, fourth and fifth years to repay establishment costs and generate profit. It is crucially important to maximize tree growth of newly planted apple trees and to realize excellent tree growth during the first 3 years following planting.

Unfortunately, the long-term cost of inadequate early tree growth often goes unrealized in a new high-density orchard over its first 3 years. How serious might this lagging performance be? Gerling (1981) estimated that peak investment cost is fully increased by 20% when growth lags and cropping is delayed in the early life of a new orchard. Over the 20-year life expectancy of a new orchard, delay can reduce the total profit margin by as much as 66%! Sadly, much of the circumstances of poor tree growth can be traced to inadequate water supply.

We in the northeast are fortunate in most years to have most of our water needs met through seasonal precipitation. However, it is not always especially timely or balanced as to extent. In our average growing season, rainfall is usually less than required for optimal tree performance during critical periods of tree establishment and growth. Fully 3 years in 10, severe water shortages occur during the months of June, July and/or August.

Such seems not the case now, though the summer is still young. Our current 2013 monsoon proclivity hopefully is a rare and extreme aberration; just how askew our weather is remains to be seen, as CO2 and other greenhouse gas concentrations continue to manifest their planetary effects. Long-term modeling suggests more frequently intense weather, with greater runoff and sparser plant-available soil reserves during intervals between precipitation events; this is much like the rains we have been seeing but without the recurring south-to-north "railroading" of storms complements of an upper Jetstream pattern that we learn is also an anomaly. In sum, things are more in flux than the recent past. So on one hand, it is important to improve and / or install superior tiling and water courses, and on the other, having sufficient water reserves and available drip irrigation capacity to promote optimal tree growth when needed.

A third important benefit of irrigation is timely uptake of calcium and other nutrients from the soil by our trees. Nutrients in soils must be in solution to allow plant uptake; dry soils halt solution formation and plant uptake; further, drought and heat can shut down evapotranspiration, to conserve internal water for survival, which in turn shuts

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down carbon capture via photosynthesis. If this happens at critical points it can have dramatic impacts upon cell division or on fruit quality.

Work done at Geneva by Sergio Lopez and Terence Robinson showed that 2-week periods of poor water balance during different periods of the season resulted in greater incidence of bitter pit with Honeycrisp. The most critical periods were in May during and after bloom and in July. Precise management of irrigation could reduce bitter pit by ensuring a steady uptake of soil calcium.

So, three significant benefits (apart from water use conservation) are ascribed to trickle irrigation: improved fruit size, better tree growth and yield of young trees, and improved bitter pit control. But the rub is this: it is difficult to estimate the amount of irrigation needed by both mature trees and young non-bearing trees; often growers do so using by experience or "feel" or by using imprecise "rules of thumb" or models using crop coefficients.

In 2006, Alan Lakso and his graduate student Danilo Dragoni (Dragoni and Lakso, 2010) developed what is today termed the Cornell Apple Irrigation Model. At its core the model is based on the famous Pennman-Monteith model, which calculates water use by a field of grass using weather variables. Lakso and Dragoni developed an improved mathematical model to calculate evapotranspiration and water use by apples trees.

In 2011 and 2012 Lakso and Cornell researchers developed a web-based tool to use the output of the ET model to estimate daily and weekly water needs for young, medium aged, and old apple orchards. This tool in now available on the NEWA website as an irrigation need assessment and scheduling resource tool for growers and consultants.

Going to the website http://www.newa.cornell.edu and pulling down "Apple Irrigation" under the management tab allows users to select local (on-farm NEWA) weather stations or regional weather stations (airports) close to their farm as a starting point. They can then customize things by entering information on the particular spacing and age of their own orchard (example Figure 1). Hitting "calculate" launches the model to integrate the information you entered with weather data of the chosen weather station and the evapotranspiration model in its calculations.

The Cornell ET model has the feature that rainfall is considered and subtracted from the water requirement of the trees. It also considers the effective rooting area of different age orchards to include only the portion of the rainfall that is available to the trees in the calculations of

Figure 1. Apple ET Model for Peru NY, Select Date July 8, 2013.

Apple ET Model for Peru

Change green tip date or tree density and click "Calculate" to recalculate results. Changing "Age of Orchard" will automatically recalculate table.

