Video of the Week: Growing Vegetables in Containers

TURFGRASS

Time to Fertilize Warm-Season Grasses

June is the time to fertilize warm-season lawn grasses such as bermudagrass, buffalograss, and zoysiagrass. These species all thrive in warmer summer weather, so this is the time they respond best to fertilization. The most important nutrient is nitrogen (N), and these three species need it in varying amounts.

Bermudagrass requires the most nitrogen. High-quality bermuda stands need about 4 lbs. nitrogen per 1,000 sq. ft. during the season (low maintenance areas can get by on 2 lbs.). Apply this as four separate applications, about 4 weeks apart, of 1 lb. N per 1,000 sq. ft. starting in early May. It is already too late for the May application, but the June application is just around the corner. The nitrogen can come from either a quick- or slow-release source. So any lawn fertilizer will work. Plan the last application for no later than August 15. This helps ensure the bermudagrass is not overstimulated, making it susceptible to winter-kill.

Zoysiagrass grows more slowly than bermudagrass and is prone to develop thatch. Consequently, it does not need as much nitrogen. In fact, too much is worse than too little. One and one-half to 2 pounds N per 1,000 sq. ft. during the season is sufficient. Split the total in two and apply once in early June and again around mid-July. Slow-release nitrogen is preferable but quick-release is acceptable. Slow-release nitrogen is sometimes listed as “slowly available” or “water insoluble.”

Buffalograss requires the least nitrogen of all lawn species commonly grown in Kansas. It will survive and persist with no supplemental nitrogen, but giving it one lb. N per 1,000 sq. ft. will improve color and density. This application should be made in early June. For a little darker color, fertilize it as described for zoysiagrass in the previous paragraph, but do not apply more than a total of 2 lb. N per 1,000 sq. ft. in one season. As with zoysia, slow-release nitrogen is preferable, but fast-release is also OK. As for all turfgrasses, phosphorus and potassium are best applied according to soil test results because many soils already have adequate amounts of these nutrients for turfgrass growth. If you need to apply phosphorus or potassium, it is best to core aerate beforehand to ensure the nutrients reach the roots. (Ward Upham)
Too Wet to Mow the Lawn

What do you do when the lawn can't be cut because of constant rain? The best thing to do is to set your mower as high as possible and bring it down in steps. It is always best never to take more than one third of the grass blade off at one time. If more is taken, the plant reacts by using stored energy reserves to quickly send up new growth. This reduces the amount of energy available for the plant to deal with stress or damage done by insects or disease. However, sometimes it is just not possible to keep the "one-third rule." In such cases, cut as high as possible even though it may mean you are cutting off more than one third of the blade. Bring the height down gradually by cutting more often and at progressively lower heights until you reach the target height. (Ward Upham)

FRUIT

Remove Blossoms on Newly Planted Strawberries

Spring-bearing strawberry plants that were set out this spring should have blossoms pinched off. New plants have a limited amount of energy. If blossoms remain on the plants, energy that should go to runner development is used to mature fruit instead. Plants that are allowed to fruit will eventually produce runners, but those runners will not be strong enough to produce a good crop of berries the following year. For an adequate strawberry plant population and a good crop next year, early runner development is necessary. Early runners will produce far more strawberries than runners that form later in the season.

Newly planted everbearing plants also should have fruits removed for the first 4 to 6 weeks after planting so they develop a strong root system. (Ward Upham)

Thinning Excess Fruit

Some areas of Kansas have avoided late freezes resulting in a heavy fruit crop this year. At first glance, this might seem to be a good thing. But too many fruit can cause problems that should be alleviated by removing excess fruit (thinning). For example, a heavy fruit crop can interfere with fruit bud development this summer. This can result in a small to no crop next year. This problem most often appears with apples. Thus, thinning helps ensure that good crops are produced each year.

The second benefit of thinning is to promote larger fruit on this year’s crop. Fruit trees are limited in how many fruit they can mature. Too many fruit and fruit size and quality goes down.

A third problem often caused by too many fruit is limb damage. Sometimes the weight of a
maturing fruit crop can literally break branches. Thinning will help limit weight and preserve branches.

So, how much thinning should we do? Thinning recommendations vary with the type of tree. Guidelines for fruit spacing are as follows:

Apples and pears: 6 to 8 inches apart. Apples tend to produce fruit in clusters of five. We usually remove all the fruit in a cluster but one. Leave the largest, nicest fruit in the cluster. However, there are times you must remove perfect apples.

Peaches: 6 to 8 inches apart. Peaches tend to cluster together. As long as the average is about 7 inches apart, you will be fine.

Plums and prunes: 4 to 5 inches apart;

Apricots: 2 to 4 inches between fruit.

These are averages and so you may have several fruit clustered closer than this distance. As long as the average on the branch is close to the recommended spacing, the fruit should size well.

Thinning can be done by snapping them off by hand or by cutting them off. If snapping them off by hand, support the fruit stem with your thumb and forefinger and use your other fingers to snap them off. This can be done with one hand with a little practice.

Cherries are not thinned and can produce a full fruit load. (Ward Upham)

**PESTS**

*Biting Gnats*

We have received a few calls about “biting gnats.” These are most likely small black flies, commonly called black flies or buffalo gnats. These appear every year, usually near moving water, and they can be very persistent at getting a blood meal, which the females require in order to produce viable eggs. While they can be aggressive biters for 7-10 days, they do not transmit pathogens. Management is difficult because the females deposit their eggs in slow moving creeks and streams. Larval populations typically decline considerably once water temperatures reach 75-80 degrees F. For more information, please refer to Household Pests of Kansas (page 65): https://www.bookstore.ksre.ksu.edu/pubs/MF3291.pdf. (Jeff Whitworth and Holly Davis)
Colorado Potato Beetle

Overwintering females usually emerge in late April and lay a cluster of bright, yellow eggs on recently emerged potato plants. Larvae mature in about 3 weeks and pupate in the soil. After another 10 days, adult beetles emerge, mate and lay more eggs.

