

## Horticulture 2014 Newsletter No. 16 April 16, 2014

**Video of the Week:** [Growing Veggies in Pots: Selecting the Right Size](#)

### VEGETABLES

#### Setting Out Tomatoes Early



Gardeners often try to get a jump on the season by planting tomatoes as early as possible. Though this can be successful, there are certain precautions that should be observed, especially this year with the abnormally cool spring.

**Adequate soil temperature:** Tomato roots do not do well until soil temperatures reach a fairly consistent 55 degrees F. Use a soil thermometer to check the temperature at 2 inches deep during the late morning to get a good average temperature for

the day. Most soil temperatures in Kansas now are in the 40's. Plastic mulch can be used to warm soil more quickly than bare ground. Purple leaves are a sign of phosphorus deficiency due to cool soils.

**Harden off plants:** Plants moved directly from a warm, moist greenhouse to the more exposed and cooler conditions outside may undergo transplant shock. Transplant shock causes plants to stop growing for a time. Plants can be acclimated to outside conditions by placing them outdoors in a location protected from wind and full sunlight for a few days before transplanting.

Another way to harden off plants is to transplant them and place a cardboard tent or wooden shingle to protect them from wind and sun for 2 to 3 days. The best conditions for transplanting is an overcast, still day.

**Protection from frost:** Tomatoes cannot tolerate frost. Though we are past the average date of the last frost in most of Kansas, watch the weather and cover the plants if frost threatens. A floating row cover or light sheets can be used for protection. Actually a floating row cover can be left on the plants for two to three weeks to increase the rate of growth and establishment.

Other tips for getting tomato plants off to a fast start include:

1. Use small, stocky, dark green plants rather than tall, spindly ones. Smaller plants form roots rapidly and become established more quickly than those that are overgrown.
2. Though tomatoes can be planted slightly deeper than the cell-pack, do not bury the plant deeply or lay the stem sideways unless the plant is very leggy. Though roots will form on the stems of tomatoes, this requires energy that would be better used for establishment and growth.
3. Use a transplant solution (starter solution) when transplanting to make sure roots are moist and nutrients are readily available.
4. Do not mulch until the plant is growing well. Mulching too early prevents soil from warming up. (Ward Upham)

## FRUIT

### Fertilizing Strawberries and Brambles



Most garden soils in Kansas have adequate levels of all nutrients other than nitrogen IF the area has been fertilized in the past. However, it is recommended that a soil test be done to be sure of the nutrient needs of your fruit planting. If the soil test recommends phosphorus and potassium, use a 10-10-10 fertilizer instead of what is recommended below but triple the rate. For example, instead of  $\frac{1}{2}$  cup per 10 feet of row, use 1.5 cups per 10 feet of row.

**Strawberries (June-Bearing):** June-bearing strawberries are not fertilized in early spring as this can make the berries soft and more prone to rot. Fertilize at renovation and again in late August to early September. In most cases, strawberries need primarily nitrogen, so the recommendations are for a high nitrogen fertilizer such as a 27-3-3, 29-5-4, 30-3-3 or something similar. Though recommended for lawns, these fertilizers will also work well for strawberries as long as they do not contain weed killers or crabgrass preventers. Apply  $\frac{1}{2}$  cup for every 10 feet of row. Note: For more information on renovating strawberries, see <http://www.hfr.ksu.edu/doc3732.ashx>

**Strawberries (Everbearing or Day-Neutral):** Fertilize in the spring as growth starts and again in early August. Use the rates recommended for June-bearing strawberries. Everbearing (dayneutral) strawberries are not renovated.

**Brambles (Blackberries and Raspberries):** In most cases, brambles need primarily nitrogen, so use a high nitrogen fertilizer such as a 27-3-3, 29-5-4, 30-3-3 or something similar unless a soil test directs otherwise. Though recommended for lawns, these fertilizers will also work well as long as they do not contain weed killers or crabgrass preventers. Apply  $\frac{1}{2}$  cup for every 10 feet of row. Fertilize in spring as growth begins. (Ward Upham)

## Fertilizing Blueberries



Blueberries are sensitive to excess levels of fertilizer. Do not go over the recommended amount.

**Year of Planting:** Apply fertilizer according to soil test and work into the soil before planting. Every six weeks thereafter apply a high nitrogen fertilizer such as a 27-3-3, 29-5-4, 30-3-3 or something similar. Though recommended for lawns, these fertilizers will also work well for blueberries as long as they do not contain weed

killers or crabgrass preventers. Apply 1 teaspoon per plant within a circle within 12 inches of the plant. Do not apply fertilizer past August 15. Urea (46-0-0) may be substituted for the fertilizer recommended above but cut the amount to a rounded ½ teaspoon per plant.

**Second Year:** Double the rates recommended above and increase the area treated to within 18 inches of the plant. Apply the first application when the new growth appears in the spring and continue every six weeks but not after August 15.

**Third Year and Following:** - Apply 1/3 cup of the fertilizer recommended above within three feet of each plant when growth begins in the spring. Bushes should produce 6 to 12 inches of new growth each year. If less than this is produced or if you wish larger plants, apply 1/4 cup of fertilizer every 6 weeks. Do not apply fertilizer after August 15. (Ward Upham)

## FLOWERS

### Blackspot of Roses



A common disease of roses is blackspot, a fungus disease that can cause defoliation of susceptible plants. Look for dark, circular lesions with feathery edges on the top surface of the leaves and raised purple spots on young canes. Infected leaves will often yellow between spots and eventually drop.

The infection usually starts on the lower leaves and works its way up the plant. Blackspot is most severe under conditions of high relative humidity (>85%), warm temperatures (75 to 85 degrees F)

and six or more hours of leaf wetness. Newly expanding leaves are most vulnerable to infection. The fungus can survive on fallen leaves or canes and is disseminated primarily by splashing water.