Green tip date	In row spacing	Between row spacing	Trees per acre	Age of orchard	Water balance
4/19/2013	4 feet	11 feet	990	Mature	

Apple Evapotranspiration Model Results

Date	Orchard ET (gallons)		Rainfall		Irrigation	Water Balance (gallons/acre)	
	per tree	per acre	inches	gallons/acre	gallons/acre	Daily	Cumulative
Jul 1	1.1	1134	0.20	3802	0	2667	0
Jul 2	1.4	1393	0.50	9504	0	8111	0
Jul 3	2.0	2007	0.16	3041	0	1034	0
Jul 4	2.8	2792	1.46	27751	0	24960	0
Jul 5	3.1	3095	0.00	0	0	-3095	-3095
Jul 6	2.9	2886	0.00	0	0	-2886	-5981
Jul 7	2.1	2106	0.47	8934	0	6828	0
Jul 8	1.4	1379	0.46	8744	0	7364	0
Jul 9	2.9	2839	0.08	1521	0	-1319	-1319
Jul 10	2.3	2298	0.55	10454	0	8157	0
Jul 11	2.2	2198	-	-	0	-2198	-2198
Jul 12	2.7	2712	-	-	0	-2712	-4910
Jul 13	2.1	2032	-	-	0	-2032	-6942
Jul 14	2.3	2302	-	-	0	-2302	-9244

tree water requirement. The user is also able to enter her/his recorded rainfall amounts since rainfall varies considerably within very short distances and the weather station data may be unrepresentative of their farm.

The model displays the amount of water need for the designated orchard for each of the past 7 days and for the upcoming 6 days based on both the weather of the last 7 days (from the weather station data) and from forecasted weather data projected for the upcoming 7 days (See accompanying Figure 1. Apple ET Model for Peru NY, July 8, 2013.) If the number is positive it means that rainfall exceeded transpiration and more water is available than needed and no more water should be added. All considerations are geared to achieving a constant 90% field capacity (See Figure 2.)

The calculated water volume needed by the orchard is displayed in gallons/acre. If the number is negative the grower should add that amount of water to his orchard via trickle irrigation to fully replace the estimated water requirement. To avoid oversaturating the soil when irrigation water is applied just before a large rainfall event or just after a large rainfall event it is suggested that the suggested irrigation amount not be supplied for 1 day before a predicted large rainfall event (0.5 inches or more) or for 3 days after a large rainfall event.

The frequency of adding the required water depends on soil type. With sandy soils water should be added either

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daily or every 2 days. With silt or clay soils the daily amount of water needed can be summed up for several days and then added in one irrigation cycle. It is suggested that water be supplied twice per week in clay soils and every other day with sandy soils from mid-June until the end of August. (The guideline for any needed water from May to mid-June would be once per week for both sandy and clay soils.)

Now practically speaking, several things come to the fore in utilizing this site. The weather stations on the map and in the "Select station" drop-down list are those that have solar radiation data within range. Stations that are not included have solar radiation data that is either too low or too high, i.e. it is out-of-range. I found it useful to find your station of interest, then to first check its daily weather summary data to ensure that it is in fact collecting solar data.

The model and website afford the possibility of more precise management of tree water status in both wet and dry year than was previously possible. In 2012 in Western NY, research utilized the Cornell ET model to effectively calculate transpiration and daily water requirements for mature and newly planted tall spindle orchards, and showed 1,000 gallons per acre were required for early season transpiration, and tree need progressed to about 4,000-5,000 gallons/acre in mid-summer.

Daily effective rainfall then was quite variable and 2012 was a dry year in general. Not so our summer of 2013 thus far. (See NEWA Early Summer weather data for locations in this newsletter.) I was startled by the estimates for Peru readings (Figure 1.) particularly for irrigation recommendation for today, July 9, as this is at

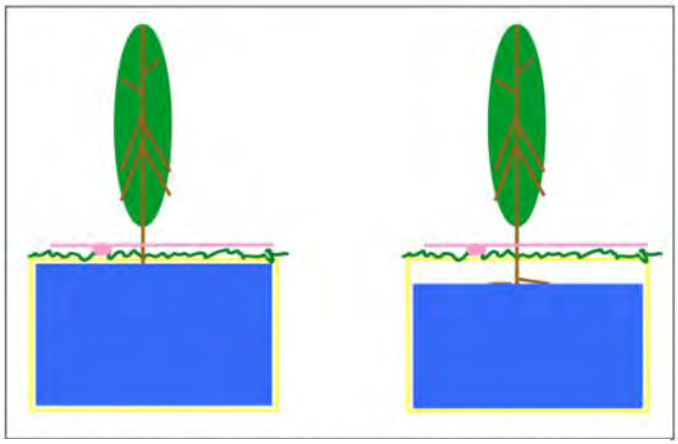

Figure 2. Diagram of replenishing water in the soil to 90% of field capacity to avoid excessive water logging if large rainfall events occur.