Both larvae and adults of this insect feed on potato (as well as tomato, eggplant, and pepper), causing extensive loss of foliage and reducing yields. Control strategies are varied and include:

* **Hand picking:** Useful for small gardens where plants can be checked a couple of times a week. Dropping beetles and larvae in a container of soapy water will lead to their demise.

* **Floating row cover:** This material can be placed over the planting and act as a physical barrier to the insects. Be sure to seal the edges. It is sometimes suggested to leave the floating row cover in place during the growing season because potatoes do not need to be pollinated to produce tubers. Often, this is not practical because it interferes with weed control.

* **Insecticides:** A number of products are registered including spinosad (Captain Jack’s Dead Bug Brew, Bonide Colorado Potato Beetle Beater Concentrate) and permethrin (Eight Vegetable, Fruit & Flower Concentrate, Hi Yield Lawn, Garden, Pet and Livestock Insect Control). (Ward Upham)

MISCELLANEOUS

Walnut Wilt

Tomato, potato, blackberry, apple, lilac, asparagus, chrysanthemum, peony, and other herbaceous and woody plants can be afflicted with a disorder known as walnut wilt. Other plants, such as black raspberry, corn, bean, carrot, dandelion, and zinnia are resistant. This malady is associated with root uptake of a chemical called juglone that is produced by several species of trees in the walnut family, including black walnut, Persian walnut, butternut, and pecan with black walnut producing juglone in the highest amounts. Juglone is formed in the leaves, fruit hulls, inner bark, and roots of the walnut and is leached or released into the soil. This chemical has fungicidal and insecticidal properties. It also is quite toxic to many plant species and induces wilting and stunting. The ability of plants to produce and release chemicals that are toxic to other plants is called allelopathy. The severity of the juglone toxicity partly depends on the proximity of the plants to a walnut tree.

Generally, tomatoes growing next to a walnut tree abruptly wilt and die in early to mid-summer. Those plants growing a short distance away may not be killed but become flaccid and stunted. The woody stem tissue of affected plants turns brown. The symptoms of walnut wilt closely resemble those of Fusarium and Verticillium wilt, but the disorder may be distinguished from...
the other wilts by the constant association of walnut trees with the wilting symptoms.

Juglone may be leached from leaves and nuts into the soil during rain or released from roots. The chemical is highly reactive and quickly inactivated in the soil. The major uptake of the toxin occurs when tomato roots make contact with the roots of the walnut.

Tomatoes or other susceptible plants should not be grown near black walnut or other trees that produce juglone. The removal of walnut trees may not have an immediate effect because the toxin can persist in the inner bark of roots for several years. Do not plant tomatoes for at least two years after removing walnuts. (Ward Upham)

**Helping Roundup (Glyphosate) Products Work**

Though glyphosate products (Roundup, Killzall, Pronto Weed & Grass Killer) are non selective and will kill most plants the spray contacts, these herbicides are not taken up by the roots of nearby desirable plants. This is because the active ingredient is neutralized when it contacts the soil due to being tightly bound to soil particles. Unfortunately, this binding effect can also take place in hard water that is high in magnesium and calcium, which reduces its effectiveness. To avoid this, mix ammonium sulfate with your spray water before adding the glyphosate product. The ammonium sulfate ions tie up the calcium and magnesium ions so that the glyphosate remains at full strength. Also some of the glyphosate will form a compound with the ammonium that weeds will more readily absorb, thus increasing effectiveness.

Note that this binding effect takes place in hard to very hard water (above 7 grains or above 120 ppm). Adding ammonium sulfate to softer water will not help. So if you have your water tested and find you have hard water, how much ammonium sulfate should you add? As a general rule, add 8.5 pounds per 100 gallons. This would equal about 1.4 ounces per gallon or four tablespoons per gallon. (Ward Upham)

**How to Make Tomato Cages**

Commercial tomato cages are often too wimpy for Kansas conditions. Fortunately, you can make your own cages from concrete reinforcing mesh (wire). This material is normally 5' high with the “mesh” forming 6” squares. The shortest rolls are usually 50' long, but some lumber yards will cut off just the amount you need. Figure 6.5 feet of mesh to complete one cage that is 2 feet in diameter. You will need to cut the mesh in order to make the cages. Small bolt cutters work well for this. Be careful when cutting as the mesh comes in rolls that will spring back into a cylinder as the last cut is made.

Count off 13 squares but cut each horizontal wire at the end of the 13 square. This will leave a series of 12 complete squares horizontally with prongs left on the 13 square. Use these prongs to
make a cylinder by bending the prongs over the vertical wire on the first square. Cages using this method will be about 2 feet in diameter. Tomatoes with large, rangy vines need all five feet of the mesh, but those with shorter, semi-determinate vines can get by with a shorter cage.

Also, cut off the bottom horizontal wire to leave prongs that can be pushed into the ground to help with stability. In windy locations, a T-post will likely need to be driven near the cage. Tying the cage to the T-post can help prevent the cage from toppling in windy conditions.

These cages will last for years, but do take up a great deal of storage space when not in use. (Ward Upham)

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