

## 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

'F*

Pest focus—Apple: scab, sooty blotch, flyspeck, codling moth, 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 7/22/13	Base 43°F*	Base 50°F*
	Granville	2030	1389
	North Easton	2230	1548
	Clifton Park	2154	1497
	Guilderland	2175	1510

Pest focus—Apple: scab, sooty blotch, flyspeck, codling moth, apple maggot. Stone fruit: brown rot, oriental fruit moth, aphids. 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 days1/1/13 to 7/22/13Base  $43^{\circ}F^{*}$ Base  $50^{\circ}F^{*}$ Hudson23501665

Truuson	2330	1005
Highland	2397	1673
Marlboro	2325	1435
Montgomery	2318	1616

Pest focus—Apple: scab, mildew, sooty blotch, flyspeck, codling moth, apple maggot, leafhoppers, mites, aphids, brown Marmorated stink bugs. Stone fruit: brown rot, oriental fruit moth, aphids. Pear: Fabraea leaf spot, pear psylla.

Coming	Events	
Coming Events: Range (normal <u>+</u> std deviation)	Base 43°F*	Base 50°F*
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
American plum borer 2nd flight peak	2002-2856	1347-1785

\*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

### **Summer Pruning Sweet Cherries**

## *By Stephen A. Hoying, Cornell University's Hudson Valley Lab*

The dry mid-summer period immediately after harvest is a great time to summer prune sweet cherries. Pruning should be done during dry periods which allow cuts to dry out or heal before rain. Cherries generally are so vigorous that removal of some wood does not affect carbohydrate accumulation for the winter and following season. In fact, judicious summer pruning can improve the light environment

within the tree strengthening fruit buds and possibly improving next year's bloom and fruit set. Research done previously by Kappel et al. in the west has shown that summer pruning removing from 1/3 to 2/3 of the new growth resulted in increased yields over a 3 year period. These experiments were done both pre and postharvest with the pre-harvest pruning performing slightly better. Summer pruning reduced the overall vigor of the tree but did not affect subsequent vield or fruit size.

This means that summer pruning is especially beneficial for overly vigorous trees.

In addition, at this time it is easy to see bacterial canker infections that can be easily removed potentially reducing the potential for infections next spring.

Immediately post –harvest is also the very best time to reduce tree height. Large cuts made in the tree top result in very little regrowth and any resulting winter injury has very little impact on the health of the tree. In my experience, a single large cut at the desired tree height can contain tree height for up to 3 years.

The style of summer pruning used depends on tree architecture. Dormant cuts made into 1 year old wood generally result in the production of 3 new shoots. Usually 2 are laterally placed (flat) while the third is upright. Simply removing the upright will sufficiently open the tree and allow much improved light

penetration to the interior fruiting wood. Allowing a small stub to remain can increase the number of cherries since fruit buds generally form at the base of one year old wood. Leaving stubs might be an excellent practice for shy bearing varieties such as Regina, Ulster, and Attika. Shoots should be completely removed on cherries that bear excessively such as Whitegold, Rainier, and Sweetheart.

Another reason to leave stubs is to limit the potential spread of bacterial canker on extremely susceptible varieties.

Traditional trees can be summer pruned using bench cuts which flatten and open holes within the canopy to allow for improved light penetration. These bench cuts should not be made into very large wood.

Shoots can also be thinned in areas where they are too crowded. Although this is a judgment call, do not remove more than 1/3 of the existing shoots. Excessively vigorous shoots can also be shortened by removing shoot tips remembering to leave vegetative buds for next year's growth.

## **Retain and NAA Use and Timings for Productive and Effective Apple Harvest Timing**

#### *By Mike Fargione, and edited by Kevin Iungerman, ENY Commercial Horticulture Program*

Retain has been found to be an effective tool for slowing fruit ripening so as to maintain fruit firmness, reduce pre-harvest drop and help improve harvest labor efficiency. The general recommendation in NY is to apply Retain 3 weeks before what would be the anticipated harvest date of each variety if it were to be picked at a normal timing without the application of Retain. The only exception to this recommendation is for McIntosh in the Lower Hudson Valley, where a 4-week before anticipated harvest spray timing is used due to perennial problems with pre-harvest drop. Growers and crop consultants may have other "favorite" schedules that may also be effective.

NAA can be used as a rescue treatment to control of pre-harvest drop. NAA should be applied when the



<sup>(</sup>Continued on page 3)

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first sound fruit begin to drop. When several apples drop in response to limb bumping, it is time to either harvest varieties like McIntosh within 2 days or apply NAA. Rates of 10-20 ppm NAA are usually needed to be an effective stop-drop. Maximum control can be obtained using a split application of 10 ppm followed by a second spray of 10 ppm five days after the first. Split applications can provide drop control for about 12 days from the first treatment.