variance with my wet boots-on-the-ground perceptions of super-saturated soils last July 2nd and 3rd and rain patterns since. I would think high relative humidity, greater incidence of leaf wetness, and especially recurrent showers and greater cloudiness in June and now July would retard soil drying more than the model suggests, whether on heavier, loam, or even sandy soils. Admittedly, impression is not measurement but it instills healthy caution and close monitoring in developing this tool for wider use.

Readers looking for more details regarding the Cornell ET model and the referenced research should consult "Precision Orchard Irrigation", the NY Fruit Quarterly, V21, N2, Summer 2013. Pp. 17-19. Terence Robinson, Alan Lakso and Leo Dominguez, Dept. of Horticulture NYSAES, Cornell University Geneva, NY. Figure 2 is drawn from the referenced article.

Excess Rains and Cloudiness: Implications for Nutrient Uptake, Nutrient Sample Analysis, and Fruit Quality

By Kevin Iungerman, ENYCH

Virtually all locations have had, or still do have, excess soil moisture as the south-to-north causeway continues "railroading" Caribbean and Gulf water across the region (since about May 29 and now on in to mid-July). Much of the Upper Hudson and Champlain region were near or at historic precipitation levels for June, and Lake Champlain is already at a historic high for the month of July as water continues to flow in from its vast watershed faster than it can be removed via evaporation, the Richelieu River, or the Champlain barge canal.

I had a number of questions on my mind concerning the impact of this excess for nutrient retention and availability for uptake by tree root systems, and as well the apportioning of nutrients in canopy and fruit – especially boron, calcium and potassium? I also wondered about possibly misreading foliar nutrient analysis results from mid-summer sampling? (See Fargione's article for timing, etc.) Finally if imbalances are to be expected, what additional regimen of foliar nutrient applications would be advised with large fruited-fruited pitter pit prone varieties? Lots of questions!

I turned to Cornell's Lailiang Cheng in the Department of Horticulture for his take on our conditions and my concerns, and to learn what coping suggestions he might have for us. Lailiang lamented that Ithaca too had plenty of rainfalls in the last several weeks, and many blocks have saturated soils. And there too it has been really warm. He points out that the combination of high rainfall amounts and warm weather has promoted the

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mineralization of soil organic matter in orchard soils having high organic matter, with a consequent elevated release of more nitrogen. This high nitrogen availability and plenty of water has been encouraging vigorous shoot growth.

Potassium and Calcium should also be moving into tree systems with the uptake of water in support of the vigorous canopy growth but this happens at the expense of fruit; fruit are comparably less effective competitors for these nutrients and so fruit Calcium levels will suffer. If wet weather persists over the balance of the growing season, fruit will size well, but this fruit expansion will further dilute fruit Calcium levels. It will be critical therefore, to provide enough Calcium to growing fruit to minimize bitterpit development and other physiological disorders, especially for susceptible cultivars such as Honeycrisp, Cortland, Jonagold, Mutsu, and Northern Spy. In addition to having proper soil pH, a foliar Calcium spray program is essential for bitterpit susceptible cultivars.

Cheng and Cornell recommend applying 3 to 4 cover sprays of 1 to 2 lbs of calcium chloride (78% $CaCl_2$) or its equivalent per 100 gallons (dilute basis) at 14-day intervals, beginning 7 to 10 days after petal fall, followed by 2 additional sprays of 3 to 4 lbs of calcium chloride (78% $CaCl_2$) per 100 gallons at four and two weeks prior to harvest. It's important to keep in mind that complete coverage of fruit is essential and more frequent spray is more important than exact timing of spray.

Where orchard soils have coarse texture, or low organic matter, a good amount of nutrients, particularly nitrogen and boron, have been leached out of the root zone by our frequent rains. For these blocks, providing a minimum level of nutrient supply is essential. You can achieve this by making multiple applications of a small amount of these nutrients at each time of application. Sandy soils and soils with low organic matter are often also low in potassium; here the high frequency of rainfall provides an opportunity to make readily effective ground applied fertilizer applications, particularly if the trees have a heavy crop this year and last year's leaf potassium level was marginal.

