

Vermont Vegetable and Berry News – March 11, 2009

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GROWERS Q&A ISSUE – BASED ON YOUR QUESTIONS!

Here is a collection of inquiries I've received recently. I assume if one grower asked, there are others that have the same question. The source of each answer is attributed unless it came from me.

WHEN SHOULD STRAW MULCH BE REMOVED FROM STRAWBERRIES?

Straw should be raked off strawberry plants in early spring. Research has shown that straw should be removed soon after snow melts and the danger of severe cold temperatures is past. Usually this is late March in New York State. The additional light that the plants receive in early spring is extremely beneficial for growth and productivity. Growers concerned about cold temperatures can use a rowcover to protect plants after the straw mulch is removed. In Vermont, researchers (Dr. Bertie Boyce, former UVM fruit specialist) removed straw in mid-March, mid-April and mid-May in each of 3 years. In each year, yields were highest with the earliest straw removal date. Similar results were obtained in New York. (Marvin Pritts, Cornell University)

WHAT CULTURAL PRACTICES CAN REDUCE POTATO BEETLE PRESSURE?

To manage Colorado potato beetles with little or no insecticide use will require a combination of cultural practices – try to combine as many as possible. Crop rotation is the first line of defense since CPB only feeds on solanaceous plants. A trench lined with plastic between the old field and new field of host crops will catch many crawling adults and trap them, since adults cannot fly after they first emerge. This may reduce the pressure, but supplemental control may still be required. If young potato plants are infested with adults, rapidly moving a flame from a propane torch over the top of the plant has been shown to kill the overwintered adult CPB that tend to feed at the top of the plant. Although this may singe the plant tissue, if done carefully there will be no long-term damage to the plant.

Mulching the crop with straw before adults arrive can significantly reduce and delay CPB pressure; grower experience suggests that the straw must be in contact with emerging plants (no bare soil). In small plantings, hand-killing may be practical if the CPB pressure is low...knock adults into buckets or trays of soapy water once the day is warm enough that they have climbed up onto tops of plants. You can combine this strategy, or reduce insecticide use, with trap cropping. Plant a few rows along the field edges ahead of the main planting to use as 'bait' or use a potato variety such as Superior that grows especially well in cool weather. It's important to plant the trap crop between last year's and this year's fields (near CPB overwintering sites), and then control adult CPBs when numbers on the trap crop get high, before they have a chance to move into the main crop. Finally, row covers can be used to exclude the overwintering adults; covers need to be reoved for weeding/hilling, then replaced. Seal all edges and row ends tightly to exclude CPBs, as well as other insect pests like potato leafhoppers.

IS NITRATE ACCUMULATION A CONCERN WITH WINTER-GROWN GREENS?

Based on several studies I've reviewed, this can indeed be a concern since high levels of nitrate pose a human health concern. However, there is evidence from a New England study in high tunnels conducted by Dr. Martin Gent at the CT Ag. Experiment Station, with both organic and conventional fertilization that nitrate accumulation is not a significant problem, even under low light conditions. Further, a European study looked at high-nitrate vegetables as one part of a complete diet and concluded that the health risks were low. Nevertheless, growers should take practical steps to reduce the likelihood of high nitrate in spinach, lettuce, kale and other leafy green crops by avoiding excessive N fertility in the soil, and by optimizing light levels. The saturated media test (\$10 from UMass) is a good way to monitor nitrate levels in greenhouse soils. Replacing greenhouse covers every 3-4 years, keeping them clean, and keeping plant density down can help optimize light getting to the crop.

DO I NEED A PESTICIDE APPLICATOR'S LICENSE AND HOW DO I GET ONE?

In my view, all farmers that apply any pesticides, organic or conventional, should have a pesticide applicator license because it signifies that you know how to safely use and store pesticides. However, a private applicator's license (what most farmers get) is required in Vermont only if you purchase, apply, or supervise the use of any Restricted Use pesticide on property that you, or your employer, owns or rents. A commercial applicator's license is required if you use, or supervise the use of, any kind of pesticide for payment. To get a pesticide applicator's license in Vermont, you must pass a written exam made up of a variety of multiple choice, true/false, matching and short answer questions derived from the Cornell 'Core Manual' plus information on Vermont Regulations.

