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Weekly Vegetable Update

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Regional Updates:

As crops start to come into full swing and we see the same observations coming from the north and south, these observations will be merged. Items that are of interest to one part of the region will be separated back out.

What a difference sun and heat make! The crops that had not drowned really put on a burst of growth this week. Things look a lot more promising on farms around the region. Growers have been tackling out of control weeds with aggressive cultivation this week. Plants need all the help they can get to make up for the slow start to the season so getting rid of weeds and eliminating any kind of pest or disease pressure will be worth the effort.

Early blight is common on the lower leaves of field tomatoes. Healthy plants can often out-grow or at least tolerate mild infections but this year a protectant spray would really help stop the spread. Dr. Tom Zitter, vegetable pathologist, has compiled some very handy, user-friendly lists of fungicides for key crops. Both conventional and OMRI approved products are included. Visit <http://vegetablemdonline.ppath.cornell.edu/> or search for 'vegetable md' to get to the home page, then click on "News Articles/Disease Alerts" then scroll down to crops of interest to you for the summary pages. There is a summary for cucurbits, one for tomatoes-peppers-eggplants, a current OMRI list of fungicides, and much, much more at this site.

Hot weather is stressing many plants...

With higher temperatures this week and dry soil conditions in some areas, plants are under increasing stress. Expect flower-drop on several types of vegetables. And because bees do not like to pollinate on hot days (they stay inside too) those flowers that do not drop because of the heat may miss out on becoming fruit for another reason. See the table inside the newsletter for ideal and damaging temperature ranges.

Late last week we saw a high tunnel tomato planting with a serious amount of **stink bug** damage that was causing fruit to prematurely ripen. The fruit had so much damage, they were unmarketable. Keep an eye out for large numbers of both green and brown stinkbugs; last year they became economically damaging in many tomato plantings throughout New York. Horn worms have also been seen in a few fields at low levels. Also, be on the lookout for Northern Corn leaf blight in sweet corn as conditions have been conducive to its development and spread. Reduced tillage plantings may be at higher risk.

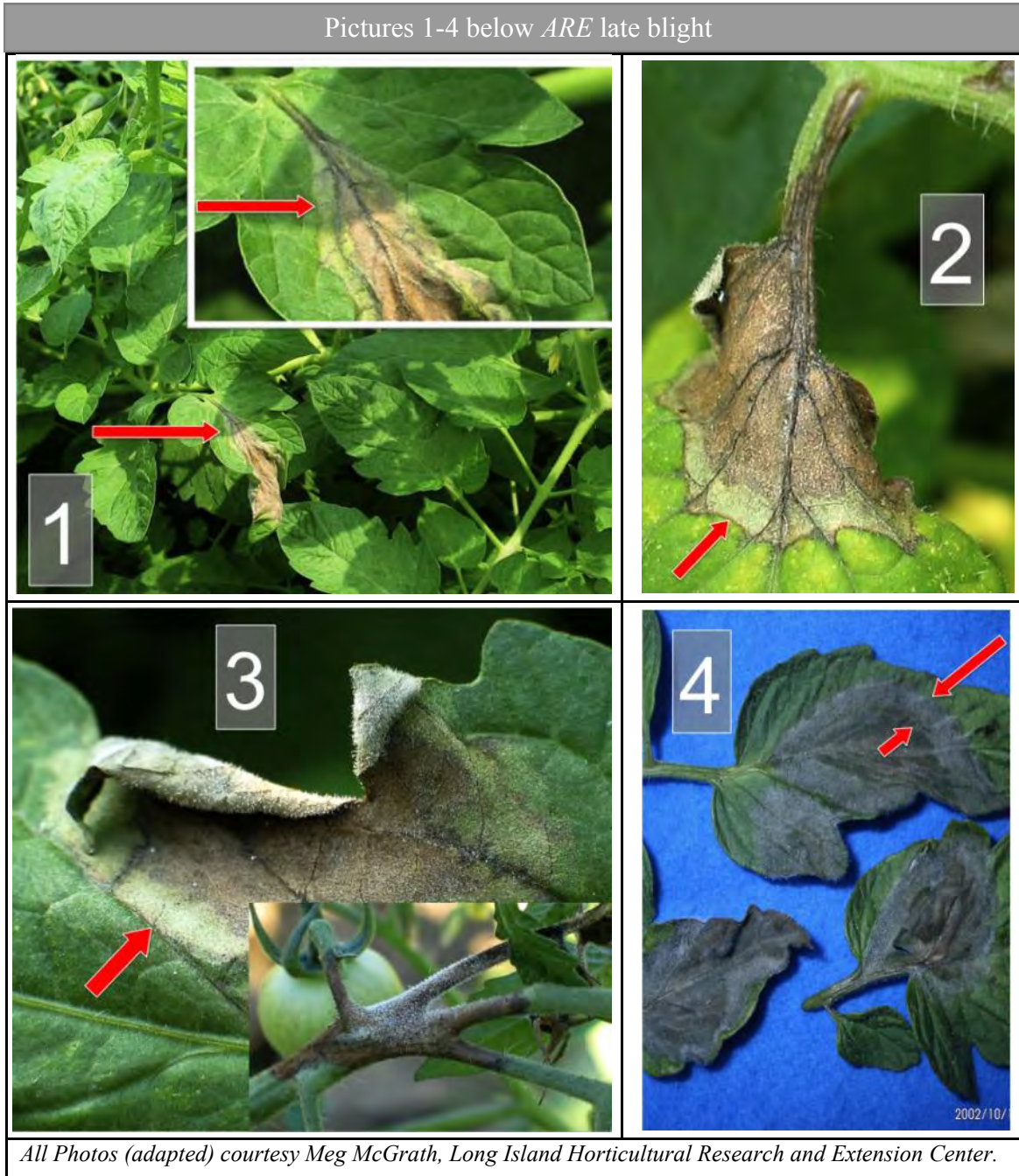
Squash bug eggs are found in the millions (ok, maybe not that many but there are a lot) in cucurbit plantings right now. The best time to control them is shortly after hatching. Flag a few egg masses, and spray for them shortly after the nymphs have emerged.

