

Garlic crop is looking excellent, very low winter loss this year, under 3 percent, which I attribute to use of *Bacillus subtilis* (Ceases) in the water wheel at planting time last fall, also ran it thru drip lines at emergence this spring. I now add it to all my field transplanting water and will follow up in drips monthly on all alliums. Onions are set out on white plastic for the early Walla Walla and black for the rest of crop, those are looking good.

April sales were way down; M

crops and focusing on the more profitable ones, might make my season a bit more manageable.

ve seen everything but
drivers arrested for DWI while delivering a truckload of
plants in another state. We usually check references but I never did; a simple google search
would have shown us what we were dealing with, so fair warning to all, due diligence!

(Craftsbury) The spring rush to prepare the blueber9lh545.26 6ses)

(Salisbury NH) Fields are very dry. Rain this weekend was much needed. Have been picking lots of asparagus. We have a problem every year early in spring when there are so few things to sell. Some customers know to check in anyway - even without the open flag. Hoophouse spinach is starting to bolt and field spinach is not ready yet. There's always a gap. Doing the yearly vows of keeping up with weeds. Bought a Yang JP1 and will be learning the tricks of that.

(Plainfield NH) Much irrigating was done on our rain was much needed, a gentle soaker. Planting going nicely. Greenhouse ornamental sales are good. Hooped and row covered most everything that might have frosted last week. We need to start cultivating in earnest this week. Also need to re-spray the strawberries as we are a bit beyond 10% bloom and not sure even with the sticker whether any disease control is left. A tiny bit of leaf spot is showing, we will target that next time through the field.

In the blueberries we are spraying for a nasty bit of anthracnose we neglected over the years until it developed to a point where we couldn't control it. Vigor of the plants is not where I would like to see it; I will try some foliar feeding. No cucumber beetles in the cuke houses yet, which surprises me but I suspect they will appear out of nowhere as they always do. Spraying weekly for PM in the tomato houses, so far it is under control, which is not to be confused with anthracnose. I suspect we are on a 10-day schedule with this for the duration of the summer.

Interesting that the college kids who were dying to work here during the summer seem to be finding more interesting things to do. Two individuals who sought us out in the winter quit last week after interviewing, providing references, and committing. They never made the first day, One said they decided to take the summer off and live at home. The field crew continues to be stretched and the average age for workers here creeps skyward as our four Jamaican guys are all pretty close to 60 and the tractor operators are 67 and 87.

(Little Compton RI) We bought a used greenhouse 30 years back and kept the old wiring. Recently a fan motor burned out so we replaced it but it ran for 3 seconds and shut off. We returned the motor for another one but no luck. An electrician tested the draw through the old wire and found the volts were half what they should be and amps were twice what they should be! Turns out the wire coating in hot greenhouses eventually breaks down and cracks, so stray electrical current crosses between wires! We rewired the whole run from the electrical box.

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Our first FSMA inspection happens next week. We are the first farm in the state to get one; just a drive by look-see. Kind of curious how their understanding of the rules will match our level of understanding and commitment to compliance.

MANAGING POWDERY MILDEW IN TUNNELS AND GREENHOUSES

Meg McGrath, Cornell Cooperative Extension

Fungicides are the primary management tool for managing powdery mildew, the most common disease in high tunnel and greenhouse tomatoes. Micronized sulfur (e.g. Microthiol Dispers) and mineral oil (JMS Stylet-oil) are the most effective products for organic production based on comments from growers. They are also good choices for conventionally-produced crops.

Sulfur is recommended applied at its lowest label rate because plants grown in protected culture tend to be more sensitive to phytotoxicity than field-grown plants. Also, without rain or overhead irrigation, fungicide residue will remain longer on plant tissue. As stated on the labels for these fungicides, there needs to be a gap of 2 or 3 weeks between applications of these products because oil can move sulfur into the leaf resulting in damage. Applications of sulfur especially during the harvest period may leave visible residue on fruit. It can be easily wiped off. An option to minimize visible residue is to use sulfur for the first applications until fruit start to mature, switch to another product for an application or two, then start applying oil.

Other organic-approved products that are not oils include MilStop, Cease (these 2 recommended used together), Double Nickel, and Regalia. Conventional fungicides labeled for powdery mildew and permitted used in protected culture include Inspire Super, Revus Top and Vivando.

