UPCOMING EVENTS

The NE Kansas High Tunnel Bus Tour - June 5 (K-State Olathe Research & Extension Cntr.)

Get a firsthand introduction to the diversity of high tunnel production systems we have in our region. First we will tour the more than 20,000 ft² of tunnel production at our research center. Then, we'll jump on the bus to visit nearby farms and learn more about how local growers use high tunnels in their operations. Lunch provided. To register, visit https://www.eventbrite.com/e/high-tunnel-bus-tour-tickets-44651678372.

Kansas Turfgrass Field Day - August 2 (Manhattan)

The field day program is designed for all segments of the turf industry - lawn care, athletic fields, golf courses, and grounds maintenance. Included on the program are research presentations, problem diagnosis, commercial exhibitors, and equipment displays. There will be time to see current research, talk to the experts and get answers to your questions.

The Commercial Vegetable Research Field Day - August 27 (K-State Olathe Research & Extension Cntr.)

Bring your walking shoes for this event as we will take a comprehensive tour of all our specialty crop research. Projects include tomato grafting, organic sweet potato, high tunnels, postharvest quality, variety trials, cover cropping techniques, and the effects of light on high tunnel crops. Stay for a cookout in the shade hosted by the staff and students.
VEGETABLES

Fertilize Irrigated Cool-Season Lawns in May

May is an excellent time to fertilize cool-season lawns such as tall fescue and Kentucky bluegrass if they will be irrigated throughout the summer. Non-irrigated lawns often go through a period of summer dormancy because of drought and do not need this fertilization.

May is a good time to fertilize because the springtime flush of growth characteristic of these grasses has tapered off, so the fertilizer you apply will be less likely to cause excessive shoot growth than if you fertilized at a full rate in April. Slow-release nitrogen sources are ideal. These nitrogen sources promote controlled growth, which is desirable as the stressful summer weather approaches. Relatively few fertilizers available to the homeowner supply ALL of the nitrogen in the slowly available form. But one such product that is widely available is Milorganite. Other such products available in the retail market include cottonseed meal, alfalfa-based fertilizers, and any other products derived from plants or animals. (Bloodmeal is an exception, and contrary to popular belief, the nitrogen it supplies is quickly available.) These products are all examples of natural organic fertilizers. They typically contain less than 10 percent nitrogen by weight, so compared to most synthetic fertilizers, more product must be applied to get the same amount of nitrogen. Translation: they are more expensive! Apply enough to give the lawn one pound of nitrogen per 1,000 square feet. For example, if the fertilizer is 6 percent nitrogen by weight, you will need to apply almost 17 pounds of fertilizer product per 1,000 square feet. Summer lawn fertilizers that contain at least a portion of the nitrogen as slow-release are fine to use as well. Be sure to follow label directions. If cost is prohibitive, you can use the less expensive quick-release (i.e., soluble) sources, but split the application into two doses as follows: apply enough to give the lawn 0.5 lb nitrogen per 1,000 square feet in May and again in early June. (Ward Upham)

Sweet Corn Primer

It used to be simple to decide which sweet corn to plant. You simply chose a cultivar and planted when the soil temperature reached 55 degrees. Now it has become more complicated due to genetic advances in sweet corn. Breeders have found certain genes that improve “standard” sweet corn. Below is an overview of the types commonly available to homeowners.

Standard (su): This is our “normal” sweet corn and contains a “sugary gene” (su). Standard sweet corn should be isolated from field corn, popcorn, supersweets and ornamental corn. To isolate one type of corn from another, do not plant one type within 200 to 250 feet or be sure to have a difference of 12 to 14 days in time to maturity. Plant when the soil
The temperature reaches at least 55 degrees. Recommended varieties include Honey and Cream, Silver Queen, Sterling Silver, Jubilee, or Merit.

Supersweet (sh2): Though supersweets have up to three times the sweetness of standard sweet corns and hold their sweetness longer after harvest due to the sh2 gene, they do have some drawbacks such as tougher kernels and a lack of some of that good “corn” flavor. They also need to be isolated from other sweet corn types and are very sensitive to cooler soils. Wait until the soil temperature reaches 65 degrees before planting. Try Candy Store, Florida Staysweet, Sugar Loaf, Sweet Time, or Sweetie.

Sugar Enhanced (se): These are probably the most popular type of sweet corn grown due to their tender kernels, good flavor and less sensitivity to cool soils (60 degree soil temperature for planting). They hold their post-harvest sweetness longer than standard types but will not hold sweetness as long as the supersweets. The sweetness from the sugar-enhanced types is due to the “se gene.” If both parents were se types, the variety is known as an se+ or se se. If only one parent was an se type and the other an su type, then the variety will be listed as se. They do not need to be isolated other than from the supersweets. Suggested varieties include Bodacious, Ambrosia, Sweet Temptation, Delectable and Miracle.