Late blight is as close as Madison County, NY. Stay on top of preventative fungicide sprays. See the article in this week's *Update* for information on LB lookalikes.

Know Late Blight Symptoms AND its Look-Alikes

By Justin O'Dea, Vegetable Extension Educator, CCE Ulster County

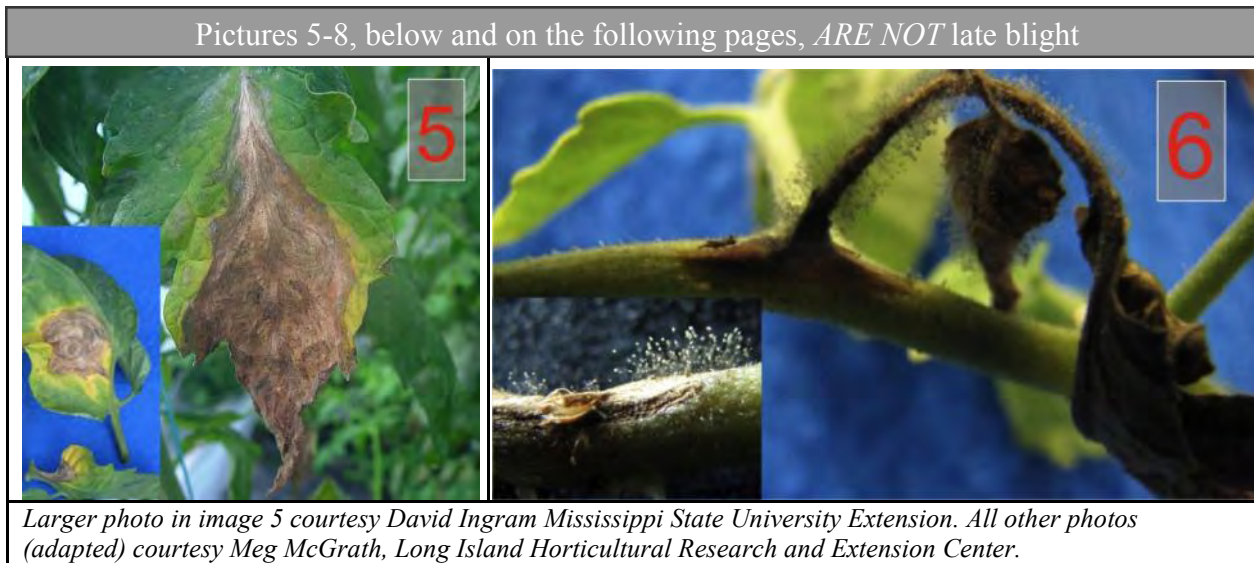
Reports of late blight in the region can drum up anxiety that any wilted leaf or spot on found on your tomato or potato crops could be the beginning of the end. A lot of plant symptoms can look similar without a trained eye or a good reference. Reduce your anxiety by knowing what clear signs to look for, and what issues may look like late blight at first glance.



1. Early symptoms of single leaf showing late blight brownish wilted leaf lesion. Subset picture showing close-up with arrows pointing to light greenish-brown border area characteristic to late blight. Yellowing is *not* characteristic to late blight.
2. Close-up of leaf and stem lesions with arrow pointing to light greenish-brown border characteristic to late blight. Note the lesion gets darker towards the center, and veins are even darker. Lesions become darker grayish-brown as they progress.
3. Stem and leaf lesions showing fuzzy whitish fungal spores forming on infected areas.
4. Further progressed infection, showing darker sooty-grayish leaf lesions. The lighter colored outer border between arrows is also darkened, with spores concentrated in this area.