Cornell faculty and others have been evaluating tank mixing Retain with NAA for several seasons and the results seem better than either product used alone. In a nutshell, NAA delays drop by keeping the apple stem from separating from the spur, but it causes increased fruit ethylene production and subsequent fruit softening. Retain reduces ethylene production by the fruit, but also delays color development and may not compensate for effects of warmer-than-normal heat which increases drop.

By mixing Retain and NAA together, you can reduce drop while maintaining firmness. Lower rates of Retain are less effective at controlling drop and keeping fruit firm, but also have less negative impacts on color development. Here are some suggestions for Retain and stop drop control for the lower Hudson Valley for this season (which may be adjusted appropriately for other areas with regards to specific timing):

#### McIntosh

In the lower Hudson Valley, application of Retain should occur 4 weeks ahead of the anticipated harvest date assuming fruit were not to be treated. This year, growers would apply a full rate of Retain (1 pouch per acre in 100 gal. of spray per acre) during the period August 6-13 if they normally pick non-Retain-treated fruit between September 3-10. Blocks that mature early in this harvest window should be sprayed with Retain early in the treatment window.

Alternatively, Dr. Robinson has suggested that the maximum drop control on McIntosh in the Lower Hudson Valley might be achieved by tank mixing <sup>1</sup>/<sub>2</sub> rate of Retain (1 pouch per 2 acres) + 10 ppm NAA (4 oz. Fruitone-N or 4 fl. oz. of Fruitone-L per 100 gal. tree row volume, delivered in 100 gal. of spray per acre) at 4 weeks before the expected harvest date if Retain were not used. Follow this with the same spray combination at 2 weeks before expected harvest if Retain were not used.

Assuming optimal McIntosh harvest timing for CA will be at the "normal" timing this year, growers who typically begin harvest of non-Retain-treated McIntosh between September 3-10 would apply 1/2 rate of Retain + 10 PPM NAA on August 6-13, and again during August 20-27.

#### Gala

Gala tends to mature earlier than expected in hot seasons. Retain is very useful in enabling harvest to be delayed to allow increased fruit size (and big \$ value increases) while reducing greasiness and stem end cracking, and reducing the number of spot-picks needed. However, the full rate delays fruit color up to 3 weeks and is not recommended for use on Gala. Dr. Robinson's suggestion is to use one application of the ½ rate of Retain + 10 ppm NAA at 2-3 weeks before expected harvest on non-Retain treated fruit.

In the Lower Hudson Valley, growers who harvest non -Retain-treated Gala during August 28-September 6 would apply <sup>1</sup>/<sub>2</sub> rate of Retain during August 7-17.

#### Honeycrisp

Honeycrisp may also suffer from pre-harvest drop, particularly in a hot year, and Retain can be a help. However, Retain has even more negative impact on color development on this cultivar. Dr. Robinson recommends 1/3 to ½ rate of Retain applied 2-3 weeks before harvest on Honeycrisp. (Given my observations, I would go with the 1/3 rate). Robinson has not tested it, but believes the tank-mixing of 10 ppm NAA with Retain would also be beneficial on Honeycrisp.

#### Comments

These are only best estimates that need to be adjusted earlier if the rest of July and August turn out to be significantly warmer than expected. Other scenarios are possible and may provide equal or better results. Talk with you consultants and get their opinions. We are happy to discuss these ideas with anyone, so give us a call.

We strongly encourage growers to view the video of Dr. Robinson's helpful presentation on these issues, which he gave at the 2012 Hudson Valley Fruit Growers' School. Click these links to view just the summary and conclusions (12 minutes) or see the entire presentation (46 minutes). You will need Adobe Flash Player software on your computer which is available free at (<u>http://get.adobe.com/</u>flashplayer/). Your feedback on these videos and their value is both encouraged and welcome.

### Early Season Apple Harvest Timing: Micro Estimation and Macro Climatic Dynamics

#### By Mike Fargione and Kevin Iungerman, ENY Commercial Horticulture Program

Field observations plus calculations based on tools like the "Blanpied / Silsby McIntosh CA Cutoff Model" can provide some insight about how apple maturity might compare with other years. A number of factors suggest the 2013 Eastern NY apple harvest will follow a more "normal" schedule than 2012, which was one of the earliest seasons on record!

We use variants of the Blanpied / Silsby model to predict "CA cutoff dates" for our several respective growing regions. We do not use these predictions to nail the last day

to store fruit in CA, but rather as a way to compare this season's fruit maturity against past seasons.