ON MARCH 26 AT VERMONT TECHNICAL COLLEGE a workshop/training will be held for people who need to take the VT Pesticide Applicator License exam for the first time, or need to re-take the exam if their license has lapsed. At this workshop, the Core Manual' will be reviewed in the morning and the exam will be given in the afternoon. The pre-registration deadline is March 20. If you have questions, contact Ann Hazelrigg at 802/656-0493 or Ann.Hazelrigg@uvm.edu. Details on the Core material can be found at <http://pss.uvm.edu/peps/> and more information about Vermont's pesticide regulations are at: <http://www.vermontagriculture.com/ARMES/Pesticidecontrol.htm>

WHAT ORGANIC FUNGICIDES HELP MANAGE DOWNY MILDEW ON CRUCIFERS?

There is anecdotal evidence from a grower that potassium bicarbonate (MilStop, Kaligreen, Armicarb-O) is effective against downy mildew on basil, but there is little data about how well it would work in field on crucifers. Various formulations of copper are also registered for Downy Mildew, as well as Neem Oil and Garlic Oil. Biological controls include Ballad, Rhapsody, Serenade, and Sonata. I would probably recommend MilStop alternated with an approved copper product. Be sure to check for a product's OMRI listing or get approval from your organic certifier before using it. (Bess Dicklow, Univ. of Massachusetts Extension). Editor's note – NuCop 50WP is an OMRI-approved copper fungicide that is expected to be registered in Vermont shortly.

HOW DO I KNOW WHETHER A PESTICIDE IS REGISTERED FOR USE IN VERMONT?

Search the Agency of Agriculture's database: <http://www.kellysolutions.com/VT/pesticideindex.htm>

WHERE CAN I FIND THE OPTIMAL STORAGE CONDITIONS FOR CROPS?

USDA Agriculture Handbook Number 66 “The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks” is linked to the Vermont Vegetable and Berry web site under ‘Food Safety and Processing’, or go to <http://www.ba.ars.usda.gov/hb66/contents.html> to see the index. This 200-page document is out of print but we made up copies, available for \$15 postage-paid from my office.

WHY SHOULD I USE A STEP CONTROLLER IN MY GREENHOUSE?

A step controller uses a solid-state integrated circuit to monitor environmental data in the greenhouse and create output signals that activate equipment based on a set of internal programmed instructions. The microprocessor is a simple, low-cost device that is reliable, accurate and works well in the greenhouse environment. It can replace several thermostats and may include other control functions for other equipment, such as, vents, alarms, lighting and irrigation. Due to the smaller differential between the on and off points (+/- ½ to 1°F for a controller vs 4 to 8°F for a mechanical thermostat), the energy savings pays for the installation of the more accurate controller. For each 1°F that the greenhouse is heated above the setpoint, energy usage increases 3%. (John Bartok.) Editor’s note: contact me for the full article on this topic by John plus a list of manufacturers.

HOW MUCH SOIL WILL IT TAKE TO FILL DIFFERENT SIZE PLUG TRAYS?

I can’t find a simple chart to answer it so will require pencil pushing: here are a few sites that show different types of plug trays their individual cell volume. Then you’ll have to multiply the number of cells by their volume to get the total cc of media media per tray.

http://www.transplantsystems.com.au/Plug_Trays.html

<http://www.blackmoreco.com/plugtrays-bm.html>

Then, use a conversion site to translate total cc into quarts or cubic yards:

<http://www.unit-conversion.info/volume.html>

Ed note: readers sent in these suggestions for sites to help with calculations:

<http://www.botanical.com/botanical/cvsoilix.html>

IS IT OK TO USE LEGUME INOCULANT THAT HAS FROZEN?

Freezing is not recommended for inoculants; from what I've read some bacteria may survive short term freezing but given the low cost of the inoculant it is definitely better to buy a fresh package.

Keep those questions coming! They prevent Alzheimers. Mention of pesticide names is for information purposes only; no endorsement is intended nor is discrimination against products not listed. Have a nice day.