

## **Vermont Vegetable and Berry News 6 November 28, 2017**

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[www.uvm.edu/vtvegandberry](http://www.uvm.edu/vtvegandberry)

### **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

temperatures in the 50s which will keep soil temperatures in the 40s. Generally, 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.

### **Y JCVøU"WR 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 \_\_\_\_\_ 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 \_\_\_\_\_ recommendations. Replace and adjust electrodes. Inspect safety controls including cad cell sensor, transformer, limit switch and fan control.

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



# Effects of Soil Balancing Treatments on Soils, Crops and Pests in Organically Managed