In the Lower Hudson Valley, we see a "CA cutoff date" of September 22, 2013, meaning that the Valley's McIntosh apple crop will likely mature 1 day later than the 36-year average (1977-2012) and 10 days later than 2012 (Figure 1).<sup>1</sup>

Figure 2. Predicted Harvest Date for CA Storage-Upper Hudson Region McIntosh 1995-2013 The 2013 predicted date is 7 days later than in 2013 but 3 days earlier than the average for the period. Kevin lungerman, CCE ENYCH



1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013





In the Upper Hudson Valley and the Albany Capital area, the "CA cutoff date" is projected to be September 17, 2013, based on a differing combination of bloom dates and temperature accumulations than in the lower Valley. This estimate is 7 days later than that of 2012 but some 3 days earlier than the average of the past 19 years of data calculations for this region (see Figure 2).

> In the North Country Champlain region, modeling returns an estimated "CA cutoff date" of September 19, 2013, some 8 days later than 2012, and 2 days earlier than the average across the same 19-year period cited in connection with the Upper Hudson (see Figure 3).

> Currently, the maturity progression and harvests of berry and stone fruits has been at, or close to, typical times for Eastern New York, which lends credence to a similar normative performance across early and even late season apple crops for 2013.

Looking ahead to the harvest period though, we temper expectations and await August's arrival, as August carries the possibility of warmer temperatures that could markedly accelerate the ripening of early-maturing cultivars.

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The National Weather Service is currently predicting a higher probability for a warmer-than-normal August in Eastern New York, with a stronger likelihood for this same outcome into interior northern New England and across far northern Maine. (It is unsettling that the same holds true for much of Alaska. See Figure 4.)

The cyclical seasonal summer progression is not the only concern. Growing research<sup>2</sup> is linking macro changes in the artic (loss of sea ice, more air moisture, weakening of the artic cyclonic pattern, etc.) to a faltering artic-temperate zone-distinction or barrier. Its erosion is unleashing atmospheric energy differentials capable of powering a more persistently erratic jet stream. These upper atmosphere "wind rivers" wander out of their more "normative" west to east preponderances,

and instead gyrate more extremely south

to north across North America (see Figure 5). It is these departures that are believed to be stalling more regular weather system movement, resulting in prevailing durations of more extreme weather such as heat and/or rain. It is currently unknown how prevalent these Jetstream perturbations may become.

Stepping back to the micro level, apple maturity predictive models are based on temperatures during a relatively short duration immediately after bloom; they do not provide for an adequate accounting of temperatures later in the







1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013

growing season, particularly in the last month before harvest. Consequently, the optimal harvest maturity for early cultivars might arrive a few days ahead of "normal" timings this year if seasonally warmer than "normal" weather (as suggested, a weakening standard) should reestablish itself.

So be aware of possible adjustments of your anticipated "harvest schedule" and bear in mind several other considerations and preparations you have the power to do something about directly to affect cropping success. Since we know that excessive summer pruning, and summer pruning timed after August 1, can increase the potential for premature fruit drop, move to avoid this: make sure you crews do only light-to-moderate summer pruning and try and to get it done on early-maturing cultivars like McIntosh before the last week of July.

Another factor you can directly impact: warm temperatures and / or drought stress prior to harvest also increases the potential for pre-harvest drop on susceptible cultivars like McIntosh and Honeycrisp. There is not much you can do about the temperature, but don't allow crop-bearing trees to become drought-stressed. (In the last issue of Tree Fruit News, Iungerman suggested a critical evaluation of evapotranspiration readings via the Apple Irrigation model on the NEWA site.) Since then, the prior pattern of excessive rain careened into excessive heat, and a lot of water exited the soil via evapotranspiration! So revisit <u>http://www.newa.cornell.edu</u>, pull down "Apple Irrigation" under the management tab, and see where your

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trees may currently stand with water need. Likely, many locations will need supplementary irrigation.

Finally, have a clear plan for how and when you will use stop-drop materials like Retain and NAA to effectively counter the early season and higher-thannormal potential for fruit drop this year. (see the previous article by Fargione) and be sure pickers, equipment, bins and storages are ready in time to pick fruit in the best condition.

1. For the original graphical depictions for the Lower Hudson Valley and also NOAA one-month and 3-month long term temperature and precipitation forecasts see the following:



Depiction of recent jetstream pattern traversing the temperate-artic zones. *Climate, Ice and Weather Whiplash" by Peter Sinclair* 

http://hudsonvf.cce.cornell.edu/resources/Tree%

20Fruit/Lower%20HV%20CA%20Window%20historical%20records% 207-2013.pdf

<u>http://www.cpc.ncep.noaa.gov/products/predictions/long\_range/</u> <u>t14.2c.gif</u>).

