



Vermont Vegetable and Berry News –June 24, 2019
compiled by Vern Grubinger, University of Vermont Extension
(802) 257-7967 ext. 303, vernon.grubinger@uvm.edu
www.uvm.edu/vtvegandberry

REPORTS FROM THE FIELD

(Huntington) We got everything in on time, but were pushing the limits on how wet to do things like laying plastic mulch back in May. This is the least GDD we've had in the last 10 years. I stopped checking records after 10 years, it could be more. Squash transplanted May 20-24 has been slow to take off, but at least it survived and is turning the corner. Cooler crops like onions, potatoes, and spinach actually look decent. Both heated and unheated tunnels are definitely behind by a bit on account of the lack of sun/heat in May.

There was a lot of winter damage to rye cover crops seemingly seeded at the exact wrong time last fall, right before the rains turned on, but even the fields seeded earlier (and drier) were definitely better stand-wise but not high yielding. I'm glad we weren't planning to bale any for straw this spring. I'm looking to get my hands on a new variety of winter pea that is supposedly winter hardy in zone 4, as an overwintering annual legume that can put on most its biomass in the fall would be pretty handy. The VNS hairy vetch we usually end up with is too variable in its ability to survive our winters, and waiting until early June to incorporate to maximize N is quite a challenge.

(Charlotte) Blueberries are doing well, were heavily pollinated this year. So many on the bushes right now waiting for some sun! Black raspberries are doing well. Have seen some orange rust and pulled up the plants, and have trellised them all up. Need to add another row of wire on the top posts this fall. Some of the plantings look like they have gotten too much water and the primocanes look a lot better than the floricanes in the new field. Getting everything weeded is always a task but more help coming next week. The veggies are looking strong but in the pumpkins we are seeing cucumber beetles, and are getting on top of that now using an organic spray.

(Orwell) It's a good year to rely on hoop houses for our crops; after a nice little lull after getting our last plants, we are beginning to harvest in earnest. With so much rain and humidity early on in the season, we are seeing more botrytis and leaf mold than we usually do this early in the year. Cautionary tales from last year also have us keeping a careful eye for signs of powdery mildew.

We are working to improve ventilation in all of our houses by installing butterfly vents and experimenting with vertical air flow fans for improved circulation. We've also been pleased with the raised beds we built in one house over the winter, and would like to build them in other houses for the future. On a wet, cold spring like this one, it really seemed to help buffer the seeping chill from the outdoors. We are looking forward to the full swing of harvest!

(Little Compton RI) This year we have one of our best greenhouse tomato crops. But with all this wet weather we are in a panic to keep it looking good. We still are heating our houses every night to 70 degrees! Botrytis has been creeping in, usually around where employees didn't prune a low branch tight enough to the stalk or where someone brushed against a plant and snapped half a leaf off and that is where the trouble begins.

With our grafted tomatoes we increased leaf pruning up to the second cluster by the time the plant has five clusters total. I see photos of European growers practicing the same protocol.

Potatoes and peas are doing well, but crops that need heat to advance growth are stalled. Normally our first planting of zucchini is peaking by this time, but this year we have picked it only twice. Today we threw out our second planting of watermelon transplants. With this trend we should take that acreage and shift it to broccoli and other cool, moisture loving crops.

Our biggest success has been growing green sprouted potatoes in black plastic. Gave them 225 pounds of potassium/acre this year! Planted April 28 and harvested solid "B" size potatoes June 13. We are getting close to staggering all our potato plantings and green sprouting them all. They come up and close in so fast it makes weed control much easier.

(Plainfield NH) Having a season where time and labor restraints make us gamble on decisions. Betting against the weather, we did not get row covers on many early plantings and now are paying the price. The cold damp May weather beat up and set back transplants. Lost about an acre of onion transplants to onion maggot because of the conditions. Have gotten a bit of cabbage maggot on early plantings in the past, but never onion maggot on our sandy soils; that has been discouraging. The Rx seems to be a prophylactic drench of some nastiness like diazinon, and although we are conventional growers we are not ready for that yet.

