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# Weekly Vegetable Update

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Tree Fruit & Grapes

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## Regional Updates:

August is the time when two things often happen: consumers get really, really excited about the local bounty and growers start to get really, really tired. The season has started to grind on, diseases pressure is high, prices start to soften, and there are leaves hinting at the coming fall already.

Being able to see the picture painted by working with growers in seventeen counties helps us when encountering farmers feeling the strain of a late blight or downy mildew diagnosis or a similar misfortune. We can say without hesitation that despite the bumps in the road in any given growing season, our growers are creating a beautiful, durable, accessible food system which sustains people from our region and beyond and helps to form the character of our area.

You, the growers, are enriching the lives of everyone around you in so many ways. The first time a child bites into a slice of the biggest cantaloupe he has ever seen, hours after it came from the field, that child is being touched by a farmer. When the entire region's consumers cry out in unison "Where the heck are the tomatoes?!" they are slowly learning the natural rhythms that farming teaches. When, in the middle of winter, a twenty-something pulls the first pickles she ever made out of the cupboard and gives them to her parents, you have improved the lives of a family. It goes on and on.

The season will continue to be a whirlwind with crazy weather, every possible disease showing up all over at once—late blight *is* still spreading in Columbia and Washington Counties and downy mildew is already widespread—and an army of invasive insects are here to top it all off.

Remember how awesome you are, because this is the time of year when everyone else knows it, too. *(If you need to give someone a hard time about this fluffy writing please contact Crystal)*



## Check Often to Catch Problems Early!

Vegetable growers have to keep track of many different crops in several different fields so it's challenging to stay on top of everything. Appointing one person on the farm to check each block a few times a week can really pay off. Or if you have a few employees, assign each one to a field or crop and make it their responsibility to keep an eye out. It's much easier to stop a problem if you can catch it early, but in reality, checking often can be very challenging to accomplish!

The aphid population on the cucumber leaf in the photo at right is at a level that will be very difficult to bring under control. You have to turn the leaves over to catch this and many other pests. From above, the leaves often show only subtle symptoms at first. Squash bugs and cucumber beetles are other common pests of cucurbits that must be caught early. Begin checking for aphids when the plants begin to form runners.



Aphids on cucumber leaf. Photo: A. Ivy

This farm had an explosion of aphids in just a matter of days, on all their cucurbits but especially on cucumbers, zucchini, acorn squash and pumpkins. It will take more than a spray or two to bring this population down to tolerable levels. They could start with an application of Assail, followed a week later with Lannate, and then weekly thereafter with a rotation of products to avoid resistance. Organic growers need the spray to come into contact with the aphids and since they're on the undersides of the leaves this can be quite challenging to accomplish. If caught when the aphids first appear, excellent results have been seen with two applications of Fulfill (pymetrozine) 7 days apart. There are several products labeled for aphids in cucurbits. Check the Vegetable Guidelines, section 17.6.1.



Typical virus symptoms on zucchini. Photo: A. Ivy

Aphids can transmit virus (see photo) between plants, another good reason to keep them under control. They can appear in a wide range of colors including green, black, white, and tan. Aphids exude a sweet, sticky 'honeydew' that accumulates on fruit or leaves below the aphids. Often a black sooty mold will grow on the honeydew. It's not harmful but it is unsightly and must be washed off fruit with water before selling. -ADI

## Brown Marmorated Stink Bugs: They're Hungry and Moving Into Vegetable Crops

Up until this point, we've been seeing mostly green and brown stink bugs in tomato, but over the past week, brown marmorated stink bug (BMSB) has made its presence known in a big way on peppers (really hot ones too!). At this time, BMSB are present in the lower and mid-Hudson Valley in high to moderate populations respectively. Over the course of the season the overwintering BMSB adults have given rise to a 'summer' 1<sup>st</sup> generation, which are producing eggs and nymphs in very high numbers. In Southern Ulster County, we are seeing a mix of nymphs and newly developing adults moving into commodities, feeding on fruit, and causing economic injury. They prefer corn, tomato and pepper as well as most tree fruit, especially peach, pear and apple. Commercially managed sweet corn using applications at a 4-5 day schedule in a pyrethroid program are at very low

risk for BMSB feeding injury. However organic crops are at high risk moving toward harvest.

