

## **Vermont Vegetable and Berry News – October 6, 2009**

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### **ASSURE LATE BLIGHT DIES OFF THIS WINTER**

(adapted from UMass Vegetable Notes)

Potatoes in storage, tubers surviving the winter unfrozen in the garden or infected tubers in a compost pile are all potential sources of new infections next spring. Spores are carried from these sources by wind to the new crop of potatoes or tomatoes. Spores can be transported 50 miles or more from a source and 5 to 10 miles is common.

Therefore all cull piles should be buried deeply enough so that any tubers that survive the winter cannot produce viable shoots. In the fall, tubers that fall back onto the field during harvesting should not be incorporated more than a couple of inches into the soil. This insures that they will be killed by freezing, even in a mild winter. Home gardeners should be certain to dispose of unwanted potato tubers either by burying them or leaving them on the soil surface to be killed by freezing weather. Do not save seed potatoes for next year. Infected tomato fruit discarded in composts in late winter or early spring may be a source of infection if they do not freeze. Infected plant material that is on the soil surface should freeze, killing the late blight fungus that is in the tissue. Thus there is little likelihood that infected tomatoes would provide a source for inoculum next year, because plants will be killed by frost.

### **TOMATO STAKE CLEAN UP**

(adapted from Chuck Bornt, Cornell Extension Capital District)

Tomato growers who are using a trellising system should clean and sanitize their stakes if they plan to re-use them. There were lots of diseases out there this season, especially bacterial canker and late blight. Although these stakes should not pose a problem for overwintering late blight (needs living tissue to survive and the strain we had this year does not have the ability to overwinter here), they can harbor the bacterial diseases and possibly others. The first thing to do is remove as much soil and organic matter from the stakes before sanitizing them, since debris reduces the effectiveness of most sanitizing agents. Line up the stakes up and use a power washer to remove the soil and debris or take a stiff brush and clean them off. Then use one of the following materials for sanitizing stakes:

Quaternary ammonium chloride salts (Green-Shield) 1 Tablespoon (=0.5 fl oz) in 1 gallon water. Solutions are stable; but recommend use within 24 hour. Soak trays and other objects for 10 minutes, then air dry before use. Rinsing is not needed. Sodium hypochlorite (Clorox), chlorine bleach 5.25%. Use at 0.5% (= 1 part bleach + 9 parts water). Soak stakes for 30 minutes; rinse. Bleach is effective but short-lived after mixing in water; half-life of only 2 hours. Inactivated by organic matter, thus pre-cleaning is essential. Chlorine is corrosive; repeated use may be harmful to plastics or metals. Use in well ventilated area. Hydrogen peroxide or hydrogen dioxide (Zerotol, Oxidate, Storox) can also be used; read labels for correct rates. Stakes should be soaked for 10 minutes, similar to the other materials. Remember that disinfecting solutions only work if they come in contact with the pathogen. This means that if the stakes are packed too tight, or if there are air bubbles around stakes then the solution cannot be effective.

### **FLORICANE REMOVAL IN RASPBERRIES AND BLACKBERRIES**

(Kathy Demchak, Penn State University)

Prior to the mid 1990's, recommendations said to remove floricanes right after fruiting. Around that time, research with 'Titan' red raspberries showed that the plants had less winter injury when canes were removed during either December or early March, rather than in September. This was presumably because the plants had the opportunity to move carbohydrates from the spent canes to the crown, thus increasing the plants' carbohydrate reserves, which increased the plants' ability to tolerate cold temperatures. This is probably of most value in situations where winter injury is a problem.

However, in certain other situations, such as when cane diseases are an issue, it may be more valuable to remove the floricanes along with the disease inoculums on them, and improve air circulation. This is especially important for growers who are growing under low-spray, no-spray, or organic systems where cultural controls to manage diseases take on critical value.

So, here's what I'd like growers to do, both to decide whether to remove canes now, and to help with managing diseases. Take a look at your planting, and see whether you can see symptoms of cane diseases. Look for gray sunken lesions on canes (anthracnose), purplish to dark brown areas (cane blight or spur blight on various brambles and *Gnomonia* stem canker on blackberries). Lesions that are large, expanding, or numerous are especially worrisome. If your canes look healthy, you can leave the floricanes there. If you have disease symptoms out there, or you've been delaying floricane removal in past years but suspect that disease symptoms are getting worse over time, take the floricanes out now.