The lack of heat also did not help the strawberry plants rebound from a tough winter and they are only now showing signs of recovery, but are under fruit load as harvest has begun. Not optimistic on the size of the crop, despite a lot of blossoms.

A decent ornamentals season is still going on, and we have a good crew in place but with strawberry harvest upon us, it feels like the horses are getting away from us a little bit more each day.

(Ange-Gardien, Quebec) Sun is back. Greenhouse crops almost over only beans left and they are way too vegetative. I need to be more aggressive on defoliation. Melons crops flowering, taking remay away for pollination. Soybeans are first trifoliolate and weed are under control except for that one spot...Christmas trees cleaned and I am looking forward to the moment where they will be big enough so I can use this piece of land as pasture, another project. I even had the time to mow around the gardens and in the windbreaks. Spending way too much time cutting grass around the buildings, greenhouses, compost pile, etc. Farm sure looks clean but man, there should be another option, something that covers the ground without growing upright, somebody help me!

(Salisbury NH) Got a new hoop house and appreciate the available space and ability to rotate out of tomatoes in the other hoop house. We are seeing quite a few Colorado potato beetles - adults and eggs. Adults don't seem to be feeding and so far eggs not hatching. Not that we're complaining about that. Had some leafhoppers but took care of them. Been happy with amount of sunshine and rain so far as we mostly don't use drip. Sales slow due to weather and a paving project on our road. Both will change soon.

UPDATE FROM THE UVM PLANT DIAGNOSTIC CLINIC

Ann Hazelrigg

Broad mites confirmed on begonia bedding plants. Extensive scarring was present on the stems and the distinctive eggs were found on the tissue. The plants most likely arrived with the pest from a larger supplier. This pest can also cause extensive fruit scarring on pepper and other crops. <https://content.ces.ncsu.edu/cyclamen-mite-and-broad-mite>

Potato leafhopper has arrived and is causing damage in hops, beans, potatoes, etc. look for leaf edge yellowing and nymphs that run sideways when you turn over the leaf.

Strawberry-diagnosed **powdery mildew** on Cavendish fruit. You could just barely see a coating of fuzzy white spores on one side of the green and ripening fruit. Grower reported this was the only cultivar affected. Remember, powdery mildew as downy mildew, are very host specific so this PM will not attack tomatoes or squash.

Raspberry- suspected **root rots** on black raspberry as a result of lots of wet weather combined with heavy soils. Raspberry cane maggot diagnosed. If you are seeing boring injury in May/ June, this is likely the pest. See:

https://extension.unh.edu/resources/files/Resource005935_Rep8322.pdf

Tips of new canes wilt, and there's no exterior girdle, as would be evident in raspberry cane borer attack that occurs in July. There will be a small hole (1mm) in the wilted tip, a trail of interior girdling leading from that hole, with a tiny maggot inside the cane, according to Alan Eaton, retired UNH entomologist.

Blueberry- seeing a fair amount of winter injured stems along with **Fusicoccum and Phomopsis** canker not to mention the earlier **mummy berry** infections.

Tomato-since fruit is setting we are seeing more incidence of **bacterial canker**. Look for wilting plants and black streaking on stems. Cut into the vascular system and you will see browning. Get the plant out of the house and really watch plants nearby since the bacteria can be moved by pruning/thinning. The disease can be seedborne and will remain in plant tissue so if you are reusing or clips, be sure to sterilize before next use.

Wilting can also be indicative of a **stem or crown rot**. We have seen a couple of these. The tissue at the soil line is slimy and sloughs away or it can look like it was fed on by a varmint. This is commonly seen in low spots, where soil has remained wet/cool or in outside rows where lots of rain saturates the soil. It is typically caused by common soil borne fungi. Have not heard any reports this season about **powdery mildew** infections so that is good.

Cucumbers-Grower seeing weird **longitudinal scarring symptoms** on Corinto cukes and to a lesser extent other cultivars. Have also heard a NY grower is seeing the same thing. This kind of scarring can be caused by cold temperatures, cucumber beetles, broad mite or according to a couple of Midwest veg specialists I showed the pictures to, Mg deficiency or B deficiency. We ruled out cold, beetles and broad mites so the grower is trying Mg through the drip. The foliage was showing Mg deficiency so we will see if things turn around.

