



Vermont Vegetable and Berry News – February 19, 2014
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REPORTS FROM THE FIELD

(Shelburne/S. Burlington) This is definitely the coldest winter I have overwintered full grown kale. It is doing fine, just haven't gotten much regrowth, since November. Some, but not much. It also has been harder to water and I am trying to determine just how much water is needed to help the plants recover after the deep freezes. I don't think they need that much, but as I have prepped beds, I see how dry the soil has gotten with how cold it's been. The increase in light is taking effect on the spinach in a positive way, and the kale will follow shortly I hope! Much attention to snow removal with a foot of new snow and more in the forecast.

(Dummerston) Overwintered spinach in the high tunnel is starting to grow a bit and tastes great. It looks like there's a bit of Cladosporium starting to show up though, so I'm harvesting as much spinach as I can before that spreads. There also seem to be quite a few small rodent burrows in the high tunnel and little or no rodent-like damage to the crops. I'm hoping some carnivorous little critters have moved in and are feasting on the cutworms that were a big problem this fall and winter. Overall, I'm enjoying my first winter of growing greens in the high tunnel. I still have a lot to learn about timing the plantings and pacing the harvest for an even distribution to CSA members throughout the winter. But I look forward to trying it all again next year.

(Charlotte) We are pruning and getting ready for a new season. We are hoping to incorporate new things to the farm this year to see what works there. We are taking out brush to open up our fields.

(Argyle NY) It's been great having a bunch of sunny days, and the unheated high tunnel greens are finally showing some sign of regrowth, and the solar dials are spinning nicely. The larger, more mature Salanova lettuce, planted in August, fared the worst with the constant below zero temps and many died. They were on an outside bed and it was also difficult to water with the extreme cold; first time we've experienced frozen ground in winter! Many winter leeks (Tadorna) are still in the field under row cover (and now 2 feet of snow!) and we need a few warm days to get some out as the root cellar supply is low.

Placing seed orders, seeding weekly in the greenhouse, looking for interns, planning some more washing station modifications, enjoying the slower winter days, working on crop plans for where we dream rotations will be, and looking forward to warmer days!

(Hampton NY) The greenhouses are cleaned and the wood stoves are running with the propane back up. Furnace guy coming this week to clean furnaces in all houses. Herbs and perennials are up and happy and waiting for warmer weather later in the week to be moved into the greenhouse for transplanting. Neighbor is coming with large bucket loader to remove snow from between greenhouses and push back the huge piles that have accumulated with the last dumping. And so the madness begins.

(Little Compton RI) Now that we are all inside and working in our greenhouses, a word to those of you using biological agents like RootShield. First, be sure it is this year's stuff! Order from Griffin or someone who will have it drop shipped from BioWorks. Second, it only lasts six months so divide it up into freezer bags when it first arrives and freeze what you will want for later. You can keep it over a year plus, if you freeze it. Third, wear a good mask and disposable gloves when handling this stuff. Just because it is OMRI approved doesn't mean it isn't dangerous to your health. I had some RootShield get blown in my face and aspirated a good slug of it and I didn't feel right for a few days. There is a similar level of danger if you get it on your hands. It is very useful powerful stuff but use it safely. If you have ever doubted how quickly your skin will absorb chemicals, try putting some fresh crushed garlic in the bottom of your shoe. In two hours you will have a taste of garlic in your mouth! Buy a good chemical mask, not the paper disposables. Our monthly schedule for biological greenhouse treatment is primarily: Actinovate the first week, RootShield the second week, Oxidate the third week and then just water or a little fish fertilizer to round out the month. I don't like to get things too sweet and green this early as it seems to invite aphids. Markets are good but greenhouses running out of steam. They are just picked over and still feeling the effects of too many cloudy days. Watering the beds is a big problem this year, too cold to get water where I need it. Stored Cabbage is a homerun this year. It definitely pays to wrap each one in news print paper. Watermelon radishes suffering from lack of humidity controls. Pouring 5 gals of water on the potato storage room floor has kept our potatoes primed up.

MAINTENANCE TIPS FOR GREENHOUSE FURNACES

adapted from a fact sheet by John Bartok, many excellent articles are on the UMass Extension Floriculture web site: <http://extension.umass.edu/floriculture/fact-sheets/greenhouse-management-engineering>

Service all heating units. The efficiency of most greenhouse heating systems can be improved by at least 5%; have a competent service person clean and adjust all furnaces. For oil furnaces: Change the fuel filter, it is surprising how much sludge and dirt collects in the fuel. Replace the nozzle. Wear increases the nozzle orifice opening increasing fuel usage. Select a nozzle with the correct spray angle to fit the firebox. Follow the manufacturers' recommendations. Replace and adjust electrodes. Inspect safety controls including cad cell sensor, transformer, limit switch and fan control. On propane units check gas regulators for proper pressure settings and to be certain the regulator and gas port vents are not plugged. Tank relief valves should be replaced every 5 to 10 years.

Heat exchangers. Soot should be removed from heat exchanger surfaces. A 1/8-inch soot deposit can increase fuel consumption by as much as 10%. Brush and vacuum surfaces or clean them with special cleaning compounds. Exterior heat exchange surfaces, such as tubes, fins and radiators also collect considerable dust and dirt in a greenhouse atmosphere. Brush and vacuum surfaces to increase heat output. Clean blowers for efficient air movement.

