



Vermont Vegetable and Berry News – March 7, 2017
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REPORTS FROM THE FIELD

(Orwell) This year we set up a grow chamber inside the house and have had great tomato germination producing nice, stocky plants. But we quickly outgrew the space, then fired up the propagation house just in time for the cold snap, and it turns out that desperate mice just love expensive rootstock and scion seed. It's the time of year we take high tunnel soil tests (through UMaine) and order fertilizers to amend the tunnels. We're using last fall's soil tests from our fields to plan fertilizers for the upcoming season, hoping to establish more perennial fruits (raspberries, everbearing strawberries, and blueberries). We really liked using soybean meal for our nitrogen last summer but are not thrilled to use what is likely from GMO soybeans; hoping to use more use more legumes for our N this coming season. We will frost seed our pastures to clover and forage turnip next week, and as soon as the vegetable fields are thawed and dry enough, we'll get some spring cover crops (oats and peas) seeded where our later summer plantings will go. We tried annual ryegrass in the pathways between beds with landscape fabric last summer with great success, and hope to make that a part of our planting scheme this year.

(Grand Isle) After numerous years of trial and error, we finally have come up with a pretty fool-proof chart to follow for our tomato plants post-grafting. With the help of several great university videos, we have figured out how to manage room temp, humidity and light for the first week of recovery. We are usually grafting tomatoes two-three weeks before we open up our first outdoor greenhouse. We have been successful grafting inside our home by using two humidifiers: one for the healing chamber and one for the bedroom the operation is in (ambient room humidity). We construct the grow lights over the healing plants in a way that we can start with one fixture and go up from there all the way to full light, without disturbing the plants in the chamber at all. Light goes through the clear plastic surrounding the chamber. Once in the greenhouse, to get through really cold nights, we move all the plants to the side with the furnaces and put up a plastic partition to keep the heat in a smaller space. A pellet furnace with an oil burner furnace backup works great for us. Now we are putting out our Eliot Coleman inspired rodent boxes as we see evidence of voles everywhere. All our tractors are well-used, so they received lots of TLC in the shop this winter. We are cutting down on soil compaction by limiting use of pick-up trucks while harvesting and using golf carts instead.

(Charlotte) Pruning of the blueberries has been completed for the season! We are putting up sturdier trellises for the brambles. We will be getting ready to put in a new irrigation system for the farm which will be a big project for the spring.

(Westminster West) Several warm days last week had me worried about the acre of garlic under row cover, but some new snow and a return to cold weather allowed my worries to wait. Spring plantings in the greenhouses are moving along nicely; finally filled all indoor positions although still looking for another truck driver and equipment operator. Banker plants set up in open greenhouses and no insect or disease issues at this time. Huge wind storm did damage one greenhouse; a door wiggled open and allowed the wind to blow out a rear panel, that never happened before, gotta be more careful. Started doing a daily exercise regime to stretch and improve muscle tone for the season, best investment in time I've ever done!

(Plainfield NH) This past week has been the quiet before the storm. We have been prefilling pots and flats in anticipation of the rooted cuttings arriving in force this coming week. Putting up temp alarms in houses and making sure the furnaces are functioning properly. The advent of extreme cold on the back of the extreme warm weather pattern has been disquieting as there is minimal snow cover in the fields. In our prop house the plants are waking up with the increasing light levels, as well as the pest populations. We are seeing some aphid colonies as well as two-spotted spider mites numbers spike; we need to load the house up with beneficials to counter-act. Still hopeful about getting some blueberries pruned before bud break.

(Ange-Gardien, Quebec) Not much light these days. Radishes and spinach are up. Overwintering kale and spinach look good although a bit of tip burn from cold temp in winter. Cannot have enough winter green for the market.

UPDATE FROM THE UVM PLANT DIAGNOSTIC CLINIC

Ann Hazelrigg

We have seen leaf samples with *Cladosporium* in high tunnel spinach. Symptoms include small tan leafspots. This fungus disease likes cool moist conditions with temperatures between 59°-68°F and RH above 80%, but the fungus can grow from 41° to 86°F. The disease can be seedborne and overwinters in crop debris. Management includes sanitation-the removal of infected plants, spinach debris, spinach volunteers, and unused seed. Start with certified, disease free seed or treat seed with hot water or bleach to reduce seedborne inoculum. 'Winter Bloomsdale' is more resistant than 'Fall Green' and 'Ozarka'.

On more spinach from the same farm, there was a smaller group of plants with no root systems. After putting in a moist chamber for a couple of days, we found mycelium (threads/roots of the fungus) on the crown tissue along with small hard tan sclerotia (hardened overwintering structures of the fungus made of compressed mycelia). They look like small mustard seeds. This is caused by a fungal disease called southern root rot, *Sclerotium rolfsii*. This soilborne fungus has a wide host range including corn, tomatoes, wheat, sweet potatoes, pumpkin and peanuts and usually is a problem in more southern areas. I have seen this same pathogen on stored beets in Vermont. The main symptoms are rots at the soil line. The fungus does not produce spores but persists near the soil surface as sclerotia or may be associated with plant debris. Sclerotia buried deep in the soil may survive for a year or less, whereas those at the surface remain viable and may germinate in response to alcohols and other volatiles released from decomposing plant material. Deep plowing serves as a cultural control tactic by burying sclerotia deep in the soil. High temperatures and moist conditions are associated with germination of sclerotia and high soil moisture, dense planting, and frequent irrigation promote infection. <https://projects.ncsu.edu/cals/course/pp728/Sclerotium/Srolfsii.html> and <http://www.apsnet.org/edcenter/intropp/lessons/fungi/basidiomycetes/pages/southernblight.aspx>

