



VERMONT VEGETABLE AND BERRY GROWER NEWS – March 1, 2022

Compiled by Vern Grubinger, University of Vermont Extension

<https://www.uvm.edu/extension/horticulture/commercial>

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REPORTS FROM THE FIELD

(Grand Isle) We have our tomato grafting process underway. It is as time of year when we feel more like intricate surgeons than farmers. If we get a success rate of 85 to 90 percent of successful grafts, we feel great. Dr. Cary Rivard of Kansas State University is our go-to grafting guru. His videos are most helpful. We follow a prescribed time line schedule of key grafting components such as amount of light, temperatures, humidity and the like.

We are thinking more like gamblers than farmers with our peach trees. Lower than 15 degrees below zero is the danger zone for the fruit buds. We are betting that the buds survived the winter cold. But then again, we may just see leaves and no fruit this summer. We are enjoying the increasing hours of daylight.

(Starksboro) We got some irrigation on high tunnel spinach and kale during the recent warm spell, and the spinach especially started to take off this week. Just in time because we're starting to flip tunnels tomorrow. This winter has been a good test of our unheated tunnels, as we've had the longest cold spells of any of the past six winters. Spinach has been totally fine with two layers of Ag-30. Kale (Winterbor and Siberian) under three layers of hooped Ag-30 hasn't done as well. Some plants won't make it to spring, but the Siberian is starting to take off after looking nearly dead in January. Looking forward to getting some spring greens in the ground.

(Brookfield) Seeding away in trays, winter greens coming out of greenhouses, direct seeding in soil in high tunnels this week.

(Orwell) Suddenly the season is upon us, with winter projects not quite wrapped up. After a long break in harvesting tunnel greens, they have rebounded, and we will begin harvesting again next week. We are more than ever impressed with the salanova type lettuces, which have survived some very cold nights this winter without heat and in some cases, no row cover. We have our radiant system running and are curious to see how much that helps greens along and early plantings of summer crops. Our spinach is suffering from going in that critical week late in the fall, but we are hoping it will size up for at least one harvest.

Rodents have been more of a problem than ever in tunnels, with distinct paths going between crops underneath rowcover and extensive crop damage. It looks like they are mostly clipping off the leaves of spinach or stalks of kale and stashing it away in little nests. As summer crops get going, how to reduce our fuel and energy uses in greenhouse environments while also improving heating systems, ventilation, and production is forefront of our minds. We are enjoying the snow but looking forward to warmer days ahead.

(Guildhall) Potato sales continue, the abhorrently low temps continue. We're grading harder for pressure bruising now, a result of storage humidity being too low. Still have at least 500k lbs. to sell. Getting the 2022 crop plan finalized; a lot of decisions being made by high input prices. The dairy farm we rotate with is planting only what they need for corn this year, and their flex acres are going into sorghum. I'm cutting way back on whites, one reason being that they require a lot of Sul-po-mag and that's \$1k a ton this year, double last year. My fertilizer blend has doubled since 2020, but what can you do about that? Hopefully the terminal price comes up enough next fall to pay for the increased inputs. It would be a hard thing to have spent extra, to grow too much, to sell cheap.

Another point of interest, anyone who doesn't know what's going on in Maine regarding PFAS chemicals on farms, just google the Bangor Daily or Portland Press Herald. Black Sludge/Black Ash/BioChar spread on farms the last 40 years was widely contaminated with PFAS, and now the state of Maine is testing milk for it, and shutting down dairy farms for PFAS in milk, euthanizing cows, and several organic veg farms have shut down voluntarily after finding elevated levels in soil and wells. Black ash products have been spread around here, whether contaminated I don't know. If Vermont has maps showing where it was spread, like Maine DEP does, I haven't found them yet. I brought this up at the FSA county committee, no one knew anything. And I've talked to some of my neighbors who have spread it in the past, and they know where it's from, but not what's in it.

Lastly, I'm excited about FarmCredit East taking over Yankee FarmCredit. Having worked with FarmCredit East while in upstate NY I found them to be very familiar with vegetable operations, orchards, etc. Whereas Yankee, though nice people, have seemed to speak only dairy fluently, and all other ag sectors are a risky anomaly. I've already switched some of my business over to the FarmCredit East office in Presque Isle Maine, just so I can deal with potato specialists.

(Stuyvesant NY) Winter greens are really strong in all our tunnels, except lettuce which took a hit again this season with Botrytis Crown Rot. Even with temps above 26 degrees with covers, we lost the majority of it. Winter market started in February and is going strong, despite bad weather on Saturdays. Root crops and onions in storage all doing well. Started harvesting spring carrots from our tunnels, voles are especially plentiful, our English Shephard is up to 13, his personal best on record. Seeding has started in earnest, we love our 66' radiant heat benches that allow us to heat only the benches with row cover to get through these bitter cold nights without heating the whole 72' house. Working with a soil microbiologist to look at our underground community in the tunnels to see if we can educate ourselves more in that regard. Gearing up to break ground on a new rental agreement.