This practice should be re-evaluated each year, as conditions for disease development will differ from year to year. If you see disease symptoms, fungicides applied after taking the floricanes out will help. (editor's note: organic growers can consider using lime sulfur as a dormant spray to suppress cane diseases).

## **PLANTING GARLIC**

(adapted from University of Minnesota Extension)

Time of planting is critical since both optimum shoot and bulb development require a cold treatment. Garlic in Minnesota should be planted in the fall, usually within one to two weeks after the first killing frost (32°F). Ideally, roots should be developing and shoots should be emerging from the clove but not above the soil at the time of the first hard freeze (28°F). Garlic shoots will emerge from the ground in late March or early April. Unless given a proper cold treatment prior to planting, garlic planted in the spring will often produce weak shoots and poorly developed bulbs. Lack of scape development in hardneck garlic and bulbing in all garlic is usually due to an inadequate cold treatment.

Close spacing results in high yield but smaller bulbs, while spacing farther apart will result in lower total yields but larger bulbs. Generally, cloves planted in double row beds 30 inches apart on center and six inch spacing within and between rows in the beds results in good bulb size and yield. Some growers will plant four to five row beds on 3 to 4 ft. centers with six-inch spacing; however, plants in the middle of the bed will compete for light and nutrients, which may result in smaller bulbs than for those on the edge of the bed. Other options include single rows spaced 30 inches apart and cloves spaced six inches apart within the row. This wide spacing between rows allows for easy mechanical cultivation for weed control. Typically, yields of garlic planted in double rows 30 inches apart will range from three tons to five tons per acre.

The amount of garlic to purchase will depend on the area to be planted, spacing, and variety. Some varieties have more plantable cloves per bulb than others. Generally, there are about 50 cloves per pound of cloves. Therefore, garlic spaced at six inches within a row 100 feet in length will require approximately four pounds of cloves or four to five pounds of bulbs. Generally, seedcloves from one pound of garlic bulbs will yield between four and eight pounds of harvestable bulbs. This will also vary, of course, with growing conditions and variety.

Individual cloves should be separated from the bulb the day of or up to two days before planting. Cloves separated for longer than two days tend to dry out. Generally, larger cloves from larger bulbs will produce the largest bulbs. In some varieties, large cloves may be actually

two cloves fused together, known as a "double." These doubles will produce two bulbs that become flattened as they grow together. The result is less marketable, poorly shaped bulbs. Cloves should be planted with the pointed side up. Cloves planted upside down will develop a curved shoot that results in misshapen bulbs. The base of the clove should be planted two to three inches below the soil surface.

Garlic roots and shoots can tolerate freezing conditions provided that sudden drops in temperature do not occur. Therefore, within three to five weeks after planting, rows should be covered with a three-inch to four-inch layer of weed seed-free straw mulch to moderate soil temperatures and minimize excessively fluctuating temperatures in the winter and early spring. This mulch also will help control weeds during the growing season.

Mulch can be removed in the spring after the threat of hard freezes is over. Garlic shoots can tolerate air temperatures as low as 20 degrees Fahrenheit without damage. Plant death, multiple shoots, and poor bulb development may occur if bulbs and shoots are exposed to temperatures below 10 degrees Fahrenheit. Some growers remove the mulch completely in the spring to allow the soil to warm faster and then return the mulch after the shoots are about six inches tall; others will leave the mulch in place to minimize weed pressure and conserve moisture. In cool springs and in northern zone 3 growing areas, complete removal of the mulch may be beneficial.

## **VERMONT FARMERS SOUGHT TO CORRESPOND WITH STUDENTS**

Julie Wolcott, Green Wind Farm and NOFA-VT

The Farmer Correspondence program helps students become more literate about Vermont's farming systems and land-based careers through a personal relationship with a local farmer. You can help make this happen, it will take you about an hour a month this winter and spring. Here's how it works: You sign up and indicate what topics and ages of students you want to write for. Conventional and organic farmers are welcome! You'll be matched with classes that are as local as possible and align with your interests. You write four letters from November to June (every other month) describing what you are doing on your farm during those months. You will send those letters to 2 to 4 classes that you were matched with. Students are asked to write you back to you at least once, but you do not need to write more letters. Students may want to visit the farm (Julie can help facilitate this if you're willing). You can receive a \$25 stipend after the 4 letters have been written. To sign up, or ask questions: call Julie 802-933-4592. Thank you for being a part of our state's agriculture and enhancing the education of young Vermonters.