VEGETABLES

Bolting and Buttoning in Cole Crop Plants

Broccoli, cabbage and cauliflower are cole crops that have a tendency to bolt (go to seed) or button (produce an extremely small head) if plants are not grown properly. These crops need to be kept actively growing through their production cycle, including growing transplants from seed. If they slow down due to under-fertilization or are stunted due to overgrowing their container, buttoning or bolting is more likely. Therefore, be sure to properly fertilize plants grown from seed and ensure they have enough light. The easiest way to fertilize transplants is to use a potting soil with fertilizer already added. Light may be more of a challenge. Often natural sunlight is not sufficient unless the plants are in a greenhouse and additional light is needed. Click here for a video on how to build a grow light.

If you are not growing your own transplants but rather selecting plants later in the month for transplanting, choose small, stocky, dark green plants. Even after transplanting, these plants need to be well-fertilized. Fertilize at transplanting with a starter solution and continue to fertilize every 2 to 3 weeks until harvest. Both buttoning and bolting are irreversible. Once a seed stalk starts for form, nothing can be done to force the plant to produce a normal crop. (Ward Upham)

Controlling Weeds in Home Garden Asparagus Beds

The best time to control weeds in asparagus is early spring before the asparagus emerges. A light tilling (or hoeing) that is shallow enough to avoid the crowns will eliminate existing weeds. Many gardeners like to mix in organic matter during the same operation.

Herbicides can be used before asparagus emerges. Glyphosate (Roundup, Killzall) will kill weeds that are actively growing, and the preemergence herbicide
trifluralin can be used to kill weed seeds as they germinate. Trifluralin is found in several products, but not all of them list asparagus on the label. Those that do have asparagus on the label include Miracle-Gro Weed Preventer Granules and Monterey Vegetable and Ornamental Weeder. Mulch can also be used to keep weeds from invading.

No herbicides can be used during harvest. The end of harvest presents another opportunity. Remove all fern and spears and apply Roundup to control virtually all of the weeds present. Past the harvest season and after regrowth of the asparagus, options are limited. Products that contain sethoxydim can be applied to asparagus to kill grassy weeds. Sethoxydim has no effect on broadleaves including asparagus. Two sethoxydim products available to homeowners and labeled for asparagus are Monterey Grass Getter and Hi-Yield Grass Killer. With broadleaves, the only option is to pull them and look forward to next year. (Ward Upham)

**Remove Fern and Fertilize Asparagus**

If you haven’t removed last year’s growth from asparagus plants, now is the time. Asparagus comes up around the first of April in Manhattan but will be earlier in southern Kansas and a bit later further north.

Also, asparagus benefits from a fertilizer application early spring. Fertilize according to a soil test or add 1 to 2 pounds of a 10-20-10 fertilizer per 20 feet of row before growth starts. If a soil test shows that only nitrogen is needed, apply 1 pound of a 16-0-0 product or ½ pound of a 30-4-5, 27-3-3 or similar fertilizer per 20 feet of row. Incorporate lightly with a tiller or rake in fertilizer before spears emerge. Fertilize again at the same rate after the last harvest. (Ward Upham)

**FRUIT**

**Frost Tolerance of Apricots and Peaches**

Growers of apricots and peaches often wonder at what temperature fruit buds are killed especially in years where we have an early spring. These two tree fruits bloom very early and are often caught by a late frost. The following will give you some guidelines but remember that the actual damage is going to be influenced by the weather before the temperature drops. An extended warm spell before the cold snap may result in more damage due to a loss in cold hardiness. The stages listed are for the fruit buds.

<table>
<thead>
<tr>
<th>Apricot</th>
<th>Stage</th>
<th>10% Kill (°F)</th>
<th>90% Kill (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
First white           24                          14
First Bloom           25                         19
Full Bloom            27                         22
n the Shuck           27                         24
Green Fruit           28                          25

**Peach**

<table>
<thead>
<tr>
<th>Stage</th>
<th>10% Kill (°F)</th>
<th>90% Kill (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swollen bud</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Half-inch green</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>Pink</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Bloom</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Petal fall</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>Fruit set</td>
<td>28</td>
<td>25</td>
</tr>
</tbody>
</table>

To check for low temperature injury to fruit buds or blossoms, use a sharp knife and cut them in half longitudinally (from top to bottom). If the tiny seed in the center is white to cream color no damage has been done. But if the seed in several buds or blossoms is dark brown or black, it has been killed.

It is possible to give some protection to blossoms from freezing by covering the tree with a bed spread, blanket or similar fabric. Old-fashioned Christmas lights distributed through the tree will help to give additional protection. The newer, smaller Christmas lights do not give off enough heat and are not recommended. Of course the practicality of this method of protection depends upon the size and number of trees and access to electricity.

Sprinkling the tree with water throughout the freezing period can also protect the blossoms. Sprinklers should be started before the temperature drops to freezing to be sure ice does not block the garden hose or water line. Continue until the temperature warms. With this protection method, there is the potential of creating an ice storm. If temperatures remain below freezing for several hours, ice will accumulate on the branches and limbs. The weight from the ice may cause branches and limbs to break causing severe, and possibly permanent, damage to the tree structure. Also, if water drainage from the soil is slow and the water displaces oxygen from the roots, damage to trees may result. (Ward Upham)

**TURFGRASS**

**Managing Turf in Shade**

Turfgrasses differ in their capacity to grow in shade. Among Kansas turfgrasses, tall fescue is the best adapted to shade though it isn’t all that good. Although the fine fescues (i.e., creeping red, chewings, hard and sheep fescues) have better shade tolerance, they lack heat tolerance and typically decline during hot Kansas
summers. The warm-season grasses have the poorest shade tolerance, although zoysia does better than Bermuda or buffalo. Where shade is too heavy for fescue, there are other courses of action. The most obvious is to either remove trees, or to prune limbs and thin the tree canopies. Grass will do better under openly spaced trees than under closely spaced trees. Pruned limbs and thinned canopies will allow more sunlight to directly reach the turfgrass. If possible, raise the mowing height in the shade to compensate for the more upright growth of the leaves, and to provide more leaf area for photosynthesis.