(L'Ange-Gardien, Quebec) Since I am farming I always considered mid-February the tipping point for light. So this is the period when we start the greenhouses. This winter was particularly cold and soil is frozen deeper than it used to. So we wait. Finishing installing greenhouse controls and propane. Ice storm plus windy conditions the day after really ripped plastic from our multibay tunnel. I still wonder how I will climb up there to repair. We still have sweet potatoes stock that slowly sells. Have to keep some for seedling. Otherwise, great season for backcountry splitboarding.

(Plainfield NH) February is Forms Time: tax work, H2A, inventorying seed and this year chasing product and inputs. Seems that our new reality is to live in a world of shortages and back orders. People are finishing up vacations, and the greenhouse crew has been meeting to plan out locations of incoming material, projections about staffing, and the big discussion on pricing and how we cover spiraling costs of inputs without forsaking profitability or market share. Of concern is the availability of pesticides, fertilizers, and amendments. We have accepted the fact that world events are going to drive all prices up, but will products be available in a timely fashion at planting time? Will the labor force return?

The pack/storage barn has undergone its transformation, the bale buster/flat filler been set up and containers moved in. Rooted cuttings will come in this week, and we will officially be off to the races. Finishing up bulk harvesting of vegetative cuttings and spending time daily on seeding. Tomatoes will become an almost full-time job for a couple of weeks for Ray.

Weather has been an average of extremes, especially for the last 45 days as temps here have ranged from high 50s to minus 20. A lot of ice has developed on the strawberries which is concerning but something we have no control over. We didn't get an opportunity to get into the blueberries to prune, it's a lesser priority that keeps getting deferred, but I guess that's how all farmers roll.

(Argyle NY) The longer days of winter are enjoyable as the weather has warmed some and the production in the high tunnels has picked up, especially the spinach. Dec/Jan were low in production of lettuce, chard, kale, Asian greens and mustards because of cloudy cold weather and being behind in timing of planting crops in September, which we all know is critical. We started seeding in the greenhouse the first week of January and have been planting new greens into the tunnels for several weeks. Today we transplanted almost 1400 heads of salanovas into beds. The garlic cloves and onion sets (some variety trials) that we are planting in successions are up and growing in the tunnels, the first radishes have germinated, and the greenhouse is nearing capacity as transplants are moving into the tunnels at a stepped up pace, and seedings of many crops have begun for the new season.

A few aphids were seen in the greenhouse but tunnels have been insect and disease free so far. We continue to use Rootshield Plus and Actinovate and Botrystop as preventatives which we think helps. We will start the ginger next week and are going to experiment with starting some of our own sweet potato slips on the heated benches. This year we will spread more beneficial nematodes to combat the wireworms as it was very effective for us for years, and we learned the hard way they don't persist in the soil as we were led to believe.

At a conference recently (Iowa Organic Veg) we learned of 2 varieties of sweet potatoes bred for northern climates but only available in Canada, working on getting them to the U.S.

(Little Compton RI) We are in the middle of grafting, and like so much of farming, if you mess up you have to wait till next year to get it right. What we do over the next few days will affect the rest of our season! After twenty-plus years grafting, some key points: start your rootstock one to two days after you start your scions.

You can always get a highly vegetative rootstock to catch up to the scions but you can never get it to slow down without causing problems! Though imperfect, it's better to have the scion be the bigger/fatter of the two!

Healing chamber: 90% dark for the first two days and slowly increase from there. Temperature: shoot for 75 degrees. Tolerate 70 but avoid 80 or higher! Moisture: we don't have a meter but we use the Vicks Vapor Rub cool steam units we buy at Target for \$48. It has a dial to adjust output. We have two units in the healing chamber for to assure uninterrupted moisture during healing, which is the most critical step in grafting. We give them 12 hours of high moisture then back off as they indicate their happy connections.

We have settled on 2.0 grafting clips and we don't start grafting till the rootstock and scion are slightly bigger than the clips. It should be a tight fit, so you don't need support sticks. Too loose (tomato stems to clip) and failure is high. Make sure rootstocks and scions are out of direct sun for 24 hours before grafting. You don't want them transpiring full-on when you start. If you cut your first rootstock and a bubble of sap/liquid forms immediately at the cutting site it is an indication your plants are too simulated for a successful graft. Better to put them in a cool shady spot in the greenhouse and graft later in the afternoon or the next day. We are getting away from Maxifort and working with DRO141TX, which is better for getting predictable size scions.