The effects of the wet conditions on leaf analysis results remain to be seen. Cheng suggests that the vigorous shoot growth will have a dilution effect on leaf nutrient levels, similar to the situation of a light crop year, when leaf nutrients tend to be lower compared with a normal crop year. At this point we don't know how much similarity we'll see in analysis results between circumstances of light -crop-induced vigorous shoot growth versus wet-conditions-induced vigorous shoot growth. While we have some degree of earlier frost related losses, and in cases some environmental x chemical induced fruit damage, most operations should have a decent crop level, so any lower foliar analysis readings will more likely be attributable to weather-driven imbalances.

Pop-up storm developing in Washington County, July 7. *Photo by K. Iungerman.*

So far other fruit quality concerns, namely crop compromised by Apple scab, sooty blotch or flyspeck, appear to be surprisingly minor in the blocks I have seen given our leaf wetting hours, precipitation, and rainfall amounts over eastern NY. (See the Early Summer Summary of Eastern NY weather factors in this issue).

Things could be worse: I was taken aback at my colleague Mike Fargione's report that NJ researchers describe their overlap of ripening peach cultivars from July through September as presenting "one large brown rot epidemic". As Mike says, "all you can do is keep renewing fungicide protection as the continued rains wash it off" and "be sure to alternate fungicide chemistries (QoI's like Gem, DMI's like Indar, and the SDHI compound Fontelis) to maintain effectiveness and limit the development of brown rot fungicide resistance.

An additional note regarding fruit quality: we need more sun for good starch accumulation, eventual conversion for sugar, and for flavor component development! Despite growing day length in June, and the year's longest day on the 21st, solar radiation readings were depressed from May levels at four of the five cited weather stations listed in the Early Summer Summary. Hopefully, we will pick up greater solar gain over the rest of the summer and early fall. Growers should also plan on attending the Ithaca Storage Workshop on August 6 to gain a fuller appreciation of this crop's quality parameters and storage potential (see announcement on page 8).

NEWA Weather Station Data Selected Sites Eastern NY – Early Summer 2013											
Location	Degree Days	Avg Temp	Leaf Wet	Total Rain	Rel Humid	Solar Rad	High Temps		Low Temps		
	Base 50°F	°F	Hours	(inches)	Hrs ≥ 90%	(langley)	≥ 85°F	≥ 90°F	≥ 50°F	≥ 60°F	≥ 70°F
Chazy											
May	345.4	58.8	202	5.83	251	14478	1	0	12	2	0
June	775.1	64.1	242	9.98	332	12507	2	0	25	8	0
July (to 7th)	934.3	72.5	40	1.07	73	2700	1	0	7	6	0
Granville											
May	327	58.6	192	5.37	105	14808	2	0	11	2	0
June	787.75	65.1	213	3.89	248	13432	3	0	24	10	0
July (to 2nd)	820.5	68.1	39	0	29	515	0	0	3	3	0
Clifton Pk											
May	355.2	59.8	151	8.16	164	11373	3	1	13	4	0
June	842.9	66	169	8.05	144	10256	5	0	26	11	0
July (to 7th)	1029.9	75.3	38	1.25	33	2484	5	1	7	7	2
Hudson											
May	368.6	59.4	181	3.15	251	12798	3	3	12	2	0
June	931.3	68.2	191	6.41	274	13873	10	3	28	10	1
July (to 7th)	1137.7	78.7	38	1.04	90	3166	5	4	7	7	5
Marlboro											
May	395.3	59.9	190	3.61	168	13059	3	2	15	5	0
June	949.6	68	150	9.02	162	12574	4	1	29	13	1
July (to 7th)	1152.1	78.8	26	1.13	20	1918	4	2	7	7	6

Upcoming Events

Hudson Valley Lab Field Tour & Barbecue– July 18, 2013. Registration Deadline July 12th

Come help us celebrate Cornell's 90th year of tree fruit research in the Hudson Valley by attending the orchard tour and barbeque at the HV Lab on July 18th. There is a lot to see and learn, plus an opportunity to socialize with other fruit growers at the barbecue in the orchard. The ENY Hort Program is hosting a grower meeting on vegetable diseases later in the evening, and we hope those growers will also join the event before their meeting.