Triplesweet (synergistic): The newest types of sweet corn blend the su, se and supersweet types with the goal of combining the best characteristics of each. We don’t have firm recommendations yet but you may want to try Serendipity, Polka, Avalon or Frisky. (Ward Upham)

Red Plastic Mulch and Tomatoes

Plastic mulches have long been known to provide advantages for the vegetable grower including earlier fruiting, increased yields and weed control. More recently advantages have been noted for colored mulches over the more traditional black plastic mulch. With tomatoes, the color of choice has been red. Though normally there is an increase in production of marketable fruit with red mulch over black mulch, the amount of the increase varies with the type of year we have. There may be no increase during years of near-perfect weather or up to a 20% increase with less favorable growing conditions. A good average expected increase is about 12%.

So, how do you apply plastic mulch? Commercial growers have a mulch-laying machine that applies the trickle irrigation line and the mulch in one operation. Home gardeners must do this by hand. The first step after soil preparation is to place a trickle line near the center of where the mulch will lay as the plastic will prevent rainwater or overhead irrigation from reaching the plants. Then construct trenches for the outer 6 inches of the plastic mulch. This allows the center of the bed to be undisturbed with the edges of the mulch draping down into the trench. Fill the trenches to cover the edges of the mulch. This will prevent wind from catching and blowing the mulch. If the soil has been tilled, a hoe is all that is needed to prepare the trenches. (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: [https://ag.purdue.edu/btny/ppdl/Pages/POTW_old/3-22-04.html](https://ag.purdue.edu/btny/ppdl/Pages/POTW_old/3-22-04.html)

2. Keep irrigation water off the foliage. Drip irrigation works well with roses.

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, Bayer All-In-One Rose & Flower Care), myclobutanil (Immunox, Immunox Plus, F-Stop Lawn & Garden Fungicide) and chlorothalonil (Broad Spectrum Lawn & Garden Fungicide, Garden Disease Control, others). (Ward Upham)

FRUIT

**Fruit Sprays and Spray Water pH**

The most common fungicide used in fruit tree sprays is captan. Unfortunately, this product is subject to alkaline hydrolysis. This is a process whereby certain pesticides will break down when mixed with high pH water. So let’s say you mix up your spray mixture by adding captan to 5
gallons of water. If that water has a pH of 7, the captan will break down so that only half of it will still be present in 8 hours. However, if the water you use has a pH of 10, half the captan will break down in 2 minutes.

Malathion used to be the most common insecticide used for fruit pest control by gardeners but is becoming more difficult to find. It isn’t nearly as sensitive to alkaline hydrolysis as captan but still will break down under high pH conditions. Fortunately, it is stable at a pH between 5 and 7. Lambda-cyhalothrin, found in Bonide Fruit Tree & Plant Guard, is a relatively new product for fruit pest control that also is stable between a pH of 5 to 7.

Note that alkaline hydrolysis does not affect all pesticides. Captan is the exception, not the rule. For a listing of common pesticides and their susceptibility to alkaline hydrolysis, see http://ecommons.library.cornell.edu/bitstream/1813/5149/1/FLS-118.pdf

So, how do you bring down the pH of your spray water if it is high? Commercial people use buffering agents but that may be difficult for homeowners to find. Food grade citric acid can help. If you have a pH of 8.0, add 2 ounces of this citric acid per 100 gallons of water (1 and 1/4 teaspoons per 10 gallons) to bring the pH down to about 5.5. (Ward Upham)

**MISCELLANEOUS**

**Organic Sources of Nitrogen Fertilizers**

Most of the soil tests we receive for vegetable gardens are high in phosphorus and potassium leaving nitrogen as the nutrient needed most. However, many of our organic fertilizers contain similar amounts of all three nutrients.

So, what organic fertilizer can we use that provides more nitrogen then phosphorus and potassium? Following is a short list of such fertilizers.

<table>
<thead>
<tr>
<th>Product</th>
<th>Analysis</th>
<th>Pounds /100 sq. ft.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Meal</td>
<td>12-0-0</td>
<td>5 - 10</td>
<td>Can burn plants if overapplied.</td>
</tr>
<tr>
<td>Cottonseed Meal</td>
<td>6-0.4-1.5</td>
<td>10</td>
<td>May have pesticide carryover unless labeled as pesticide-free.</td>
</tr>
<tr>
<td>Soybean Meal</td>
<td>7-2-2</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Feed stores will often sell these products. The University of New Hampshire has an excellent publication on organic fertilizers at: https://extension.unh.edu/resources/files/Resource000489_Rep511.pdf (Ward Upham)
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 or Woodbine. Each of these vines, 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 cut stump or 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. Triclopyr (Brush-B-Gon Poison Ivy Killer, Brush Killer Stump Killer) is most often used for poison ivy control. Other Herbicides that can be used include glyphosate (Roundup, Killzall Weed and Grass Killer, Nutgrass, Poison Ivy and Vine Killer) or dicamba. Poison ivy is tough. Repeat applications may be necessary. (Ward Upham)

Contributors: Ward Upham, Extension Associate

To view Upcoming Events: http://hnr.k-state.edu/events/index.html
The web version includes color images that illustrate subjects discussed. To subscribe to this newsletter electronically, send an e-mail message to edipman@ksu.edu or wupham@ksu.edu listing your e-mail address in the message.

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