Severe damage in organically managed hot peppers (early green stage) was seen over the weekend with 15% feeding injury observed in one field in Ulster County. High numbers of 2nd and 3rd instar nymphs, averaging 3 per plant, were noted. Scouting along wooded borders should be conducted frequently in the cool of early morning as the insects tend to be a bit slower in their movement. BMSB populations have been detected moving into vegetable fields bordering hardwood trees in hedgerow and woodlands. The highest populations are 90 ft. in from field edges bordered by Tree of Heaven (*Ailanthus altissima*), Black Walnut, Catalpa, Maple and Ash.

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**BMSB Moving into Vegetable Crops, continued from page 2**

Fruit are now very susceptible to BMSB injury as these late season populations feed intensively prior to moving to overwintering sites.

This is a critical time to check fields for BMSB, especially if you know they are in your area. I would check all crops as I've seen BMSB feed on all sorts of fruits and vegetables including: green beans, tomatillos, even leafy greens. I would especially check any field edges that are bordered by trees or brush/weeds. Damage typically begins along those field edges. Inspect fruit for damage and confirm the presence of stink bugs by searching the undersides of foliage, and fruits for eggs and nymphs. BMSB are elusive and not easily observed in low numbers. No specific thresholds have been established. If found, treatment may be necessary to reduce feeding and injury. Several insecticides are labeled for stink bug control on peppers and tomato and can be found in the Cornell ICPM Guidelines for Commercial Veg Production (<http://ipmguidelines.org>). Management of BMSB in organic production is very challenging. Peter Jentsch, Entomologist at the Hudson Valley Lab, is currently evaluating efficacy of several organic materials. If you have any questions please feel free to email me at [tr28@cornell.edu](mailto:tr28@cornell.edu) or call 845-389-3562. If you do see BMSB in your veg plantings, I would appreciate you letting me know as we are monitoring distribution and population levels. -TR



Light yellow blotches result from feeding sites.

Photo by TR

**Can you find all 5 BMSB nymphs feeding on these peppers?**

Sources: Cornell ICPM Guidelines for Commercial Veg Production <http://ipmguidelines.org>; 8/20/13 Sweet Corn Insect Pest Management Report by Peter Jentsch, Sr. Extension Associate-Entomology, Cornell Univ. Hudson Valley Lab, Highland, NY

**Considerations for Small-Medium Scale Onion Harvest**

Large scale producers are well into onion harvest and they have lots of equipment they utilize to harvest and store those onions. On a smaller farm, where onions are a minor crop, there is quite a bit more hand labor but the same general practices should be followed to ensure a marketable crop.

**Detecting Maturity:**

Onions start to mature as the tops “go-down”. This is when the necks soften and the leaves fall over. Up to 33% of bulb size is made when the leaf tissue “drains” into the bulb during this time. Growers usually prefer that the tops dry and shrivel completely and that the outer skin of the bulbs be dry before the onions are removed from the soil. However, this is not always possible when weather and schedules are considered.

In some cases, to hasten the maturation, onions are rolled using empty drums to knock the crop down. This has to be done carefully. If the onions are not ready this process may pull them prematurely from the soil creating a mess in the field. Rolling is no longer regularly practiced unless, due to imminent weather system, harvest needs to be expedited or heavy rains falling in the neck of the onion will cause increase in bacterial infection rates.



A field of onions with the “tops down”.

Image: Onions-usa.org

**Pre-Harvest:**

After the tops have dried the onions can be removed from the soil and/or have roots cut. Usually this is done by hand but can be accomplished with different pieces of equipment. They can be windrowed, which is like a pre-harvest where they are piled in rows for later topping and crating or they can be undercut, where a

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*Small-Medium Scale Onion Harvest, continued from page 3*

blade runs beneath the bulbs to sever roots but does not really remove the bulb from its previous position.