2. Notes: For more information on the growing examination of Jet Stream and artic cyclonic interaction,

view the video "Climate, Ice and Weather Whiplash" by Peter Sinclair at the Yale Forum on Climate Change and the Media, Yale University School of Forestry & Environmental Studies. Visit: http://www.yaleclimatemediaforum.org/2013/06/weather-whiplash-astory-of-two-years-2012-and-2013/.

## Filing A Crop Insurance Claim- What To Do, What Not To Do

Source: USDA Risk Management Agency. Adapted by Kevin Iungerman, ENYCH

**How do you initiate a claim?** Call your crop insurance agent and follow up in writing (keep a copy for your records). Your crop insurance company will arrange for a loss adjuster to inspect your crop. It is your responsibility to call your crop insurance agent and initiate this process.

How do you know when to file a claim? Any time you have crop damage that will adversely affect your yield, or the value of your crop, you may be eligible to file a claim. The loss adjuster will determine whether your yield falls below the yield guarantee stated in your crop insurance policy. This applies to revenue guarantee policies, like Crop Revenue Coverage (CRC), as well as to traditional yield protection policies. (Adjusted Gross Revenue and AGR-Lite policies are adjusted based on your agricultural Revenue as reported in your tax return (Schedule F) and do not fall under these provisions)

Most policies state that you (the insured) should notify your agent within 72 hours of discovery of crop damage. As a practical matter, you should always contact your agent immediately when you discover crop damage. In some cases, you may discover a loss while you are harvesting (a row crop for instance). Stop harvesting and contact your agent right away. In the event of losses, you must file notice immediately *after* each unit is harvested (within 15 days) and before the end of the insurance period. For sweet corn and corn cut for silage, you must file notice at least 15 days *before* harvest begins.

**How soon should I expect an adjuster?** In practice, there are different levels of urgency for crop inspectors. The insurance company should make every effort to get an adjuster out right away.

If your crop is wiped out by a hurricane, for example, or if a severe drought has damaged your crop, you still need to contact your agent — but the urgency for an inspection depends on your intentions. If you want to forego harvest due to damage, then an adjuster needs to come out first before you do anything.

If, on the other hand, you intend to continue to care for the crop and harvest what you can, there is less urgency for the adjuster to make the inspection immediately. Even so, an assessment of damage should be carried out.

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**Remember: Don't destroy the evidence.** While you wait for the adjuster, remember these rules: do not destroy or harvest any of your crop until you have permission from a claims adjuster or an insurance company representative.

What should I expect from the adjuster? The adjuster should contact you to schedule an inspection. She or he will expect and welcome your presence and help during the inspection. The adjuster will be interested in what you have to say. You can expect the adjuster to be familiar with your policy and to explain your options. You should have your Farm Service Agency (FSA) documents ready to show the number of acres and locations of your insured crops. The adjuster should have copies of your crop insurance policy documents and your Actual Production History (APH).

**How is my crop yield calculated?** For some crops, assessing crop load for a sample tree(s) at various locations in the field is a part of the process. For other crops, determining the weight of ears of corn per bucket or numbers of soybeans in a beaker is part of the process. Adjusters may take pictures of your trees. They may

check with your neighbors on the condition of their crops and they may check with the local packing house or agricultural agencies as to average yields in the area. They may even consult local weather data. Calculating crop yield is not guesswork. It is a disciplined process. Your adjuster has extensive classroom and field training and is constantly studying to maintain his or her certification.

#### Summarizing Your responsibilities:

#### **Report crop damage promptly:**

- Before replanting (many policies have replanting payments),
- Within 72 hours of discovery of damage,
- 15 days before harvest begins (if loss is possible),
- Within 15 days after harvesting is completed (by insurance unit) or the end of the insurance period.

**Caution:** Do not destroy evidence that is needed to support your claim without clear direction from the insurance company, preferably in writing.

*For more information:* Contact a crop insurance agent. To find an agent, visit our online locator at: http://www3.rma.usda.gov/apps/agents/.

### **Brown Marmorated Stink Bug (BMSB) Update**

*By Peter Jentsch, Cornell Dept. Entomology, NYSAES, Hudson Valley Lab, Highland* 

We've seen increasing numbers of BMSB in our pheromone traps in monitored sites in the lower and Mid-Hudson Valley over the past two weeks. Nymph captures are steadily on the rise in Orange, Ulster, Dutchess and, to a lesser extent, Columbia Counties. The last, or 5th, instar was first observed last week in Orange and Ulster counties, indicating the onset of the 1st adult generation maturing this week. Both emerging adults and the development of the 2nd generation signals a likely significant increase in BMSB population, and movement of this insect into tree fruit over the next three weeks.