Late Blight Look-Alikes, continued on page 3

Late Blight Look-Alikes, continued from page 2



5. Botrytis gray mold on leaf. Note, *no* greenish-brown border, coloration is more uniformly brownish with concentric rippling and is *lacking* any grayish hues; diffuse yellowing on lesion borders is *not* characteristic to late blight.
6. Botrytis gray mold spores on tomato stem. Botrytis gray mold spores are much longer (“fuzzier”) than late blight spores, and are gray-brown, *not* white.



7. Drought stress in tomato leaf. Drought stress damage comes inward from leaf edges and does not spread to stems or fruit. Drought stress does *not* have a lighter greenish-brown lesion border area, *lacks* sooty-grayish hues, and *doesn't* develop fuzzy spores.
8. Lightning damage on tomato leaf, and stem (subset). Similar to drought stress, leaves look scorched from tips/edges inward, but also have yellowing, and stems (subset photo) characteristically collapse/pucker.

Note: Multiple symptoms of different afflictions may occur in tandem. Knowing symptoms characteristic to late blight specifically is your most important identification strategy!

For more information see:

- <http://www.longislandhort.cornell.edu/vegpath/photos/diagnose.htm>
- http://www.longislandhort.cornell.edu/vegpath/photos/lateblight_tomato.htm
- <http://onvegetables.com/2010/07/13/late-blight-look-alikes/>
- <http://www.rodale.com/tomato-problems?page=0,0>

Late Blight Look-Alikes, continued on page 4

Late Blight Look-Alikes, continued from page 3

Pictures 9-12 below ARE NOT late blight



All Photos (adapted) courtesy Meg McGrath, Long Island Horticultural Research and Extension Center. Image 11 upper two photos courtesy of Ontario IPM-Ontario Ministry of Agriculture, Food and Rural Affairs, lower photo U-California Cooperative Extension-Ventura County. Image 12 photo (adapted) courtesy Janice LeBoeuf, Ontario Ministry of Agriculture, Food and Rural Affairs.

- 9. Early blight (*Alternaria*) on tomato leaf. Smaller, roundish, rippled concentric rings and yellowing are characteristic of early blight. Numerous smaller lesions and yellowing are *not* characteristic of late blight, and sooty-grayish hues are *lacking* in early blight.
- 10. Septoria on tomato leaf. Similar symptoms to early blight, but septoria develops tan centers and small black specks in their lesions.
- 11. Powdery mildew on tomato leaf. Whitish-powdery spores develop, with mottled blackening on leaf undersides (subset). Diffuse yellow spotting is usually associated following whitish spore development, followed by necrotic lesions. Yellowing, and whitish spores *without* brownish or grayish lesions, are *not* characteristic of late blight.
- 12. Corky root/stem rot on tomato. Leaves and stems decline from the tips inward with complete necrosis. Stem yellowing behind necrotic areas is characteristic, and roots are corky with banded lesions. Leaf decline may resemble late blight, but leaf and stem yellowing and specific outward-in decline pattern is *not* characteristic to late blight.

Pumpkin and Winter Squash Update

Pumpkins and winter squash growth has really taken off with the return of some dry, warm days. The rains of the last couple weeks have left their mark however. I am seeing a fair amount of weed escapes (not surprised) and even though we don't have a lot of post emergent materials labeled, now might be the time to think about using what we've got.

Post-emergent grass control is pretty easy. We have several materials labeled including Select 2 EC or Select Max (AI: clethodim) and Poast 1.5 E or Poast Plus (AI: sethoxydim). There are several generic versions of these materials available as well which is why I gave you the active ingredient names in parentheses. You need to know what you have and make sure you read the labels carefully as the rates and the surfactants (crop oil versus a non-ionic surfactant) are different for each material. For example, Select 2 EC is labeled for 6—8 fluid ounces per acre and requires a crop oil concentrate (COC) while Select Max is labeled at a rate of 12—16 fluid ounces per acre and requires a non-ionic surfactant. Two more notes: if perennial grasses like quackgrass are a problem, I recommend using Select or a clethodim material as they are particularly active on perennial grasses. Another key to using either of these grass herbicides is to make sure the grasses are actively growing. So don't put them on right after a heavy rain or after a cultivation or during a long dry spell as the control may be less than you expect. And, don't expect to see results overnight: the Select materials work a little faster than the Poast products, but both may take a week to 10 days to really work. Bottom line: Know your product and read the label and when in doubt, call your local extension agent or your chemical salesperson for help!