Windrowing is a much more common practice in current production while undercutting was quite popular a few years ago. Basically, they do a similar job; to prevent the bulbs from continuing to feed from the soil and begin the drying and storage cycle.

If you are going to do any process that removes the roots from the soil but does not remove them from the field, it is critical; that this is not done on a hot (over 90/95F) or VERY sunny (UV over 6) day. High temperatures and strong sun on a bulb that abruptly stops receiving water or nutrients will result in sun scald. This is quite serious as it will cause burn/flat spot/ wound for disease to enter making the onion unmarketable. Harvesting and leaving the onions in the sun like that can damage almost 100% of your crop in 1 day.

**Harvest:**

When the onions have dried sufficiently to be topped, they can be topped and placed in crates. Generally, unless one knows they will be selling the onions within a week's time, green tops should not be cut. A "wet" onion if topped while green allows for diseases to enter and these onions will not be storable. To see if an onion neck is dry enough to cut, roll it between your fingers. There should be very little slip when you feel the scales slide against each other.

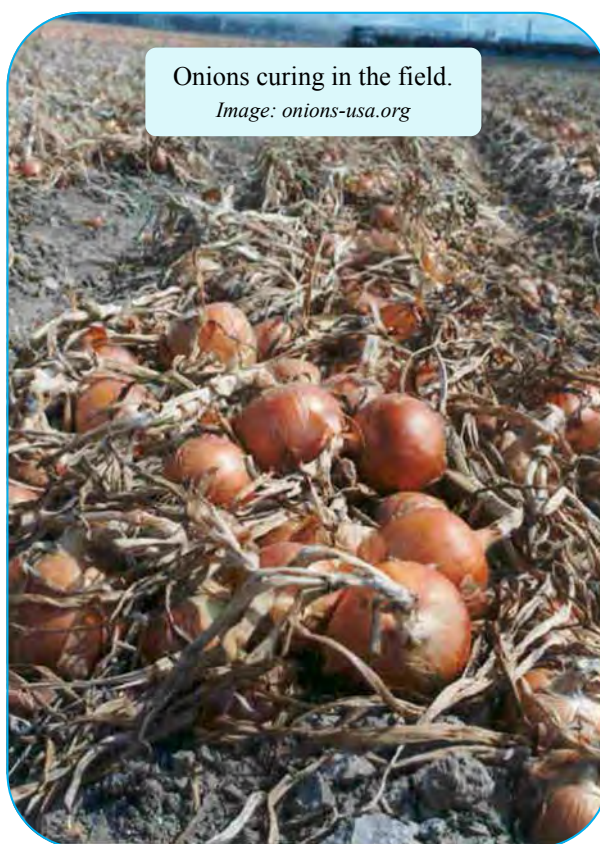
To complete the action of topping you can tear the tops off but this is really not physically practical for more than a few onions. A good sturdy shears, such as a good pair of kitchen shears will work well. Historically, for hand harvesting, onion growers used sheep shears as toppers. They were effective, could top several onions simultaneously, and easily sharpened at the end of every day. The dirt on the necks will quickly dull any blade you choose so plan for regular replacement or sharpening.

Discard any onions that show disease when harvesting. If left to mingle with the others they may spread whatever

infection they have to clean bulbs. Also, if possible, especially if you are topping many with neck rot, sanitize the topping tool to minimize infecting clean bulbs. A 10% bleach solution or even a can of disinfectant spray can be used to do this. Remember that many sterilizing materials are corrosive and should be cleaned off tools at the end of the day to prevent pitting and rusting of metal.

**Storage and Curing:**

Onions should be topped directly into whatever crate or bin they will be stored in. For small & medium size growers I recommend small crates (holds ~40 lbs.) that are well slatted or perforated for air movement. Large bins can trap moisture and generate pressure that can cause misshapen onions in the bottom of the crate.



Onions curing in the field.