Squash-diagnosed **angular leaf spot**. Symptoms include leafspots with an advancing yellow margin. This disease is seed borne, hence it is often seen earlier in the season. <https://ag.umass.edu/vegetable/fact-sheets/cucurbits-leaf-spots>

Basil-heard reports of **downy mildew** but have not seen the samples yet. The symptoms on the upper side of the leaf can look like cold injury or nutritional problems but check the underside of the leaf for dirty looking spores. Seeing **four lined plant bug injury** (small angular leafspots) on basil, mints, Shasta daisies and other crops.

As always, send a picture or a sample if you are not sure what is causing problems in your crop. Ann.hazelrigg@uvm.edu, Plant Diagnostic Clinic, 63 Carrigan Dr., Burlington, VT 05405 656.0493

LEEK MOTH UPDATE

The second leek moth flight of the season has begun throughout much of Vermont. Adult leek moths mate at night, laying eggs on all alliums. Shortly thereafter, you will begin to see the characteristic windowpane feeding damage of the leek moth caterpillars. The next generation, resulting from the second flight, have the potential to do significant damage to allium bulbs due to the timing of this larval generation. If these leek moth caterpillars are feeding on allium leaves at the time of harvest, the caterpillars will move into the bulbs as the leaves die down. Feeding damage and exit holes on bulbs while in storage can significantly reduce their marketability and open the bulbs up to secondary infection.

The Vermont Entomology Participatory Action Research Team (VEPART) recently began a NE-SARE funded project exploring pre- and post-harvest tactics for reducing the impact of leek moth in the Northeast. The results of this project will hopefully provide farmers with adaptable and affordable low-tech options for managing leek moth in allium crops. Furthermore, the development of non-chemical options for the control of leek moth will help reduce the dependency on chemical controls and helps to diversify the current IPM toolbox for more sustainable control of the leek moth. Please take a moment to complete the following survey (<https://forms.gle/wFeoqPcxERrF7aAe8>), it will greatly improve our ability to help growers in the Northeast.

The few known management options include covering plants with row cover at night to exclude the nocturnal female moths from laying eggs. Where this is not feasible or cost effective, chemical controls should be applied. Spinosad (Entrust, organic) and spinetoram (Radiant SC, conventional) have been shown to be effective chemical controls but must be timed appropriately, especially in onions because of caterpillar feeding behavior.

Canadian research has consistently found that properly timed insecticide applications made 7-10 days following a peak flight of leek moth adults can effectively manage damage resulting from the following larval generation. For more information about leek moth check out the newly-updated leek moth information center website (<https://nysipm.cornell.edu/agriculture/vegetables/leek-moth-information-center/>). If you have any questions or concerns about leek moth please contact Vic Izzo at vizzo@uvm.edu and/or Scott Lewins at slewins@uvm.edu.

SWD MAY BE A THREAT EARLIER THAN USUAL

Based on trap catches in the region it appears that SWD populations are building up earlier this year than in the past, so growers of soft fruit should prepare ASAP. Here is a page with links to management information and advice. The info I sent last June is still applicable: <http://www.uvm.edu/vtvegandberry/SWDInfo.html>

Recent research at UMass suggests that indicate that a 25% concentration of grape juice (1 part of juice/3 parts water) is an effective, low cost attractant for SWD. The study used clear plastic 'deli' containers with a dozen 3/16-inch holes as traps. Deployed at high densities, it's possible that this approach could reduce SWD populations, especially if traps are set up before populations explode. Further research is underway, see: <http://www.umassfruitnotes.com/v83n4/a1.pdf>

TECH TIPS FROM UVM EXTENSION AG ENGINEERING

FORCED AIR COOLING - Last summer we performed a series of precooling trials using small-scale forced air coolers to cool eggplant, watermelon, strawberries, blueberries, zucchini, and roasting peppers. The forced air cooling was done in parallel with standard room cooling and was shown to result in cooling rates ranging from 1.2 to 2.2 times faster than room cooling. This test demonstrated the feasibility and benefit of simple forced air cooling systems to smaller scale farms. Visit <http://go.uvm.edu/factrial> for full trial info and build plans for two sizes of forced air coolers.

