

D's Notes 10/11/21

REMINDERS

- Add organic matter to vegetable garden this fall.
- Bring houseplants in if you haven't already.
- Dig sweet potatoes

Pruning Trees and Shrubs in the Fall

Pruning in August can stimulate new growth that is less hardy during the winter. But what about pruning at this time of year? Woody plants move sugars and other materials from the leaves to storage places in the woody portions of the plant just prior to leaf fall and we would like to maximize those stored energy reserves. Even pruning later in the fall can cause a problem by reducing the cold hardiness of woody plants. Dr. Rich Marini at Penn State Extension has written, "Based on everything that has been published we can conclude that woody plants do not attain maximum cold hardiness when they are pruned in the fall. Trees are affected more by heavy pruning than light pruning." However, this does not mean that woody plants pruned in the fall will necessarily suffer winter damage. In most cases, I think we can get away with the old adage of "prune whenever your pruners are sharp." However, damage can occur if we have a sharp drop in temperature before plants are completely hardened off. Also, marginally hardy plants are more susceptible to winter damage, especially if pruned in the fall. Though light pruning and removal of dead wood are fine this time of year, you may want to delay severe pruning until spring.

Consider pruning to be "light" if 10% or less of the plant is removed. Dead wood does not count in this calculation. Keep in mind that even light pruning of spring-blooming shrubs such as lilac and forsythia will reduce flowers for next year. We normally recommend that spring-bloomers be pruned after flowering.

Shrubs differ in how severely they can be cutback. Junipers do not break bud from within the plant and therefore should be trimmed lightly if you wish to keep the full shape. Overgrown junipers should be removed. On the other hand, there are certain shrubs that can be pruned back severely during the spring. Rejuvenation is the most severe type of pruning and may be used on multi-stem shrubs that have become too large with too many old branches to justify saving the younger canes. All stems are cut back to 3- to 5-inch stubs. This works well for spirea, forsythia, pyracantha, ninebark, Russian almond, sweet mock orange, shrub roses, and flowering quince. Just remember that spring is the correct time to do this, not now. (Ward Upham)

Clean up Iris Beds this Fall

Iris are known for a couple of common problems: a fungus disease known as iris leaf spot and an insect named iris borer. Though both cause problems in the spring, now is the time to start control measures. Both the fungus and eggs of the borer overwinter on old, dead leaves. Remove dead leaves and cut back healthy leaves by 1/2 this fall to reduce populations of these pests. Also remove other garden debris from the iris bed. This can significantly cut down on problems next spring. (Ward Upham)

Fall is a Good Time for Soil Testing

Though we often think of soil testing as a spring chore, fall can actually be a better time. Soil-testing laboratories are often very busy during the spring resulting in a longer turnaround from submission to recommendations. Also, soils in the spring are often waterlogged, making taking samples difficult. If your soil test suggests more organic matter, fall is a much better season because materials are more available than in the spring (tree leaves), and fresher materials can be used without harming young tender spring-planted plants.

Begin by taking a representative sample from at least six locations in the garden or lawn. Each sample should contain soil from the surface to about 6 to 8 inches deep. This is most easily done with a soil sampler. Many K-State Research and Extension offices have such samplers available for checkout. If you don't have a sampler, use a shovel to dig straight down into the soil. Then shave a small layer off the back of the hole for your sample. Mix the samples together in a clean plastic container and select about 1 to 1.5 cups of soil. This can be placed in a plastic container such as a resealable plastic bag.

Take the soil to your county extension office to have tests done for a small charge at the K-State soil-testing laboratory. A soil test determines fertility problems, not other conditions that may exist such as poor drainage, poor soil structure, soil borne diseases or insects, chemical contaminants or damage, or shade with root competition from other plants. All of these conditions may reduce plant performance but cannot be evaluated by a soil test. (Ward Upham)

Seed Stratification for Trees

Gardeners sometimes want to grow trees such as sugar maples, oaks and sycamores from seed. However, most woody plants produce seed that will not germinate immediately after harvest. Normally this is because of one of three reasons:

- Seed is immature and needs more time to develop;
- A mechanical barrier is keeping water from reaching the seed;
- A physiological block is inhibiting germination.

If the problem is only immature seed, the answer is simple. The seed simply needs time to complete development and does not require special treatment.

However, if the problem is a mechanical barrier or physiological block, the answer isn't so simple. The mechanical barrier and/or physiological block require special treatments to prepare the seed for germination. One such treatment is stratification. Stratification is a process whereby seed is given the moisture and temperature conditions normally found in its natural environment during the fall and winter. Seeds that are shed in early fall often require a warm, moist stratification period before the seed will germinate. Those that drop later in the fall may respond to cool, moist conditions. In Kansas, the most common stratification needed is the cool, moist type. The amount of time required for stratification varies with the plant species. For example, red oak needs 30 to 45 days and sugar maple should have 60 to 90 days. These species require cool, moist conditions. If unsure of the amount of time required for a specific species, 3 to 4 months usually is sufficient.