Combustion Efficiency. Efficiency testing of a furnace or boiler is a 10 minute procedure that can indicate when problems begin to occur. It is the key to saving money on the heating bill. Increasing efficiency one or two percent can significantly reduce fuel consumption over the year. For example, a 2% increase in efficiency of a million Btu/hr burner operating 3300 hours from September to May will save about 650 gallons of fuel oil.

Combustion Air. The combustion process combines the carbon in the fuel with the oxygen in the air. The lack of adequate oxygen results in incomplete combustion and carbon buildup. A 400,000 Btu/hr furnace will require about 100 cu ft. of air/minute to operate efficiently. In tight poly and glass greenhouses, a makeup air supply of 1 square inch of intake area/2000 Btu/hr burner input should be available from a pipe or louver through the endwall unless a separated-combustion heater is installed. These are installed with a direct connection to outside air.

Flue pipe connections. These should be tight and the chimney should extend at least 2 ft. above the ridge of the greenhouse. The top of the chimney should be at least 8' above the combustion chamber and have a cap to prevent backdrafts and possible air pollution injury to plants.

Controls. Accurate controls are important to achieve high efficiency. The payback of replacing an old mechanical thermostat with a new electronic thermostats having a +/- 1 degree F differential is very short. The sensor should be shielded and aspirated with a small fan to quickly sense changes in the environment.

Heat Distribution. Air circulation will reduce temperature stratification in the greenhouse. Installing horizontal air flow (HAF) fans that move the air at 50 to 100 feet/min can limit temperature differences to no more than 2 degrees at any point in the growing area. Use 1/10th horsepower circulating fans located 40' to 50' apart to create a circular flow pattern.

WRITING A PRACTICAL PRODUCE SAFETY PLAN WORKSHOPS: FEB 24 – MAR 12

This one day workshop will be repeated at 5 locations. You will leave with a concise plan (for you, your customers, and your employees) and many resources. To register:

<http://www.eventbrite.com/o/uvm-center-for-sustainable-agriculture-1519520706>

- Morrisville: Monday, February 24: 9am-3 pm at the Stone Grill. Farmer presenter: Jim Ryan, Bear Swamp Farm.

- Burlington: Wednesday, February 26: 9am-3pm pm at Burlington Co-Housing. Farmer presenter: Becky Madden, Intervale Community Farm

- Newport: Friday, February 28, 9am-3pm at the Gateway Center. Farmer presenter: Gerard Croizet, Berry Creek Farm

- Rutland (Co-Sponsored by RAFFL): Tuesday, March 11: 9am-3 pm at the Rutland Opera House. Farmer presenter: Carol Tashie, Radical Roots Farm

- Bennington: (Co-sponsored by Bennington College) Wednesday, March 12: 9am-3pm at Bennington College CAPA Center. Farmer presenter: Karen Trubitt, True Love Farm

- Though this workshop lays the foundation for a Good Agricultural Practices (GAPs) certification plan, it is designed for small, diversified farmers who do not intend to become GAP certified in the near future. Please contact Ginger Nickerson at gnickers@uvm.edu if you are seeking assistance in creating a food safety plan for a GAPs Certification Audit.

HOT WATER SEED TREATMENT WORKSHOPS – MARCH 3 AND 5

Hot water seed treatment is an excellent tool to help control harmful diseases inside and on the seed coats of vegetable seeds. On March 5th Meg McGrath, Plant Pathologist from Cornell, is coming to the UVM Horticultural Research Center in South Burlington, on Green Mountain Drive, to deliver a seed treatment workshop from 9am-1pm. We will have 2 sets of hot water baths, thermometers and all the materials you will need to treat your own seeds. Check the list of appropriate seeds here, click on 'Table 1'

<http://vegetablemdonline.ppath.cornell.edu/NewsArticles/HotWaterSeedTreatment.html#Table1.> Bring your seeds and something to weight them down (bolts, etc.) so they sink in the baths. For more info on hot water seed treatment go to:

<http://vegetablemdonline.ppath.cornell.edu/NewsArticles/HotWaterSeedTreatment.html>

To register please rsvp to Meg McGrath (mtm3@cornell.edu) and ann.hazelrigg@uvm.edu. For growers in the southern part of the state, Meg and Ruth Hazzard at UMass are holding another seed treatment workshop on March 3 at the UMass Research Farm in S. Deerfield, MA. For more info and to preregister, look under 'upcoming events' at:

<http://extension.umass.edu/vegetable/sites/vegetable/files/newsletters/Feb%206%202014%20Vegetable%20Notes.pdf>

PESTICIDE APPLICATOR TRAINING AND INITIAL EXAM – APRIL 8

This program will take place at Vermont Technical College, Randolph Center, VT on April 8 from 9am-4pm. Pre-register by March 28; \$20 registration fee. The training will review Vermont Pesticide regulations and the information covered in the Pesticide Applicator Training Manual that is necessary to understand and to pass the VT pesticide certification license exam. The Core exam will be given after this training in the afternoon from 2-4pm. No 'category' exams will be given but one can be scheduled for a later date. For more information, please visit: <http://pss.uvm.edu/pesp/cert.html> or contact Sarah Kingsley-Richards, sarah.kingsley@uvm.edu, (802)656-0475.