Last tip: be aware that greenhouses in Jan-March can be very dry environments. The sun is intense, the cold air outside has no moisture, and heaters make it even drier. You can do everything right in the grafting process and then forget the transition of your plants to this ultra-dry environment, which will cause you to lose a high percentage to an atmospheric "shock" if you don't manage for it.

As far as income, winter markets have been good because we have the greens, bok choy, mustards, and Swiss chard to make our stand look fresh and lively. It is a lot of work, but it translates to \$ at the market and for stimulating CSA signups, which we hand out with almost every sale. Dreading the specter finding summertime workers who will stay the course or even show up after being hired. Thinking of creating a bonus program where an employee can see what they will sacrifice if they leave prematurely. Not sure this is legal but it seems to work.

REMEMBERING GARY BOMBARD

Gary Bombard, a talented grower and a friend to many, passed away in late January. Gary was part of the extended family that owns and operates Sam Mazza's Farm Market, Bakery and Greenhouses in Colchester. Gary wore many hats at the farm, which has over 300 acres of crops and dozens of greenhouses. Over the years he worked on many successful projects, some of which focused on marketing, like the petting zoo, the strawberry festival, and a corn maze. Others were about production, like installing a shell corn furnace to heat a tomato greenhouse, which could burn shell corn from the corn maze, a very innovative system. He was always working to improve production and quality of strawberries, blueberries, and vegetable crops. He enjoyed working with the farm's workers from Jamaica and treated them with respect. He was gracious in helping me understand and document the importance of these people and the H2-A program to his farm, in [this article](#). Here are some [images](#) of Gary in the field over the years.

GREENHOUSE HEATER MAINTENANCE

Chris Callahan, UVM Extension Agricultural Engineer

The checklist below was compiled responses from the VVBGA listerv on this topic. The list is also posted, with images, at <http://go.uvm.edu/heatersafety>. A video checklist on this topic, by John Wells of Rimol Greenhouses, is at <https://www.youtube.com/watch?v=GAmuyx92uBQ>.

Preventive Maintenance

- Visually inspect each heater and give it an overall cleaning (see below for examples)
- Run the heater over the winter occasionally to check operation. Use your eyes, ears, and nose to check for things that seem out of the ordinary (see below for examples).
- Start the heater up several weeks before you will need it. There are generally some inevitable repairs and maintenance needed.
- Have a spare parts kit with things that tend to fail or need frequent replacement such as igniters, thermocouples, and seals.
- If this isn't your comfort zone, hire in a professional heater technician to give your heater a once-over to improve safety, fuel efficiency, and reliability.

Fuel Supply

- Fuel tanks are stable.
- Fuel lines are in good condition.
- Fuel lines are run to avoid being hit or stepped on.
- Fuel tanks valve is open.
- If anything seems amiss with the tanks or main line call your fuel company to have it corrected.
- You should not smell propane when the tank valve is open.

Fuel Regulator / Valve and Nozzle

- Fuel regulator / valve is free of damage, clear of debris, etc.
- Nozzle(s) are clear of any blockage.
- You should not smell propane.

Clean Heat Exchanger Inside and Out

- Inside of burner tubes, the heat exchanger, and the exhaust path is open and free of obstructions. This may require removing panels, blowing out with a reversed shop-vac or compressed air and resealing panels.
- Outside of the heat exchanger is clear of any cobwebs or other debris on the.
- Heat exchanger walls are solid and in good condition.

Exhaust Pipe

- The exhaust pipe is continuously connected from the heater to the outside.
- Replace any sections that have significant signs of corrosion.
- Exhaust termination cap is in place to prevent bird and rodent nesting or other blockage.
- Exhaust is well above snow line and otherwise free of obstruction.
- There is no smoke or soot when the heater is operating.

Thermostat

- The thermostat is switching on/off at the right temperature.
- The thermostat wire is solidly connected on both ends and is free of nicks, gnaw marks or other damage that could cause a short or open circuit.

Electronics

- The electronic control board and surrounding area is clean.
- There are no singe marks on the circuit board or wiring.
- The supply wiring is in good condition and run to avoid damage or interference with greenhouse use.

Eyes, Ears, and Nose

- Look for any signs of charring, singing, burning, smoke, significant vibration, or other maintenance needs.
- The main noises you should hear are the vent fan (if power vented model) and the heat distribution fan. Loud pops, bangs, or knocking mean something is wrong.
- You should not smell propane.

