Vermont Vegetable and Berry News – January 25, 2011

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QUESTIONS FROM THE FIELD

What soil test should I do for the beds in my greenhouse and where do I send the samples? Since the soil in greenhouses and tunnels has usually been amended with a lot of compost and/or manure, and crops will be growing fast once they're set out, it makes sense to use the saturated media test (also called greenhouse potting soil test). This measures immediately-available nutrients as well as salt level, and nitrate-N and ammonium-N. Collect soil samples several weeks before you want to plant, and wait to add amendments until results come back. The samples should be warm and moist for at least a week before sending to the lab, to allow the microbes to become active. Bring indoors if necessary. Send at least a pint of material per sample. Most university labs will do this test, including U. Mass http://www.umass.edu/soiltest/pdf/greenhouse_media_submittal_form2011.pdf ($12) and U. Maine. http://anlab.umesci.maine.edu/ ($15). Ask them to copy us both when emailing results.

What is the best value in a bagged organic fertilizer to supply Nitrogen? Using the NOFA-Vermont 2011 bulk order price list for 50 lb. bags, here are some choices and the cost per unit of N in each. Alfalfa meal (2.5-1-2) $16.80/lb N; blood meal (12-0-0) $14.16/lb N; Cheep Cheep (4-3-3) $7.75/lb N; custom 6-0-6 (contains Chilean nitrate) $8.16/lb N; peanut meal (8-1-0) $5.88/lb N; ProBoost 10-0-0 (contains Chilean nitrate) $5.70 lb/N. Conventional soy meal (7-1-2 typically) if purchased at $13.75/50 lb bag $3.93/ lb N. If your soil also needs P and/or K fertilization, then you should consider the value of those ingredients, too. Note that organic standards allow use of Chilean nitrate to provide no more than 20% of total crop N needs. Conventional soy meal is allowed for use as an organic fertilizer by Vermont Organic Farmers. Always check with your certifier if you have any doubt about the status of an organic soil amendment.

Where can I find information on producing strawberry plugs, or places to buy them? This article explains the organic plug production and growing system used by Paul and Sandy Arnold in NY: http://www.newenglandvfc.org/pdf_proceedings/OrgStrawberriePleasantValley.pdf. Here is a list of commercial suppliers from NC many of which are listed as providing plug plants, http://www.ncstrawberry.org/docs/2010PlantSupplierList.pdf. Here is another list of strawberry nurseries from Cornell http://www.fruit.cornell.edu/berry/nurseries/strawberries.html. Walker Bros./Jersey Asparagus Farms in NJ sells plugs and their catalog says: Prices and commercial order requirements will be set by June 2011. Contact us to place and confirm your order 856-358- 2548.

What are the leaf diseases affecting my carrot crops and what can I do about them? Two fungal disease affect carrots in our area: Alternaria leaf blight and Cercospora leaf spot. Bacterial leaf blight caused by Xanthamonas may also appear during wet growing seasons or later in the season when the canopy closes in. Weakened leaves can make hand pulling or mechanical harvest difficult, and affected foliage also impacts sales of bunched carrots. Losses tend to be greater if blighted leaves are also hit by heavy frost. These blights rarely reduce growth of taproots in carrots unless infection occurs early and is left uncontrolled. Plant disease-free seed and/or varieties with resistance to leaf blight, use 3-4 year

rotations, plow under crop residues, improve air flow in the field with wide row spacing, and reduce plant density and/or varieties with upright growth habit. Keep crop healthy with balanced fertility and irrigation to promote ability to defend against disease. If fungicides are required, during most growing seasons only a few judiciously timed sprays are necessary based on regular monitoring and established thresholds. See: http://www.omafra.gov.on.ca/english/crops/facts/00-045.html

Which crops should not be mixed in storage and why? Some crops may transfer odors, and some release ethylene that is harmful to others. Combinations to avoid in storage are: apples or pears with celery, cabbage, carrots, potatoes, or onions; celery with onions or carrots. Pears and apples acquire an unpleasant taste and odor if stored with potatoes. Onions and potatoes should be stored separately. Lettuce, carrots and greens are damaged when stored with apples, pears, and many other fruits and some vegetables because of the ethylene they give off, even at low concentrations. Ethylene also stimulates ripening of many fruits and vegetables, but the effect is negligible at low temperatures (32°). Therefore cucumbers, peppers, and acorn squash which need to be stored at 45 to 50°F, should not be stored with apples, pears, tomatoes, or other ethylene producing crops such as cantaloupes, honeydew melons, and tomatoes. Simple ventilation of storage is the cheapest way to remove excess ethylene. Overripe or rotten commodities generate a lot of ethylene and should be removed on a regular basis. Internal combustion engines release ethylene in their exhaust and should not be run in storage areas. Several commercial products either absorb ethylene directly or inactivate it. Certain types of activated or brominated charcoal absorb ethylene; less expensive products use potassium permanganate to oxidize ethylene to CO2 and water.