For cool stratification, temperatures just above freezing are best, with a range between 35 and 45 degrees considered ideal. Temperatures higher and lower than this are less effective. The minimum temperature at which stratification occurs is reported to be 23 degrees, and the maximum is 62 degrees.

Stratification should be done in a medium that is moist but not soggy. If there is too little moisture, the seed coat does not take up the water needed. Too much reduces the amount of oxygen available to the seed. If peat moss is used, a ratio of 1 or 1 1/4 parts water to 1 part air-dried peat moss by weight is recommended. When wetting peat moss, use warm water, which is absorbed more quickly than cold.

Small amounts of seed can be stratified by placing the seed in moist peat moss inside a plastic bag and placing the bag in the refrigerator. Small seeds can be placed between two sheets of cheesecloth so they are not lost in the medium. Larger amounts of seed can be placed in a plastic container or wooden box. Place layers of seed between layers of moist sand or a mixture of sand and peat moss. Bury the container outside so the top is even with the soil surface, and cover with leaves or straw. Alternatively, the container may be placed in an unheated garage or root cellar. (Ward Upham)

Last Tomatoes of the Season

Cooler nights are increasing in frequency now that we are into October. If you have tomatoes, you may have some that are approaching maturity. Leave them on the vine until mature or until a

frost is forecast. Tomatoes will ripen off the vine but must have reached a certain phase of maturity called the 'mature green stage.' Look for full-sized tomatoes with a white, star-shaped zone on the bottom end of the green fruit.

When harvesting fruit before a frost, separate tomatoes into three groups for storage: those that are mostly red, those that are just starting to turn, and those that are still green. Discard tomatoes with defects such as rots or breaks in the skin. Place the tomatoes on cardboard trays or cartons but use layers of newspaper to separate fruit if stacked. Occasionally a tomato may start to rot and leak juice. The newspaper will keep the juice from contacting nearby or underlying fruit. Store groups of tomatoes at as close to 55 degrees as possible until needed. (Ward Upham)

Peppers from the Garden

Peppers are able to be stored fresh much longer than tomatoes. They can usually keep in a crisper drawer of a refrigerator for several weeks if kept moist but not wet. For longer storage, freezing works well. Though mushy when thawed, the flavor still comes through in cooked foods. Try dicing them into small pieces and then freezing on a cookie sheet. The frozen pieces can then be poured into a plastic bag for later use. Measuring is much easier as the pieces are not frozen together in a clump. This method works just as well for hot peppers but be sure to wear gloves when handling. (Ward Upham)

Should You Let Turf Grow Tall in the Fall

Sometimes you will hear people say to let the grass grow tall right before winter sets in. Their reasoning is that the extra foliage will insulate the crown of the plant from the extreme cold of winter. Although this may sound reasonable, in practice it probably does little, if anything, to increase winter hardiness. On the contrary, a canopy that is too high during the winter may lay over and become matted down, leading to an increased incidence of winter-diseases such as snow mold.

Turfgrass species vary genetically in their cold tolerance, with warm-season grasses such as bermudagrass, zoysiagrass and buffalograss being less cold tolerant than the cool-season types such as tall fescue and Kentucky bluegrass. Given these differences, cold tolerance is improved by increasing the health of the plants going into the winter, and healthy plants are a result of a sound management program (fertilizing, watering and mowing) during the spring, summer and fall.

The lawn will benefit more from continuing to mow at the recommended height than from trying to gain some insulation against winter cold by allowing it to grow tall.

Here is a list of the recommended mowing height ranges (in inches) for home lawns in Kansas:

Tall fescue: 2.5 -3.5

Kentucky bluegrass: 2-3

Buffalograss: 2-3

Bermudagrass: 1-2

Zoysiagrass: 1-2

(Note: Mowing at heights below 1.5 inches requires a reel mower).

There may be some benefits gained by adjusting mowing heights WITHIN the recommended range at times. For example, it is a good practice to mow warm-season grasses at the higher end of recommended heights during late summer and early fall because this practice should help them store more carbohydrate reserves for the winter, and it may reduce the incidence of certain cool-weather diseases. But the rule to remember is to stay within the recommended height range for your species. (Ward Upham)

Amending Soils with Sand

Sand is sometimes suggested as an amendment material for clay soils. However, there is good reason to be cautious about using sand. In order for sand to be effective in breaking up a clay soil, sand grains must touch one another so there are pore spaces between grains that can hold air and/or water. If the grains do not touch, the clay fills in all the voids between the sand particles leaving no

room for pores. This is the same principle used to make concrete and the result is somewhat the same. You end up making a bad situation worse. So how much sand does it take for it to be effective? Normally, we consider about 80 percent sand to be sufficient. In most cases this makes the use of sand impractical. The addition of organic matter is a much better choice. (Ward Upham)

Work Garden Soil in the Fall

Fall is the preferred time to prepare garden soil for next spring's vegetable garden. Spring is often wet making it difficult to work soil without forming clods that remain the rest of the season. Fall usually is drier allowing more time to work the soil when it is at the correct soil moisture content. Even if you work soil wet in the fall and form clods, the freezing and thawing that takes place in the winter will break them down, leaving a mellow soil the following spring.