MORE RESOURCES FROM THE UVM EXTENSION AG ENGINEERING TEAM

Seasonally Relevant Resources

Heat Load Estimation for Greenhouses and Tunnels - <http://go.uvm.edu/greenhouseheatload>

Greenhouse and High Tunnel Ventilation - <http://go.uvm.edu/tunnelventilation>

Getting Started with Germination Chambers - <http://go.uvm.edu/growthchambers>

New Blog posts

Patient Pursuit of Packshed Happiness at Ananda Gardens - <https://go.uvm.edu/anandagardens>

Washing Machine/Greens Spinner Conversion Guide - <https://go.uvm.edu/generalspinnerguide>

New Podcasts Episodes at <https://agengpodcast.com>

Checking Out Old Equipment at High Meadows Farm: EP63

Checking out New Equipment at High Meadows Farm: EP64

Rain-flo Plastic Mulch Layer: EP65

NEW GUIDE ON TARPING FOR SMALL FARMS

University of Maine has produced a new publication called Tarping in the Northeast: A Guide for Small Farms, available at <https://extension.umaine.edu/publications/1075e/>

CROP INSURANCE DEADLINE FOR 2022 IS MARCH 15

If you are considering crop insurance or NAP disaster coverage: the deadline to enroll for most spring-planted crops is March 15. A summary of programs for vegetable and berry growers is at: <https://www.uvm.edu/sites/default/files/Agriculture/Ag%20Risk/2022-Veg-Berry.pdf>

CUCURBIT GROWER SURVEY

This confidential survey seeks to learn about your experiences using row covers and your willingness to adopt a new row cover approach known as mesotunnels. It will support a study is evaluating the use of mesotunnels in the eastern half of the US for control of the full range of pests and diseases on organic production of cucurbit crops. Participation in the survey is voluntary, and your opinion is still valued even if you have not used mesotunnels or row covers. To participate the survey use this link: <https://go.iastate.edu/EHWJCH> Questions? Dr. Sarah Pethybridge, Cornell University, sjp277@cornell.edu, 315-787-2417

UPCOMING EVENTS

Invasive Pests to Keep an Eye On: Spotted Lanternfly and Jumping Worms.VVBGA Webinar. Thursday March 3, noon-1:00

This session will open with information from Judy Rosovsky, Vermont State Entomologist, about the spotted lanternfly, an invasive planthopper that is spreading throughout the Northeast. It is both a public nuisance and an agricultural pest. She'll give an update on its movement northward, and an overview of its biology and host plants. We will then learn about jumping worms, another emergent agricultural pest. Dr. Josef Gorres is a national expert on this pest, and he will discuss their ecology, show you how to ID them and then review some management and slow-the-spread techniques. Bring your questions! These webinars are free and open to all but you must [register](#). They are recorded and posted to [VVBGA YouTube channel](#)

MOFGA Spring Growth Conference. Saturday-Sunday, March 5-6, via Zoom.

- Soil Health Workshop with Becky Maden, UVM Extension. Saturday, 3/5 from 9:00-11:30.
- Climate Adaptation Workshop, with Meredith Niles, UVM and director of the Climate Adaptation Resources for Northern New England Farmers project. 3/5 from 1:00-2:30.
- Packinghouse and Food Safety Tour. 3/6 from 10 –noon. Hall Brook Farm, Thorndike \$35 Registration, sliding scale, scholarships available for BIPOC, veteran and women farmers. Go to <https://www.mofga.org/spring-growth-conference/>

Saffron Cultivation from Here and There. March 23 and 30, 11:00-2:30.

Saffron is the most expensive spice in the world, with a retail price of over \$5,000/lb. It is made from the stigmas of a fall-blooming crocus flower, and used as a culinary spice, coloring agent and medicinal herb. Hundreds of farmers across the Northeast are growing saffron with great success. Saffron experts from Spain, Iran and the US will share their knowledge at this on-line event. Registration for the two sessions combined is \$55. To learn more and to register, go to: <https://na.eventscloud.com/ereg/index.php?eventid=667196&> or contact Margaret Skinner at 802-656-5440 or miskinner@uvm.edu

Commercial Pesticide Applicator Meeting. March 28, via Zoom, 9:00-1:30

FREE but you must Pre-Register by 3/25 at: <http://go.uvm.edu/compestmgt>. This program will provide 4 Vermont, New York, and states TBD pesticide recertification credits.

Contact sarah.kingsley@uvm.edu for details about getting credits. Agenda topics: Legislative Update, Field & Forage Update, EPA Paraquat Training, Selection & Use of PPE for Pesticides: Reading Between the Lines of the Label, Ag Container Recycling Program Summary, Reducing Pesticide Risk to Pollinators in Pest Management.

Questions? Visit www.uvm.edu/extension/psep or sarah.kingsley@uvm.edu