I lost my melons to powdery mildew last year, even though many varieties were called PM resistant. Other than proper spacing and good weed control what else I can do organically? There are several strains of the disease so 'resistance' in the varieties you used may be for a strain you did not get; the spores move a long ways so crop rotation is not very effective. I'd say stick with resistant types but also scout and spray a fungicide with some efficacy to prtotec healthy tissue once you see the very first sign of the disease: sulfur (Microthiol Disperss,) or potassium bicarbonate (Kaligreen, Milstop, Armicarb-O). Here is an excellent article on the disease that sums up all the issues: http://www.extension.org/article/30604. Always check with your certifier before applying an organic pesticide.

How long do weed seeds survive in the field and what can I do to reduce my weed seed bank? Under agricultural conditions the average time that a weed seed will persist in soil and still be capable of germinating (remain viable) is less than five years. Some weed species will have more persistent seed than others. Velvetleaf and clovers have persistent seedbanks. Tillage also influences seed longevity in soil since weed seeds usually remain viable longer if they are buried. Seed on or near the soil surface is exposed to predators and seed decay which reduces seed persistence. The best way to manage the weed seedbank is to not allow weeds to set seed in the field. See: http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2717.pdf

What are the best highbush blueberry varieties for commercial production in our area? UNH Extension has a great fact sheet describing varieties: http://extension.unh.edu/Agric/Docs/fs_blue.pdf. They recommend Bluetta and Duke (early season); Blueray and Patriot (early-mid); Bluecrop, Chandler, Nelson (mid); Bonus, Jersey (mid-late) and Elliot (Late). Other varieties and their characteristics are also described.

Soon after transplanting tomato seedlings into the greenhouse we noticed small areas between the veins on the lower leaves on a half dozen plants. Over the next few days the spots got bigger and spread to 30% of the house. Have you seen this before? If the dead or dying areas are mostly between the veins of the older leaves it is likely due to an abiotic cause, not a pathogenic disease. When the pattern of injury is different on old and new leaves it indicates an injury that occurred at one point in time. What you describe sounds like cold injury, a common problem in early season greenhouses when the temps are too low for tender seedlings just set out. Here are images to compare with your plants: http://www.forestryimages.org/series/viewseries.cfm?ser=225

CHOOSING STRAWBERRY VARIETIES
Courtney Weber, Cornell University, reprinted from NY Berry News

I often get asked by growers: What variety of strawberry should I plant? My answer is almost always: It depends. Then I ask growers to tell me what their goals are. For strawberries, do you want early season fruit to bring in customers to start your season or to go with rhubarb or asparagus? Then you need an early variety such as Earliglow or AC Wendy. Do you worry about late frosts? Then maybe avoid the earliest varieties and start with L'Amour and Darselect. Do you want to have berries past the 4th of July? Then Ovation and Cabot are possibilities. Where do you market: wholesale, U-pick, ready-picked on farm or at farmers' markets? Wholesale markets usually require larger fruit with brighter color such as L'Amour, Jewel and Cabot. U-pick are usually more discerning consumers who will sample the fruit so high flavor varieties are indicated such as Earliglow, L'Amour and Jewel and varieties that freeze and process well such as Clancy and Honeoye. Be sure to let consumers know with signs or verbally which varieties are best for which purpose! Ready picked markets benefit from both high flavor and large size since customers buy with their eyes but often consume immediately. Try varieties like L'Amour, Jewel, and Darselect. Do you have any disease pressure or was the field in strawberries at any time in the past? If red stele, black rot, Verticillium and/or general replant disease are a problem you may want to stay away from Jewel, Honeoye, Annapolis and Kent. Try more disease resistant varieties like L'Amour, Winona, Clancy or Mesabi. Do you get fog or frequent high humidity? Powdery mildew can be an issue with Darselect, Annapolis and Earliglow as well as many day neutral varieties from California like Aromas and Diamante. No one variety will fill all needs. I suggest 3 or 4 varieties with variable harvest seasons so the risk from adverse weather and site conditions is not concentrated on one variety.