We really have only one option for post emergent broadleaf control and even then, the list of weeds controlled is limited

to yellow nutsedge, ragweed, pigweed, galinsoga and some mustards. It does not control common lambsquarter post emergent or any of the grasses! It also works best if weeds are small (1—3 inches). Sandea/Profine (halosulfuron) is the most effective post emergent broadleaf material we have in cucurbits. Sandea applications can be made when the crop has at least 2—5 true leaves, but before female flowers emerge. You can tell the female flowers because they usually are out on the end of the vines and have a small fruit on the end of the flower. Male flowers can usually be found in closer to the crown area and they do not have what resembles a fruit attached to them. The recommend rate is 1/2 oz per acre of Sandea/Profine and we are limited to 1.0 ozs per acre per season total. So, if you used Sandea/Profine as part of your pre-emergent program and used higher than the recommended 1/2 ounce rate, you may not be able to use an additional 1/2 ounce post-emergent! You will also need to mix this with a non-ionic surfactant in order to optimize weed control. Do not apply when plants are under stress as this might increase crop injury (slight yellowing and some stunting). If using over the top of plastic, I would recommend directing the spray with drop nozzels or using a shielded sprayer in order to minimize the amount of material that gets onto the plastic. I have seen some cases where material was applied over the top of plastic and after a rain the material ran into and concentrated in the plant holes and caused more injury than normal.

Cucurbit Downy Mildew: We have had some growers call me with concerns of Cucurbit Downy Mildew. The good news is that we have not detected any in the immediate area, or heard of any reports in New York thus far. However, there are lots of reports in Ohio, New Jersey and most recently Michigan. -CDB

Harvesting Broccoli at Its Prime

Every grower has their own favorite tricks for determining when a particular crop is at its prime for harvesting. Ask a group of 10 growers how they tell when watermelon is ready and you'll probably get 10 different tricks, from thumps to pings to color of the rind or dried up tendrils.

Broccoli harvest is in full swing now. Growers like to wait until the head is as large as possible, but if you wait just a day or two too long, the head may open up and lose its visual appeal and tenderness. On a recent farm tour last week, Paul Arnold of Pleasant Valley Farm explained his method: When the broccoli head is still domed it's not quite ready (photo left). As soon as it starts to flatten out



it's at its peak quality and maximum size, and should be picked within a day (photo right). Note that the broccoli on the left can be harvested and will be of excellent quality but you won't be getting the maximum potential size while still retaining quality. -ADI

Meetings and Notices

Veg Growers,

FDA will be visiting melon packing houses this season....

If there are **ANY of you out there that grow melons** you may be on their list to visit (regardless of farm size).

If FDA arrives, they will be taking swabs on zone 1 areas (food contact surface (belts on the line or any surface in direct contact with the melon)). Which means if they find a positive in a zone 1 area, all melons that ran over that line will have to be recalled if they have been sold before there was a "clean break" in the line (sanitation step that ensured the removal of the listeria).

Field-packed melons are not included in this inspection.

If you have questions or concerns contact Maire Ulrich and she will help you work with [Food Science/Produce Safety Alliance](#) at Cornell to make sure you are prepared. -MRU

Weekly and Seasonal Weather Information						
Site	Growing Degree Information Base 50 ^o F			Rainfall Accumulations		
	2013 Weekly Total 7/09—7/16	2013 Season Total 3/1 - 7/16	2012 Total 3/1—7/16	2013 Weekly Rainfall 7/09—7/16 (inches)	2013 Season Rainfall 3/1—7/16 (inches)	2012 Total Rainfall 3/1—7/16 (inches)
Albany	221.7	1320.1	1513.3	2.23	20.84	14.79
Castleton	213.0	1326.9	1503.1	1.01	15.31	14.34
Chazy	236.0	1168.1	1562.9	0.79	18.07	11.92
Clifton Park	207.6	1265.1	1410.3	0.31	19.46	17.66
Clintondale	215.8	1441.6	1138.3	NA	NA	12.03
Glens Falls	199.7	1158.6	1263.0	0.37	15.96	12.83
Granville	200.7	NA	1160.0	0.37	NA	17.06
Guilderland	179.5	1122.8	1417.4	0.19	5.36	5.45
Highland	211.6	1423.9	1570.5	0.16	13.63	15.57
Lake Placid	141.3	773.9	NA	0.45	18.63	NA
Montgomery	218.1	1333.9	1428.5	0.32	13.49	NA
Monticello	190.1	963.0	1241.0	0.01	0.18	0.75
Redhook	201.6	1331.0	1442.0	0.11	13.43	11.84

Cornell Cooperative Extension and the staff assume no liability for the effectiveness of results of any chemicals for pesticide use. No endorsement of any products is made or implied. Every effort has been made to provide correct, complete, and current pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly and human errors are still possible. These recommendations are not substitutes for pesticide labeling. Please read the label before applying any pesticide. Where trade names are used, no discrimination is intended and no endorsement is implied by Cornell Cooperative Extension. *Cornell Cooperative Extension provides equal program and employment opportunities.*