Image: [onions-usa.org](http://onions-usa.org)

Then the crates can be stored outside where the air will continue to dry them. Stack the crates and cover the top of the stack to prevent rain from falling in. This is quickly achieved with a right-sized piece of plywood and some bungees or a tarp and some staples. Be sure the stack has good air movement and is not stored next to a building for maximum drying. After a few days of drying out-of-doors they can be moved indoors where expertly aligned fans will continue the process. Onions lose (depending on variety, growing conditions, and harvest timing) between 10% & 20% of their mass in the drying process. But done well, will provide a properly cured onion that can be marketable well into January, even without too much technology.

A few more hints:

- Try not to harvest in wet weather, mud can be very difficult to remove and may actually stain the bulb.
- Small lots of onions can be braided and hung in buildings to dry like garlic.
- Do not wait too long to harvest after maturation is achieved, especially if the roots are still intact. The onion may sense weather changes and potentially begin to grow again and that is an irreversible problem that will make the onions unfit for storage and possible unmarketable. -MRU



## Storage Considerations for Garlic

In general garlic has dried down pretty well in eastern New York. Disease issues were minimal for most growers at harvest and the weather has cooperated in bringing a quality crop into August. Now that the garlic is starting to become fully dried, it is time to think about longer-term storage options.

In order to maintain the weight of your dried garlic while minimizing the occurrence of storage diseases, temperature and humidity should be controlled within a fairly tight range. Storing garlic in open sheds or barns after it is dry works when the weather cooperates, but if we have an extended period of rain or very high humidity post-harvest diseases such as *Embellissia* and *Aspergillus* will quickly develop.

The best longer-term storage areas I have seen so far are often small, sealable rooms built in barns or outbuildings with fans and dehumidifiers or air conditioners installed. Having a room inside another structure provides some temperature regulation and having a small space allows for good humidity control.

The conditions you want to aim for to store garlic up until planting are cool, but not cold (55-70° F is good) with lower humidity (even below 75% will help, though 50% is better). Placing garlic in mesh bags or onion crates in the storage room has been working well. Any container which allows a small amount of air and moisture movement is beneficial.

If you do find disease issues in the garlic, you might be able to slow or stop them with by lowering the humidity and



Aspergillus



Images: CLS

Embellissia

temperature. Keep checking garlic at least once per week to make sure that diseases aren't forming. If you have questions about identification or storage, please feel free to contact me.

### What to look for:

**Aspergillus**, or black mold, is a fungus which is always present in the environment and will show up as soon as conditions are favorable. It is saprophytic, meaning it feeds on dead tissues such as the wrapper leaves of garlic. Storage between 75 to 85° F above 75% humidity is particularly conducive to mold development. Storage at 60° F or lower will slow existing infections considerably.

If you have black mold growing on the outermost wrapper leaves but inner leaves are unaffected, storing garlic under ideal conditions should stop its spread. You can then remove the wrappers which are affected and still have high-quality garlic.

If you do not change the conditions of garlic being colonized by black mold, it will continue down through the leaves all the way to the surface of the cloves, making the garlic unmarketable.

**Embellissia** is less noticeable on garlic, showing up more as a cloud than as defined black lesions. Garlic often comes out of compacted soils with some embellissia on the outer wrapper leaves. If stored at 75-85° F the fungus will continue to spread to additional leaves. This disease is also cosmetic, and does not affect seed quality, but it does affect marketability. Storing garlic as you would to prevent the spread of *Aspergillus* will prevent the spread of *Embellissia* as well. -CLS

## Upcoming Meetings

**Organic Management of SWD, Mon. Aug. 26, 5 pm - 7 pm** - Westwind Orchard, 215 Lower Whitfield Road, Accord, NY

Spotted Wing Drosophila (or SWD) is new invasive pest threatening crops. Join us at Westwind Orchard to learn about organic management strategies for SWD, including cultural practices and organic pesticide options. There will be a display of netted raspberries and CCE educators and entomologist from the Hudson Valley Lab on hand to talk about results of trials of organic products for SWD control.