Cultural practices to add to the powdery mildew management program include using wide in-row and between-row spacing of plants, and removing lower leaves. These will help reduce humidity and also improve spray coverage. Also, promote air movement to reduce humidity by opening sides or vents on warm days and using fans. These practices will help manage other foliar diseases including Botrytis gray mold and leaf mold.

USING B.t. FOR COLORADO POTATO BEETLE CONTROL

Including the bio-insecticide B.t. as part of your CPB management strategy is important for avoiding CPB resistance to other types of insecticides, including spinosad (Entrust). Trident is a relatively new B.t. that is OMRI approved for organic farms. However, it is only effective on very small larvae that are less than ¼-inch long.

I suggest you scout early-season potatoes and eggplant frequently for CPB egg masses, flag a dozen or so masses, and monitor them for hatch. Initiate Trident application as soon as eggs begin to hatch. The small larvae grow very fast when it is warm, thus you can easily miss the window for B.t. effectiveness.

Trident attacks the larval gut and must be ingested by the insect to be effective. Therefore thorough plant coverage is essential for good results. After eating Trident, larvae stop feeding within a few hours and die within 2-4 days. During periods of heavy infestation and extended egg hatch, reapply every 4-5 days. Application rate is 3-6 quarts/acre. If infestation consists mainly of older, larger larvae and adults, use a contact insecticide with knockdown activity that is labeled for CPB, such as Entrust. Trident is available in VT from Crop Production Services in Addison VT. Cost is \$32.65/gallon, delivered.

UPDATE FROM THE UVM PLANT DIAGNOSTIC CLINIC

Ann Hazelrigg

For the most part, the pictures and samples coming into the Clinic now are abiotic problems. Lots of edema in tomato, and some cold injury. Always check the new growth to see if it looks good compared with the damaged tissue, that suggests an environmental event leading to abiotic injury. Also, always check for roots rots when you are seeing issues with transplants. We have seen some suspected nutritional deficiencies in various crops, Mg, N, etc. It may just be the cold soils slowing uptake or it could be a true soil deficiency.

Tomato edema in tomato (on stems, petioles and leaf veins) looks bad, but plants will grow out of it. We should be past the time this usually occurs, late winter/early spring, with cool, cloudy days. See: <https://ag.umass.edu/greenhouse-floriculture/photos/tomato-plant-intumescence>

Bacterial canker diagnosed on tomato plants just beginning to fruit. This disease is very destructive and can cause cankers, wilting and death. Seems like it shows up when the plants are starting to get stressed from bearing fruit. See:

<https://ag.umass.edu/greenhouse-floriculture/photos/greenhouse-tomato-bacterial-canker>

If you suspect it, skin away the top tissue on the stem to see if there is browning in the water conducting cells. We also have the rapid assay test strips if you want confirmation. If you suspect or have the _____, and remove suspect plants asap at the soil line. According to Meg McGrath at Cornell, the bacterium can overwinter up to 3 years in stems.

Powdery mildew diagnosed on a few transplants from various farms. Rhizoctonia stem rot suspected causing constrictions at the base of plants. This disease usually is hit or miss and is related to cool wet soils.

Cold injury noted in some peppers. New growth was good and green, old foliage was speckled and brown. Anytime I see leaf spots and there is a CLEAR delineation between healthy green and brown dead with no advancing yellow margin, I suspect some kind of abiotic issue. Mg deficiency suspected in peppers. This shows up as green veins with yellowing between the veins. Vern suggested dissolving 2 lbs Epsom salts/100 gal and watering it in several times.

Sometimes we can diagnose problems with a picture so try that first; send one at a time to ann.hazelrigg@uvm.edu. Otherwise, send a physical sample (including roots if possible) to the UVM Plant Diagnostic Clinic at Jeffords Hall, 63 Carrigan Drive, Burlington, 05405

NUTRIENT MANAGEMENT UPDATE

As June approaches, consider taking a presidress nitrate test (PSNT) from fields that have your most valuable cash crops planted. The tests costs \$9 from the UVM soil test lab and will offer a N is available at that moment, guiding your sidedress applications as well as better understanding overall N management. You can also efficiently cycle nutrients and build organic matter with mid-season cover crops like sorghum sudangrass or Japanese millet.

For ideas on cover crop innovation check out presentations from the 2017 NEVFC, scroll down

<https://newenglandvfc.org/past-conference-proceedings->