In 2012 we found native green stink bugs throughout much of the season while the 1st generation of BMSB adult migration into tree fruit orchards began in early to mid-August.

Stink bug feeding injury to fruit is not readily apparent for 2–3 weeks; in 2012 fruit damage was not noted until early September and by mid-October, injury levels had exceeded 21% in several Hudson Valley orchards. Most damage showed up along orchard perimeters, within 90 ft. of bordering wood-lands. (For example, 85% fruit injury



within the first 30 ft of orchard penetration with a lessening of injury toward the orchard center.

Documentation of 2012 BMSB injury was collectively presented to the EPA by the Mid-Atlantic States and New York. This action prompted the 2013 Section 18 use of the

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active ingredient bifenthrin in several formulated compounds:

- Brigade WSB,10% bifenthrin, EPA Reg.No.279-3108;
- Bifenture 10DF, 10% bifenthrin, EPA Reg. No.70506-57; and
- Bifenture EC, 25% bifenthrin, EPA Reg.No.70506-227.

Product labels carry several restrictions: applications are to be made by ground only at a rate of 0.08 to 0.2 lb./acre, with a yearly maximum of 0.5 lb./acre; that there be a minimum application interval of 30 days; that the REI be 12 hours and the PHI 14 days. Bifenthrin is the most effective pyrethroid available for BMSB management. A second request to EPA for the more efficacious neonicotinoid Dinotefuran (Scorpion and Venom) for BMSB management is pending and not yet approved.

**Strategies for BMSB management.** Begin with a perimeter application in rows where BMSB nymphs or adults have been observed. Identification of BMSB can be difficult as the life stage color and form are uniquely different. (See accompanying lifecycle illustration.) The 1st instar, with black head and red thorax and abdomen with small black stripes, remains on or near the white egg cluster. The 2nd instar has no leg banding while the third through fifth instars do, with adults exhibiting both antennal and leg banding.

Beginning this week, scouting should be conducted along the orchard perimeters within 30 ft of deciduous woodland or hedgerow. The first sighting of BMSB along the perimeter should trigger the initial perimeter spray application. Subsequent scouting should begin on day 4 following the application to determine management effectiveness. If BMSB is then detected, a follow up perimeter application should be made. Continue scouting at 4-day intervals and make subsequent applications as BMSB are detected.

If triggered by observations of adults or nymphs, third and fourth applications should begin an alternate row program (ARM). The fifth application should be a whole orchard application to clean up stink bug within the center of the orchard. The sequence should then be repeated through the remainder of the season beginning with 2 perimeter applications, followed by ARM applications and, as needed, a whole orchard application through the remainder of the season. As BMSB is a deciduous tree pest that remains close to the orchard-woodland interface, the use of perimeter applications will place the insecticide where it will have the greatest impact.

For the initial perimeter application, bifenthrin at the highest labeled rate should be considered due to the 30-day interval for subsequent applications, and a 3 application limit. Insecticide efficacy is based on laboratory residual efficacy, not field residual efficacy. Field trials have shown significant reductions in efficacy after 24-hour exposure to environmental conditions. Another factor to consider is the generational and life stage susceptibility of BMSB to insecticides. The overwintering adult is much more susceptible to insecticides than are the 1st and 2nd generation adults, with young nymphs being more susceptible to treatments than are the adults.

Adapted From "A Mighty Hot Week, And Getting Hotter", Peter Jentsch, Scaffolds V22, N18, July 22, 2013.

## **Upcoming Events**

#### Three Opportunities to Have Your Questions Answered Regarding the Affordable Care Act

July 31, and August 13, 2013 (7 PM - 9 PM), CCE Rensselaer, 61 State St, Troy, NY 12180

August 27, 2013 (7 PM - 9 PM), CCE Washington, Annex 2, 411 Lower Main St, Hudson Falls, NY 12839

The new Federal health reform law, known as the "Affordable Care Act" (ACA) will soon change the way businesses and/or employees will obtain their health insurance. Health care plan enrollments are set to begin in October 2013 via the new health care exchanges being set up in each state. Many farms, small businesses, and individuals have questions as to how the ACA will directly affect them. Cornell Cooperative Extension, in partnership with Community Health Advocates, has organized FREE information sessions to help answer folks' questions. For more information or to register for one of these FREE classes contact Sandy Buxton at 518-272-4210 or (sab22@cornell.edu)

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