

Vermont Vegetable and Berry News – November 10, 2009

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PRE-REGISTER BY NOV. 30 FOR NEW ENGLAND VEG. & FRUIT CONFERENCE

The 2009 New England Vegetable & Fruit Conference (NEVFC) and Trade Show will take place December 15-17 in Manchester NH. This is a 'must-go' event for commercial growers of every persuasion, and it only happens every other year. The program has 30 educational sessions over 3 days, plus farmer-to-farmer roundtable sessions and a trade show with over 100 exhibitors. Complete program details and registration information are at: <http://www.newenglandvfc.org/>. Pre-registration saves \$10 per person and helps keep the lines short at the conference. Please call my office if you would like a hard copy of the brochure and registration form mailed to you.

WINTER MULCH FOR STRAWBERRIES

By Sonia Schloemann, UMass Extension

An important fall job in commercial strawberry production is mulching. Strawberries are commonly grown in cold climates, such as the northern US and Canada, but the strawberry plant itself is actually quite vulnerable to cold injury. Research has shown that, without mulch, strawberry crowns can suffer damage at temperatures below 12°F and unprotected strawberry plants can suffer desiccation damage from drying winter winds. A protective mulch can protect strawberries from cold by providing insulation, and from desiccation by providing a barrier against drying winds. Mulches will also protect plants from injury caused by soil heaving, which results from freezing/ thawing cycles during the winter. So, a key to consistent quality strawberry production in cold climates is in protecting the plants from severe temperatures or temperature swings through the practice of mulching.

Production systems can also affect the need for mulching. Plants on raised beds, for example, are more vulnerable to cold and desiccation injury than plants in level plantings, especially in locations that are exposed to strong winter winds. Annual production systems, such as fall planted plasticulture, may utilize less hardy or disease susceptible cultivars. As we will see, mulching practices must adapt to these new systems.

When should the strawberry grower plan to apply mulch? Research suggests that a good timing guide is to apply mulch after three consecutive days with a soil temperature of 40°F or below. This soil temperature usually occurs after multiple frosts, and when the plants have slowed growth in response to cooler temperatures. It is best to apply mulch before the soil freezes solid. In New England mulches are applied in late November.

What is a good mulch material? The traditional mulching material for strawberries in New England is straw. Straws from wheat, rice, oats, or Sudan grass work well. Straws coarser than Sudan grass are not recommended. Straw should be clean, free from weed seed, and contains a minimum of grain seed. Strawberry growers can produce their own straw, often cutting the straw before the grain seed is viable. Store straw for mulching in a dry area. Occasionally, grain seedlings can become a weed problem the following spring.

How much mulch should be applied? A traditional, level matted row planting will require 2.5 to 3 tons of straw per acre for a 2 to 3 inch deep mulch, or about 300 small bales of average weight. Raised bed plantings and sites with strong wind may require twice this amount for adequate coverage. How is the mulch applied? Smaller plantings may be mulched by hand by shaking out the bales of straw over the row. Larger plantings often use bale choppers to break up the straw bales and distribute the straw over the bed. Choppers are available for both small bales and large round bales.

How and when is the mulch removed? In the spring, when plants begin to show growth under the winter mulch (new green tissue), the mulch should be raked off the rows to allow sunlight to penetrate and reach the foliage. Delaying removal will delay plant growth and flowering and may reduce yield. Mulch can be raked off by hand with ordinary yard rakes in smaller plantings. In larger plantings, various mechanical tools are available ranging from modified hay rakes and tedders to equipment specifically designed for the purpose.

Floating row covers as mulch. These covers are composed of a plastic such as polypropylene, spun-bonded into a fabric that is permeable to light, air, and water. Research and growers' experiences demonstrate that these covers are useful for winter protection of strawberry plantings. While floating row covers are available in several weights, only the heavier weights are recommended for winter protection. At present a widely available weight recommended for winter strawberry protection is 1.25 oz/yd² (42 g/m²). A variety of fabric widths are available, with common widths ranging from 15 feet to 60 feet. With proper care, this heavier fabric should last 3 to 4 seasons. Floating row covers are widely used to protect annual plasticulture plantings.

Row covers are best applied on still days. Be sure to line up sufficient labor to place the row cover. If possible, use wider widths for more efficient application. The row cover edges must be anchored, as must areas where two covers overlap. A variety of methods are used to anchor the edges. Edges may be anchored with posts, rocks, or tube sand. The edges may also be covered with soil. Once the mulch is in place, the job is not done for the winter. Monitor the planting frequently. If straw has blown off areas, replace at once. Watch the edges of row covers, and adjust anchors if needed. Repair any rips or holes as soon as possible.

DON'T MULCH YOUR STRAWBERRIES PREMATURELY

(adapted from Kevin Iungerman, Cornell Extension, Northeastern NY)

Applying mulch prematurely can unwittingly rob your strawberry planting of its maximum edge going into winter. Even though early stage dormancy in strawberries is reached in October, mulching anytime before mid-November can shut down light interception too early, meaning that the plants will have less energy to support their winter acclimation. Since survival over the winter often hinges upon very small differences in energy available to maintain plant health, the negative effects of premature mulching can be quite significant.

The latter part of November is generally recommended as the strawberry mulch window in our area. Defer even later, into early December, if weather conditions allow (no snow and the fields are still amenable to tractors, wagons, and equipment).

Track the progression of ground temperatures, noting when time where soil temperatures are running at 40°F over several consecutive days. You should apply your mulch prior to the ground freezing.

Straw remains the mulching material of choice on strawberries. Wheat, rye, Sudangrass, barley and oat straws work well (and my preference is in the same order). But clean straw is essential! If your primary criterion is the price per bale, then you are inviting trouble! If possible, examine the straw for its grain or weed seed contamination before you buy it, and certainly before you apply it! Don't import headaches that might largely be avoided with just a little extra care. If need be, it is preferable to grow it yourself or to have it contract-grown so that you can closely control or monitor its cutting time. (Cut before the seed is viable!) It is no bargain to use seed-contaminated straw, as you will surely pay for the hidden extras in herbicides, cultivation, labor and headache.

There are plenty of reasons to mulch strawberries adequately. Unprotected strawberry plants are very vulnerable to desiccation from exposure to drying winter winds. Don't skimp. Cold can do considerable mortal damage. Crowns reportedly kill when their plant cells reach temperatures of about 7°F to 10 °F. Raised bed plantings have greater vulnerability as they can be several degrees colder than flat beds because they have greater soil surface area exposed to radiant cooling. In spring you take advantage of the same principle but to reverse effect: greater warming. Consequently, add more straw to raised beds - perhaps twice the amount for adequate coverage (4-5 tons). The same might be done on less hardy cultivars or in windier locations. Remember to maintain a reserve of bales in a dry, freeze-free location so they are available for immediate replacement of straw that blows off during the winter. Monitor coverage often, especially if snow cover is light and it's windy.