Cultural practices are the first line of defense.

1. Don't plant susceptible roses unless you are willing to use fungicide sprays. For a list of blackspot resistant varieties, go to: <http://www.ppd.l.purdue.edu/ppdl/weeklyphics/3-22-04.html>

2. Keep irrigation water off the foliage as much as possible. Drip irrigation works well with roses. If your watering method will wet foliage, water early in the morning. Watering in the evening often keeps foliage wet until dew forms. This increases the number of hours the foliage is wet and therefore increases the chance of disease.

3. Plant roses in sun in areas with good air movement to limit the amount of time the foliage is wet.

4. Remove diseased leaves that have fallen and prune out infected rose canes to minimize inoculum.

If needed, protect foliage with a regular spray program (10- to 14-day schedule) of effective fungicides. Recommended fungicides include tebuconazole (Bayer Disease Control for Roses, Flowers and Shrubs), myclobutanil (Immunox, Immunox Plus), triforine (Funginex) and chlorothalonil (Fertilome Broad Spectrum Landscape & Garden Fungicide, Ortho Garden Disease Control, others). (Ward Upham)

## ORNAMENTALS

### Impact of Winter Starting to be Noticeable on Evergreen Trees



A few calls and a few samples have started to show up in the KSU Plant Disease Diagnostic Lab. People are starting to notice that spruce trees are turning brown, usually at the ends of the branches. The question is always, whether or not this is a disease. In this case, it is not. The key elements here are timing of damage and location of damage. In terms of timing, the trees were fine last fall and then damage showed up this winter. The location of the damage is at the end of the branches, in this case all over the tree.

There are a couple of spruce needle diseases (Rhizosphaera needlecast and Stigmina needlecast) in Kansas that will cause a needle scorch and needle drop. These fungal diseases attack spruce needles in the bottom and the interior portion of the tree. Also, the infection period is during the spring or early summer when the weather is wet. So, for this spruce tree and others with similar damage, the problem is actually the result of some desiccating winter winds. During the winter, evergreen foliage still transpires. On windy days the rate of transpiration is high and if the ground is frozen or dry then the roots may not be able to keep up with the demand. Low temperatures play a role as well. The result is scorched spruce needles. The damage tends to be greatest on the outer foliage which is most exposed.

So what does this mean for the recovery of the tree? Winter damage or winter desiccation is common on pine trees as well spruce. When the needles on pine trees are damaged, they turn brown and eventually shed. However, they usually put on a new set of needles the following spring. Pine trees are pretty resilient to this kind of damage. Spruce trees, not so much. Anything that damages spruce needles and turns them brown will result in defoliation and in most cases a branch die back.

The best time to assess the extent of the damage and the potential for recovery is mid-May. By this time, new growth should have developed and it will be clear if the buds are going to put on some new growth. You can also check for potential recovery by pulling off a few buds. If they are brown inside, don't expect any new growth. If the buds are green inside, the spruce tree may put on some new growth. Regular watering is always a plus when the tree is under stress. (Judy O'Mara)

## MISCELLANEOUS

### Poison Ivy Identification and Control



Learning to identify poison ivy is vital if you wish to avoid the rash that accompanies exposure.

Unfortunately, poison ivy can make identification difficult because it occurs in three forms: an erect woody shrub, a groundcover that creeps along the ground, and a woody vine that will climb trees.

When poison ivy climbs, it forms numerous aerial roots that give the vine the appearance of a fuzzy rope. The leaves of poison ivy also vary. Though the compound leaf always has three leaflets, the leaf margins may be toothed, incised, lobed or

smooth. The size of the leaves also can vary, although usually the middle leaflet is larger than the other two. Also, the middle leaflet is the only one with a long stalk; the other two are closely attached to the petiole (leaf stem). The number of leaves gives rise to the saying: "Leaves of three, let it be!" Poison ivy is often confused with Virginia creeper. Virginia creeper, however, has five leaflets rather than three.

There are three methods commonly used to eradicate poison ivy. These include pulling or grubbing out the plants by hand, cutting off the vine, and then treating the regrowth, and spraying the plants directly. The method used depends somewhat on the plant's growth form. If the plant is growing as a groundcover, direct spray or grubbing the plant out is often used. If grubbing, wear gloves and a long-sleeved shirt. The soil must be moist for grubbing to work well. Wash the clothes and yourself immediately after you finish. It might also be a good idea to rinse the washing machine. If the plant is in the shrub form, direct spray is the most common control method. If the plant is a woody vine that has climbed a tree, the preferred method is to cut the plant off at the base and treat the sprouts after they emerge. Some triclopyr herbicides also have instructions on treating a freshly cut stump directly. Herbicides that can be used include glyphosate (Roundup, Killzall Weed and Grass Killer, Nutgrass, Poison Ivy and Vine

Killer) or triclopyr (Brush-B-Gon Poison Ivy Killer, Brush Killer Stump Killer). Poison ivy is tough. Repeat applications may be necessary. (Ward Upham)

Contributors: Judy O'Mara, Plant Pathology Diagnostician; Ward Upham, Extension Associate

---

To view Upcoming Events: <http://tinyurl.com/fswqe>

The web version includes color images that illustrate subjects discussed. To subscribe to this newsletter electronically, send an e-mail message to [cipman@ksu.edu](mailto:cipman@ksu.edu) or [wupham@ksu.edu](mailto:wupham@ksu.edu) listing your e-mail address in the message.

For questions or further information, contact: [wupham@ksu.edu](mailto:wupham@ksu.edu)

*Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.*

Kansas State University Agricultural Experiment Station and Cooperative Extension Service.