Vermont Vegetable and Berry News – November 28, 2017

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PRE-REGISTRATION ENDS THIS THURSDAY FOR 2017 NEVFC

The New England Vegetable & Fruit Conference and Trade Show will be on Dec. 11-14 at the Radisson Hotel in Manchester, NH. It includes more than 25 educational sessions over 3 days on vegetable, berry and tree fruit crops as well as many special topics. Farmer to Farmer meetings are held after each morning and afternoon session for in-depth discussions. Over 100 exhibitors will be in the trade show. Pre-registration is open until Nov. 30. The cost to attend any part or all of the conference or trade show is $115 for the first member of a farm or business and $85 for each additional family member or employee when pre-registered with the first member. **These fees increase by $30 per person for late registration or walk-ins**. For more info go to: https://newenglandvfc.org/

WHEN SHOULD YOU MULCH STRAWBERRIES?

Mary Conklin, UConn Extension

Once the soil temperature drops to the low 40's and stays there (and before the soil freezes) apply 3"-6" of mulch on top of and between the plants. Long range forecasts have air temperatures in the 50s which will keep soil temperatures in the 40s. Generally, we don't usually need to mulch before Thanksgiving.

Mulch choices: Straw is the first choice. Hay is a no-no because of all the weed seeds in it. Shredded leaves work but whole leaves are a no-no because they will mat into an impermeable layer on top of the plants, not allowing sunlight, water or air in. Floating row covers for frost and winter protection come in weights ranging from 0.5 oz. to 4 oz. Use a row cover with a weight of at least 1.25 oz. for winter protection and anchor it well to withstand strong winter winds.

WHAT'S UP WITH ON-FARM WATER?

Thanks to all that have already filled out the UVM Extension/UMass Amherst Extension survey on Whole Farm Water Use! For those of you who have not, kindly take 10 minutes to do so, using the link below. The information will help us design research and education programs for growers, Thanks. https://survey.uvm.edu/index.php/972258?newtest=Y&lang=en

GREENHOUSE HEATING SYSTEM TIPS TO SAVE FUEL
Adapted from John Bartok, Univ. of Connecticut agricultural engineer emeritus

For some growers, the winter heating season has started while for others it won't start until late winter or early spring. Whatever your heating schedule, you should find time to maintain your heating systems for optimum performance which will save on fuel costs and avoid potential problems.

Protect your fuel tanks; 20% of all service calls result from dirty fuel or problems related to the flow of the fuel. Tanks should be located away from dusty locations and water tight fittings should be used. Outdoor tanks should be protected from harsh winter weather with an enclosure.

Have all heating units serviced. The efficiency of most greenhouse heating systems can be improved by at least 5% by having a competent service person clean and adjust all furnaces and boilers before the start of the heating season. This should include changing the fuel filter on oil furnaces. 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. On larger systems an evaporator or vaporizer converts the liquid propane into the gaseous state. These heaters with safety valves and flame supervisor need to be checked and maintained. The mixer, a valve which combines propane gas with atmospheric air should be serviced and tested to manufacturers' recommendations. It is best to operate the furnace on a monthly basis during the year to check for problems.

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 collect considerable dust and dirt in a greenhouse atmosphere. Brush and vacuum these surfaces to increase heat output.

Clean blowers for efficient air movement. Drain off dirty water in steam and hot water systems. Analyze boiler water periodically to determine if treatment is needed.

Efficiency testing of a furnace or boiler is a 10-minute procedure that can indicate when problems begin to occur. It is key to saving money on your heating bill. Increasing efficiency by 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.

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 sq. in. 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 should be tight and the chimney should extend at least 2 feet above the ridge of the greenhouse. The top of the chimney should be at least 8 feet above the combustion chamber and have a cap to prevent backdrafts and possible air pollution injury to plants.

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.

Air circulation will reduce temperature stratification in the greenhouse. Installing horizontal air flow (HAF) fans that move 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 1/10 horsepower circulating fans located 40 to 50 feet apart to create a circular flow pattern.