THREE WEEKS LEFT TO SIGN UP FOR CAPS

Community Accreditation for Produce Safety (CAPS) is a voluntary, practical approach to documenting the use of practices that reduce food safety risks. Open to all VVBGA members, from any state, the program helps you write a produce safety plan by responding to the prompts on the web site. To earn accreditation, you subsequently upload documents and pictures showing that you implemented your plan. These get stored in your on-line farm folder. The folders then get reviewed by a team of your peers before accreditation is granted and your CAPS "eBadge" and paper certificate are awarded. CAPS farmers can also choose to link their folders on the CAPS Share Page, which is an information resource of 'best practices.'

If you are new to CAPS, check out the web platform by starting a free account at <http://ciids.org/vvbga/farmer/>. If you then decide to use the CAPS platform, you must be a VVBGA member. Membership costs \$45 per farm, per year; join using this link: <https://2017vvbga.eventbrite.com>. You can then use CAPS to write a produce safety plan and create a farm folder, for free. If you want CAPS Accreditation, you need to draft (or revise) a produce safety plan by April 1 and pay the \$100 CAPS fee; financial and technical assistance is available. If you miss this deadline, you must wait till next year.

You will get feedback on your draft plan, then you have until June 1 to finalize it. During the growing season, you upload the six documents and images that show implementation of your plan. Your folder must be complete by Nov. 1, then it is reviewed by a team of farmers and agricultural service providers. You'll have a month to fix any problems or add missing elements. After that, you become accredited by the VVBGA for 2018. At the end of each year you can 'roll over' your plan, making changes as necessary. Questions? hans.estrin@uvm.edu

TECHNICAL TIP – HIGH TUNNEL VENTILATION

Chris Callahan, UVM Extension Ag Engineer

I have received many inquiries about how to improve ventilation of high tunnels from folks with tunnels that have only roll-up sides. The issues tend to be either high temp, high humidity or both, leading to plant stress or disease. These situations tend to be in less than ideal sites for ventilation and/or temperature control. For example, crowded lots with trees or other significant wind breaks close to the tunnel, high southern exposure (which can be good of course), and/or simply calm sites that provide little ventilation.

Roll-up sides alone tend to work for tunnels on sites with generally good air flow. But I think of a tunnel in this instance a bit like a wood stove. Without a chimney-effect natural draft, you're really only getting ventilation from the sides and only then if there is a decent breeze. Warmer air and, therefore, humidity will tend to collect in the canopy and peak. This probably is OK in many sites for most crops. But not always. In many cases gable vents will improve ventilation by acting as outlets for warm humid air in warmer seasons and by allowing for low volume ventilation in colder weather. I recommend a simple 24"x24" gable vent (for a 30'x96' tunnel) on each end wall, with a thermostatic wax cylinder actuator. The actuators require no electricity, are relatively inexpensive and are passively controlled with the wax cylinder.

At the very least, consider framing in a rough opening to accept a 24"x24" in the end wall so that a future install is easier. If you want to skip the expense of a louvered, wax cylinder system, you can use a manually-controlled sheet of plywood to open and close the vent. If you go with a louvered vent, seek one that has a flanged seal it closes against. Keenan Meier has such louvered dampers: <http://www.kmdampers.com/html/products.html>. These have zero daylight when closed which results in a solid seal. Most others on the market that I have seen have no such closure seal.

Remember that HAF fans work to mix the space (circulate the air) but don't significantly improve ventilation. HAF combined with roll up sides can do the trick, but the site is the key. There needs to be a steady cross breeze for any significant air exchange to occur.

STRAWBERRY GROWER SCHOOL PRESENTATIONS

These are posted, from yesterday's event, at:

<http://www.uvm.edu/vtvegandberry/StrawberrySchool2017Presentations.html>

REDUCED TILLAGE IN VEGETABLES - WEBINAR SERIES

Reduced Tillage on Permanent Beds. Thursday March 9, 3-5pm.

Permanent bed systems can help small farms improve soils and reduce tillage for a diversity of crops. Learn how farmers are adopting these systems and hear research results on how tillage, mulching and tarping practices can impact your weed control, labor use, and crop productivity. Ryan Maher and Brian Caldwell - Cornell University, Mark Hutton - University of Maine.

Strip Tillage Tools and Practices. Thursday March 16, 3-5pm.

Adapting strip tillage for organic production requires careful crop planning. Learn the tools and equipment and what research is showing about integrating cover crops, managing residue, attracting beneficial insects, and controlling diseases and weeds. Anu Rangarajan and Meg McGrath - Cornell University, Dan Brainard and Zsofia Szendrei - Michigan State University.

Cultivation for Reduced Tillage Systems. Thursday March 23, 3-5pm.

Cultivation of the in-row zone is challenging, especially in reduced tillage systems. Learn about innovative in-row cultivation techniques for managing weeds in reduced tillage crops. Dan Brainard and Sam Hitchcock - Michigan State University, Eric Gallandt and Bryan Brown - University of Maine.

Webinar registration is free, go to:

<https://msu.zoom.us/webinar/register/98e6288a06d0f0b14ac87b605f06faf5>

Questions? Contact Vicki Morrone, Organic Farming Specialist, at sorrone@msu.edu.