Insects often hide in garden debris. If that debris is worked into the soil, insects will be less likely to survive the winter. Diseases are also less likely to overwinter if old plants are worked under. Also, the garden debris will increase the organic matter content of the soil. Working the debris into the soil is often easier if you mow the old vegetable plants several times to reduce the size of the debris.

Fall is an excellent time to add organic matter. Not only are organic materials usually more available in the fall (leaves, rotten hay or silage, grass clippings) but fresher materials can be added in the fall than in the spring because there is more time for materials to break down before planting. As a general rule, add 2 inches of organic material to the surface of the soil and till it in. Be careful not to overtill. You should end up with particles like grape nuts or larger. If you work your garden into the consistency of dust, you have destroyed the soil structure. (Ward Upham)

Marestail control

Marestail or horseweed (*Erigeron canadensis*) is a challenging weed to manage in no-till or minimum till soybeans systems. This weed is classified as a winter annual, but it germinates well into spring and summer making it even more difficult to manage. In addition to an extended germination window, marestail can produce an up to 200,000 seeds/plant with approximately 80% of those seeds being able to germinate immediately after maturation. Seeds can germinate on the soil surface, which is why this weed is so troublesome in minimum tillage operations. Kansas producers also face the added difficulty of trying manage glyphosate-resistant (GR) marestail. Due to the extended germination window of marestail, it is important to scout for and control marestail in both the fall and spring (Figure 1).



Figure 1. Fall-emerged marestail in the rosette stage in wheat stubble in Manhattan, KS. Photo by Tyler Meyeres, K-State Research and Extension.

Fall-emerged marestail can be difficult to control if allowed to grow until planting in the following spring. Acceptable control of fall-emerged marestail with herbicide applications at planting will be unlikely because the marestail are generally too large. Control can be achieved with both fall and early spring herbicide applications, but due to inconsistent weather conditions it may be advantageous to opt for a fall application. Other control options include tillage and cover crops.

Herbicides

Glyphosate resistance adds another layer of complexity to managing marestail. It is generally recommended to include group 4 herbicides such as 2,4-D, dicamba, fluroxypyr (Starane Ultra) or haluxifen (Elevore) in a tank mix to control GR marestail. Control of marestail in the rosette stage (Figure 1) is similar among the Group 4 herbicides, but dicamba controls bolted marestail better than 2,4-D. Glufosinate (Liberty, others) applied at 32 fl oz/ac Liberty can control of bolted marestail.

Residual herbicides in fall applications may be beneficial if there has been a history of marestail infestation in a field. Effective residual herbicides include: chlorimuron (Classic, others), flumioxazin (Valor, others), sulfentrazone (Spartan, others), and metribuzin products. Saflufenacil (Sharpen) is also effective in controlling marestail as a part of fall or spring burndown but has no residual activity. In addition to GR marestail, there are also confirmed populations of ALS-resistant marestail in Kansas, which may reduce the utility of ALS herbicides for controlling marestail. It is important to consider rotation restrictions with some of these herbicides.

Tillage

Fall and spring tillage has been shown to be effective in controlling marestail for a spring-planted crop. When tillage is not utilized in the fall, marestail will establish and be present in the spring. If implementing a minimum tillage system is the goal, marestail can be controlled when a fall

herbicide application is followed by shallow tillage in the spring or vice versa (Chahlal and Jhala 2019).

Cover Crops

Utilizing cover crops can result in fewer and smaller marestalk plants in a field. Research in Kansas has shown complete suppression of marestalk with a cereal rye cover crop paired with spring herbicide applications (McCall 2018). This strategy is especially important for producers struggling with herbicide-resistant marestalk populations, as it will reduce the selection pressure on the herbicides. The key to achieving effective suppression of marestalk with cover crops is early planting. Early planting allows the cover crop to emerge and produce high amounts of biomass before marestalk emergence.

For additional information, see the “2021 Chemical Weed Control for Field Crops, Pastures, and Noncropland” guide available online at <https://bookstore.ksre.ksu.edu/pubs/SRP1162.pdf> or check with your local K-State Research and Extension office for a paper copy.

The use of trade names is for clarity to readers and does not imply endorsement of a particular product, nor does exclusion imply non-approval. Always consult the herbicide label for the most current use requirements. Tyler Meyeres, Weed Science Graduate Student, tpmeyeres@ksu.edu; Sarah Lancaster, Extension Weed Science Specialist, slancaster@ksu.edu