[Westwind Orchard](#) is an historic apple orchard located in the Hudson River Valley, in the shadow of the Catskill Mountains. Owner and farmer Fabio Chizzola operates a pick-your-own apple, raspberry, and primocane blackberry operation.

**Registration:** \$10/person or \$15/two or more people per farm; pre-registration deadline: 5 pm Aug. 22. To register contact Stephanie 585-271-1979 x509 or email [register@nofany.org](mailto:register@nofany.org), or shop online at <http://tinyurl.com/nofanyevents>.

*This workshop is a collaboration between NOFA-NY and Cornell Cooperative Extension of Ulster County Supported by USDA Risk Management Agency, Outreach and Assistance Program and the Local Economies Project of the New World Foundation.*

## Upcoming Meetings, *continued*

### Visit On-Farm Research Trials to Learn Innovative Management Techniques for Spotted Wing Drosophila - Tuesday, Sept. 10, 2013



Cornell University  
Cooperative Extension  
Eastern New York Commercial Horticulture



Plan to join growers, extension educators, Cornell University research faculty, industry and government representatives for updates on innovative management techniques for SWD.



**2:00 pm - 3:30 pm: Fixed Sprayer System in a High Tunnel Raspberry Planting** at The Berry Patch of Stonewall Hill Farm, 15370 NY Route 22, Stephentown, NY 12168. *This NYFVI funded project examines the effectiveness and labor saving attributes of this mode of pest control when faced with a challenging pest like SWD. Owner Dale Ila Riggs has been a leader in the campaign to*

*secure research funding for SWD.*

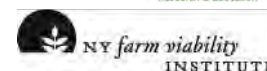
3:30 pm-4:00 pm: Travel to 2<sup>nd</sup> site

**4:00 pm-5:30 pm: Exclusion Netting and Mass Trapping to Control SWD in Organic Blueberries** at Hay Berry Farm, 1276 Babcock Lake Road, Hoosick Falls, NY 12090. *Lawrie Nickerson was awarded a NE SARE Farmer Grant to evaluate netting as a management tool for SWD. She also looked at weed mat and berry quality in the study. The farm features a SMART NET bird net, deer fencing and a portable hand-washing station to meet U-Pick customer needs.*

To register call Marcie 518-272-4210. There is no fee, but it helps us provide the appropriate number of handouts etc. If you get a machine, leave number attending, and your name and phone number. This event will happen rain or shine. For information on the event, call Laura McDermott 518-791-5038.



*Research Supported by funding from NE SARE and NY Farm Viability Institute*



### Weekly and Seasonal Weather Information

Site	Growing Degree Information Base 50° F			Rainfall Accumulations		
	2013 Weekly Total 8/13—8/20	2013 Season Total 3/1 - 8/20	2012 Total 3/1—8/20	2013 Weekly Rainfall 8/13—8/20 (inches)	2013 Season Rainfall 3/1—8/20 (inches)	2012 Total Rainfall 3/1—8/20(inches)
Albany	137.0	1894.3	2226.3	1.05	23.59	17.77
Castleton	128.2	1981.7	2416.4	0.04	20.77	17.60
Chazy	126.0	1759.2	2405.3	0.12	19.84	14.27
Clifton Park	124.4	1910.2	2193.8	1.53	22.63	21.05
Clintondale	144.3	2163.6	1819.5	NA	NA	NA
Glens Falls	113.0	1786.9	1970.5	1.03	18.80	14.36
Granville	121.0	NA	2069.5	0.00	NA	18.76
Guilderland	129.0	1813.3	2042.0	0.46	6.70	6.45
Highland	140.9	2169.5	2375.7	0.85	20.66	22.92
Lake Placid	61.4	1176.3	NA	0.48	21.80	NA
Montgomery	136.0	2264.2	2114.5	0.53	21.32	NA
Monticello	101.7	1515.7	2052.0	0.01	0.28	1.49
Redhook	132.7	2056.5	2221.0	0.44	16.51	17.36

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