The thin, weak turf in the shade may tempt you to fertilize more. Remember the problem is lack of light, not lack of fertility. Too much nitrogen in the spring causes the plant to grow faster and may result in weak plants. The nitrogen rate for shaded grass should be cut back to at least half of that for grass in full sun. Late fall fertilization after tree leaves have fallen, on the other hand, is important for shaded cool-season turfgrasses and should be applied at a full rate. Irrigate infrequently but deeply. Light, frequent irrigation may encourage tree feeder-roots to stay near the surface, which increases competition between the trees and the turf. Restrict traffic in the shade.

Many times, the best choice for shaded areas is switch from a turfgrass to a more shade-tolerant plant. For example, periwinkle (Vinca minor) is much more shade tolerant than any turfgrass adapted to our area. Another option is simply to mulch the area where turf doesn’t grow well. The trees will love the cool, moist soil and the absence of competition. (Ward Upham)

**ORNAMENTALS**

**Ten Rules for Planting Trees**

Before you begin spring landscaping, here are some tips on planting trees.

1. Select the right tree for the site. To avoid serious problems, choose trees that are adapted to your location. Consider whether the tree produces nuisance fruit or if there are disease-resistant varieties available. For example, there are a number of crabapple varieties that are resistant to apple scab and rust diseases. Also consider the mature size of a tree to be sure you have enough room. See [http://hnr.k-state.edu/extension/info-center/recommended-plants/index.html](http://hnr.k-state.edu/extension/info-center/recommended-plants/index.html) or ask a local nurseryman for suggestions for trees adapted to your area.

2. Keep the tree well watered and in a shady location until planting. When moving the tree, lift it by the root ball or pot and not by the trunk.

3. Before planting, remove all wires, labels, cords or anything else tied to the plant. If left on, they may eventually girdle the branch to which they are attached. The root flare (point where trunk and roots meet) should be visible. If it isn't, remove enough soil or media so that it is...
4. Dig a proper hole. Make the hole deep enough so that the tree sits slightly above nursery level. Plant the tree on solid ground, not fill dirt. In other words, don't dig the hole too deep and then add soil back to the hole before placing the tree.

The width of the planting hole is very important. It should be three times the width of the root ball. Loosening the soil outside the hole so it is five times the diameter of the root ball will allow the tree to spread its roots faster.

5. Remove all containers from the root ball. Cut away plastic and peat pots; roll burlap and wire baskets back into the hole, cutting as much of the excess away as possible. If you can remove the wire basket without disturbing the root ball, do it. If roots have been circling around in the container, cut them and spread them out so they do not continue growing so that they circle inside the hole and become girdling roots later in the life of the tree.

6. Backfill the hole with the same soil that was removed. Amendments such as peat moss likely do more harm than good. Make sure the soil that goes back is loosened - no clods or clumps. Add water as you fill to ensure good root to soil contact and prevent air pockets. There is no need to fertilize at planting. Note: Adding organic matter to larger area than just the planting hole can be beneficial, but it must be mixed in thoroughly with the existing soil and should “feather out” toward the outside edge of the area. Adding amendments to just the planting hole in heavy soil creates a “pot” effect that can fill with water and drown your new tree.

7. Don't cut back the branches of a tree after planting except those that are rubbing or damaged. The leaf buds release a hormone that encourages root growth. If the tree is cut back, the reduced number of leaf buds results in less hormone released and therefore fewer roots being formed.

8. Water the tree thoroughly and then once a week for the first season if there is insufficient rainfall.

9. Mulch around the tree. Mulch should be 2 to 4 inches deep and cover an area two the three times the diameter of the root ball. Mulching reduces competition from other plants, conserves moisture and keeps soil temperature closer to what the plants' roots prefer.

10. Stake only when necessary. Trees will establish more quickly and grow faster if they are not staked. However, larger trees or those in windy locations may need to be staked the first year. Movement is necessary for the trunk to become strong. Staking should be designed to limit movement of the root ball rather than immobilize the trunk. (Ward Upham)

**MISCELLANEOUS**

**Adding Organic Matter in the Spring**

Organic matter is a good way to improve garden soil as it improves a heavy soil by bettering tilth, aeration and how quickly the soil absorbs water. However, organic matter
added in the spring should be well decomposed and finely shredded/ground. Manures and compost should have a good earthy smell without a hint of ammonia. Add a 2-inch layer of organic matter to the surface of the soil and work the materials into the soil thoroughly. Be sure soils are dry enough to work before tilling as wet soils will produce clods.

To determine if a soil is too wet to work, grab a handful and squeeze. If water comes out, it is much too wet. Even if no water drips out, it still may not be dry enough to work. Push a finger into the soil you squeezed. If it crumbles, it is dry enough, but if your finger just leaves an indentation, more time is needed. Be sure to take your handfuls of soil from the depth you plan to work the soil because deeper soils may contain more moisture than the surface. (Ward Upham)

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