Registrations and payment must be received by July 12th! You can learn more about the tour (free!) and pre-register for the barbecue ($20 per person) using the flier that can be downloaded from the following site: http://hudsonvf.cce.cornell.edu/meeting_announcements/HVL%20tour%20&%20barbecue%207-18-13.pdf or contact Donna Clark (djc16@cornell.edu or 845-691-7151) for more information on registration and the orchard tour and barbecue, or if you have any special needs.

Separate registration and fee is required for the **Vegetable Diseases Meeting**. More information can be found at: http://counties.cce.cornell.edu/orange/veg_field_meetings_2013.pdf or contact Cathy Hughes at 845-344-1234 or email cah94@cornell.edu.

More events on next page

Upcoming Events, continued

Cornell NYS Geneva Experiment Station Fruit Field Day August 1, 2013. Register Now.

Cornell University will host the 2013 Fruit Field Day at the New York State Agricultural Experiment Station in Geneva, NY, on Thursday, August 1, from 8:00 a.m. to 5:00 p.m. The field day will be composed of two concurrent daylong tours, one of tree fruit presentations and another tour of grapes, hops and small fruit presentations. Fruit growers, consultants, and industry personnel are invited to tour field plots and learn about the latest research and extension efforts being carried out by Cornell researchers in Geneva and Ithaca and on commercial farms around the state. The event will focus on all commodities of key importance to New York's $350 million fruit industry: apples, grapes, cherries, raspberries, strawberries, blueberries and other berry crops, plus hops.

The lunch hour will feature an address by CALS Dean Kathryn Boor, NYSAES Director Tom Burr, and an announcement of the new names for Cornell's recently released NY1 and NY2 apple varieties. Also, there will be a FREE beer sampling to spotlight the newly initiated hops research that is taking place at the Station. After lunch, equipment dealers and representatives from various companies will showcase their latest products and technologies to improve fruit crop production and protection. The list of presentations will include the following topics:

Tree Fruit Tour Portion

- Apple breeding at Cornell and new varieties in the pipeline
- Precision apple thinning
- Apple mechanization
- Tall Spindle management in years 1-6
- Spray volume for Tall Spindles
- Precision spraying in the orchard
- Fruit russet control on NY1
- CG rootstocks
- Nutrient removal by fruit harvest and maintenance application of fertilizers
- Impacts of glyphosate on apple tree health
- Evaluation of bactericide programs for fire blight management
- Persistent NY nematodes for plum curculio biocontrol
- Peach rootstocks
- Rain protection in cherries
- Pear systems and rootstocks
- Apple scab management in a fungicide-resistant orchard
- Impact of glyphosate on apple tree health

Berries/Grapes/Hops Tour Portion

- Soil and root factors in improved blueberry productivity
- Mass trapping and exclusion tactics to control Spotted Wing Drosophila in organic blueberries
- Limiting bird damage to small fruit crops
- SWD trap network in NY
- Day-neutral strawberries and low tunnel production
- SWD, a new threat to strawberries and raspberries in NY
- Enhancing pollination and biological control in strawberries
- Training systems for Arandell
- New hops variety trial and pest management trials
- Biology and control of sour rot in grapes
- Precision spraying in the vineyard
- High tunnel raspberry and blackberry production
- A fixed-spray system for SWD control in high tunnel raspberries

The event will be held on the Experiment Station's Fruit and Vegetable Research Farm South, 1097 County Road No. 4, one mile west of Pre-emption Road in Geneva, NY. Signs will be posted. Attendees will travel by bus to the research plots to hear presentations by researchers on the work being conducted. The cost of registration is $30 per person ($40 for walk-ins) for all-day attendance. Lunch will be provided.

Pre-registration is required for the $30 rate, register on-line at: http://is.gd/ffd2013. For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

Cornell University Storage Workshop, Ithaca, August 6, 2013

This year's workshop, slated for August 6 in Ithaca, will feature an international, national and statewide cast. Our guest speakers include Dr. Angelo Zanella, who heads the post-harvest research group at Laimburg Agriculture Research Centre in Italy, and who will be presenting their work on DCA and ILOS, as well as their experiences with DPA. Other presentations will include Honeycrisp, and Empire and Gala browning by Jim Mattheis (USDA, Washington), Jennifer DeEll (Ontario Ministry of Agriculture and Food, Canada), as well as the Cornell team of Chris Watkins and David Rosenberger. Industry presentations include DECCO, PACE and Storage Control Systems. Registration materials will be available shortly.