HYGIENIC DESIGN FOR PRODUCE FARMS - Hygienic design intentionally creates or improves spaces and equipment so they can be cleaned and sanitized as appropriate. A new blog post, associated PDF guide, and checklist (PDF and Excel) are tools we developed to help apply hygienic and sanitary design practice on produce farms. These tools cover the five key principles of hygienic design for produce farms: Visible and Reachable Surfaces, Smooth and Cleanable Surfaces, No Collection Points, Compatible Materials, & Preventing Contamination.

LOADS OF UPCOMING WORKSHOPS & TRAININGS

Details and links at: <http://www.uvm.edu/vtvegandberry/?Page=meetlist.html>

July 10, 4-7 pm. Irrigation systems, greenhouse vegetables, new wash/pack facility and more. Intervale Community Farm, Burlington VT. VVBGA members free, \$10 others.

July 15, 8am-5:30pm. FSMA Produce Safety Alliance Grower Training. Cornell Extension, Warrensburg, NY. \$35/attendee. Register at: <http://bit.ly/JulyFSMA>

July 17, 4-7 pm. Diversified vegetables, tarping, and on-farm processing at Root5 Farm, Fairlee, VT. VVBGA members free, \$10 others.

August 1, 10am-1pm. Wash/Pack and Post-Harvest Workshop. Pleasant Valley Farm, Argyle, NY. \$10 for ENYCH farms, \$25 others. Registration link not available yet, contact chris.callahan@uvm.edu

August 1, 4-7 pm. Laser system for bird control in sweet corn, greenhouse tomatoes, and more at Wood's Market Garden, Brandon VT. VVBGA members free, \$10 others.

August 6, 4-8 pm. 5th Annual Farmer Olympics, Intervale Community Farm, Burlington VT. Farmer participants: free; Spectators: \$10 suggested donation for pizza.
<https://nofavt.org/events/5th-annual-farmer-olympics>

August 8, 4-7 pm. Organic blueberry and raspberry production, harvesting and marketing; laser for bird control and more, Sunshine Valley Berry Farm, Rochester VT. VVBGA members free, \$10 others.

August 20, 4-7 pm. Seed saving, small-scale no-till, and more at Heartland Farm, Hartland VT. VVBGA members free, \$10 others.

August 21, 3-6 pm. Postharvest Efficiency, Profitability and Food Safety, Footprint Farm, Starksboro VT. Cost: \$30 farmers, \$40 others
<https://nofavt.org/events/preview-event-veggie-wash-pack-getting-you-down-dial-best-practices-improve-your-postharvest>

August 29, 3:30-5:30 pm. Pest and Disease Walk for Commercial Growers with Ann Hazelrigg. Hurricane Flats Farm, S. Royalton VT. Cost: \$20 farmers, \$30 others
<https://nofavt.org/events/pest-disease-walk-commercial-growers>

September 25, 3-6 pm. Custom-built wash/pack shed, tunnel tomatoes, living walkways and more at Mighty Food Farm, Shaftsbury VT. VVBGA members free, \$10 others.

October 1, 3-6:30 pm, Improving Soil Health: Mixed Vegetables and Cut Flowers at Elmer Farm, E. Middlebury VT. Farmers: free; Non-farmers: \$15 to cover cost of dinner.
<https://nofavt.org/events/exploring-practices-policies-improving-soil-health-series-middlebury>

October 16, 3-6 pm. Tunnel crops, wash/pack shed retrofit in old barn and more at Deep Meadow Farm, Windsor VT. VVBGA members free, \$10 others.

November 6, 2-5 pm. Off the grid, small-scale diversified vegetables and reduced tillage at Small Axe Farm, Barnet VT. VVBGA members free, \$10 others.