CENSUS OF AGRICULTURE OFFERS ON-LINE OPTION

Every 5 years the U.S. Census of Agriculture gathers data about farming. This information is used by legislators, federal agencies and other entities when making policy and resource allocation decisions. Throughout my Extension career I have heard commercial horticulture growers complain that their industries are under-represented. You can help address that concern by completing the Census form when it arrives. This year it will be easier because there's an online option that lets you to skip over questions that do not apply to you, will calculate totals automatically, and provides drop-down menus for common answers. It also saves taxpayer dollars on return postage and data entry. Use the 17-digit survey code located on the survey you'll receive in the mail to access the on-line system here: https://www.agcounts.usda.gov/cawi You can save a partially completed survey and return later. All survey responses are confidential

VERMONT PRODUCE SAFETY IMPROVEMENT GRANTS

The Vermont Agency of Agriculture will award grants of $1,000 to $10,000 to growers to make improvements that help prevent or reduce known produce safety risks on their farms. Applicants must grow, harvest, pack, or hold "covered produce" as defined by the U.S. Food Safety Modernization Act Produce Safety Rule, and have average annual produce sales of greater than $25,000 over the past three years. Two rounds of funding are available. The first round begins on November 15, 2017, and the second round is anticipated in June 2018. Each round will include approximately $74,000 worth of funding. Applications are reviewed on a first-come, first-served basis once each round of funding becomes available. There is no application deadline. Each round will close once all funding has been allocated. For more info and to check whether the current grant round is open, see: http://agriculture.vermont.gov/produceprogram.

NORTHEAST SARE FARMER GRANT DEADLINE IS DEC. 5

Farmer Grants are for commercial producers who have an innovative idea they want to test using a field trial, on-farm demonstration, marketing initiative, or other technique. Projects should seek results other farmers can use, and all projects must have the potential to add to our knowledge about effective sustainable practices. Up to $15,000 can be requested to pay for your time or your employees time to work directly on the project and/or for materials specific to the project, or project-related services like testing and consulting, equipment rental, or other direct costs. A technical advisor such as an extension agent, crop consultant, or other ag service professional must also be involved, and they can be paid from the grant. Grant funds can't be used to pay for normal operating expenses, or for capital expenses like buying land, tractors, livestock, machinery, barns or greenhouses. See: http://www.nesare.org/Grants/Get-a-Grant/Farmer-Grant

SOIL HEALTH WEBINARS WORTH WATCHING

I recently attended a really good on-line conference on organic soil health. The following 20-minute webinars are now posted as a YouTube playlist:
https://www.youtube.com/watch?v=PorE-2cu9OY&list=PLZMuQJAj6rOpvKfHasJQ1WaVHJaK3PKLz

- Setting and Exceeding Benchmarks for Soil Health on Diversified Organic Vegetable Farms. John Franklin Egan, Pennsylvania Association for Sustainable Agriculture.
- Comparison of Reduced Tillage Practices for Small-Scale Organic Vegetable Production. Ryan Maher, Cornell University.
- Using Mycorrhizal Fungi to Improve Soil Health and Increase Yield in Organic Vegetable Farms. Pushpa Soti, University of Texas Rio Grande Valley

- Effects of Soil Balancing Treatments on Soils, Crops and Pests in Organically Managed Farms. Vijay Chaganti, The Ohio State University.
- Organic Agriculture's Ongoing Contribution to Soil Health and the Oeconomy. Michelle Wander, University of Illinois-Urbana-Champaign.
- Optimizing Nitrogen Management on Organic and Biologically-Intensive Farms. Douglas P. Collins, Washington State University.
- Soil Health and Organic: Lessons Learned. Ben Bowell, Oregon Tilth.
- Influence of Long-Term Organic Cropping Systems on Soil Microbial Population Size and Structure. Lea Vereecke, UW Madison.