D's Notes 06/06/22

REMINDERS

Remove sucker growth from base of fruit trees
Stop harvesting asparagus to allow the plants to build up energy for next year.
Remove dead foliage from spring-flowering bulbs
Do not damage tree trunks with weed whips
Remove tree stakes that have been in place at least a year.

Bristly Rose Slug

This insect has been skeletonizing rose leaves in various areas around the state. This is not a caterpillar but is the larva of a sawfly. Close examination of this small (½ inch) larva will reveal very fine, hairlike spines in clusters.

Young larvae will remove the green layer of a leaf leaving behind a clear material. As the larvae mature, they make holes in the leaf and eventually may consume all of the leaf but the major veins.

Since these insects are not caterpillars (larvae of moths or butterflies), BT, found in Dipel and Thuricide will not be an effective treatment. However, a strong jet of water will dislodge the slugs and make it difficult for them to return to the plant. Other effective treatments include insecticidal soap, horticultural oils, spinosad (Natural Guard Spinosad, Monterey Garden Insect Spray or Captain Jack's Deadbug Brew) and permethrin (Eight Vegetable, Fruit and Flower Concentrate; Hi-Yield Lawn, Garden, Pet & Livestock Insect Spray). (Ward Upham)

Deadheading Flowers

Some plants will bloom more profusely if the old, spent flowers are removed, a process called deadheading. Annuals especially, focus their energy on seed production to insure that the species survives. If you remove old flowers, the energy normally used to produce seed is now available to produce more flowers. Perennials can also benefit by lengthening the blooming season. However, some gardeners enjoy the look of spent flowers of perennials such as sedum or purple coneflower. Also, the seed produced can be a good food source for birds.

Not all plants need to be deadheaded, including sedum 'Autumn Joy', melampodium, impatiens, most flowering vines, Lythrum, periwinkle (Catharanthus), and wishbone flower (Torenia). Those that do increase bloom in response to deadheading include hardy geraniums, coreopsis, petunias, marigolds, snapdragons, begonias, roses, campanulas, blanket flowers, delphiniums, zinnias, sweet peas, salvia, scabiosa, annual heliotrope, geraniums (Pelargonium), and yarrow.

Deadheading is easily accomplished by removing spent flowers. With some plants, pinching between a thumb and finger can do this, but tough, wiry stems will require a scissors or pruning shears. (Ward Upham)

Sidedressing Annual Flowers

We mentioned sidedressing last week but I wanted to emphasize its importance for annual flowers. Modern annual flowers have been bred to flower early and over a long period of time. They are not as easily thrown off flowering by high nitrogen levels as vegetables are. As a matter of fact, providing nitrogen through the growing season (sidedressing) can help maintain an effective flower display for warm-season flowers.

Apply a high nitrogen sidedressing four to six weeks after flowers have been set out. Additional fertilizations every three to four weeks can be helpful during a rainy summer, or if flower beds are irrigated. Common sources of nitrogen-only fertilizers include nitrate of soda, urea, and ammonium sulfate. Blood meal is an organic fertilizer that contains primarily, but not exclusively, nitrogen. Use only one of the listed fertilizers and apply at the rate given below.

Nitrate of soda (16-0-0): Apply 1/3 pound (.75 cup) fertilizer per 100 square feet.
Blood Meal (12-1.5-.6): Apply 7 ounces (7/8 cup) fertilizer per 100 square feet.
Urea (46-0-0): Apply 2 ounces (1/4 cup) fertilizer per 100 square feet.
Ammonium Sulfate (21-0-0): Apply 4 ounces (½ cup) fertilizer per 100 square feet.

If you cannot find the above materials, you can use a lawn fertilizer that is about 30 percent nitrogen (nitrogen is the first number in the set of three) and apply it at the rate of 3 ounces (3/8 cup) per 100 square feet. Do not use a fertilizer that contains a weed killer or weed preventer. (Ward Upham)

Pinching Mums

Though some garden mums do not require pinching back, most varieties will benefit. Pinching is done by removing the top inch of growth by pinching it between your thumbnail and forefinger. You can also use a scissors or even a pair of hedge shears.

Pinching encourages lateral buds to break and grow resulting in a shorter, sturdier and fuller plant. The first pinching is usually done when the mums reach six inches in height. Remove about the top inch of growth. A second pinching should be done when the new growth from the previous pinch reaches about 4 inches. Cut the new growth down by about half. We may have time for one more pinch but maybe not as the last pinch should take place around July 4. Pinching later than July 4 can delay flowering resulting in a shorter time of flowering before frost kills the blooms. You may find a video on pinching mums helpful. It is found on our Kansas Healthy Yards website. (Ward Upham)

Thatch Control in Warm-Season Lawns

Thatch control for cool-season lawn grasses such as bluegrass and tall fescue is usually done in the fall but now is the time we should perform this operation for warm-season turfgrasses such as bermudagrass and zoysiagrass. Because these operations thin the lawn, they should be performed when the lawn is in the best position to recover. For warm-season grasses that time is June through July. Buffalograss, our other common warm-season grass, normally does not need to be dethatched.

When thatch is less than one-half inch thick, there is little cause for concern; on the contrary, it may provide some protection to the crown (growing point) of the turfgrass. However, when thatch exceeds one-half inch in thickness, the lawn may start to deteriorate. Thatch is best kept in check by power-raking and/or core-aerating. If thatch is more than 3/4 inch thick, the lawn should be power-raked. Set the blades just deep enough to pull out the thatch. The lawn can be severely damaged by power-raking too deeply. In some cases, it may be easier to use a sod cutter to remove the existing sod. Bermudagrass will often come back if rhizomes remain in the soil. If not, you will need to start over with seed, sprigs or plugs.

If thatch is between one-half and a 3/4- inch, thick, core-aeration is a better choice. The soil-moisture level is important to do a good job of core-aerating. It should be neither too wet nor too dry, and the soil should crumble fairly easily when worked between your fingers. Go over the lawn enough times so that the aeration holes are about 2 inches apart.

Excessive thatch accumulation can be prevented by not over-fertilizing with nitrogen. Frequent, light watering also encourages thatch. Water only when needed, and attempt to wet the entire root zone of the turf with each irrigation.

Finally, where thatch is excessive, control should be viewed as a long-term, integrated process (i.e., to include proper mowing, watering, and fertilizing) rather than a one-shot cure. One power-raking or core-aeration will seldom solve the problem. (Ward Upham)

Recent Rains Trigger Mushroom Development

Recent rains in certain areas of Kansas have resulted in the appearance of mushrooms in home lawns and landscape beds. Although mushrooms are often spectacular in size and color, most are relatively harmless to plant life. Some of these mushrooms are associated with arc-like or circular patterns in turfgrass called fairy rings. The ring pattern is caused by the outward growth of fungal mycelium. The mycelium forms a dense, mat-like structure in the soil that decomposes organic matter. This decomposition releases nitrate into the soil, which in turn stimulates the growth of the grass at the outer portion of the ring. This results in a dark green appearance of the grass at the margin of the ring. Unfortunately, the thick fungal mat formed by the fungus interferes with water infiltration. The fungus also may release certain byproducts that are toxic to the turf. This may lead to dieback of the turf close to the ring. Therefore, in some cases the ring is evidenced by a darker green color and in others, by a brown ring with the outside edge being darker green than the rest of the turf.

Fairy rings are difficult to control. You can sometimes eliminate the ring by digging to a depth of 6 to 12 inches and 12 inches wide on both sides of the ring, refilling the hole with non-infested soil. Or you can try to mask the symptoms by fertilizing the rest of the lawn so that it is as dark green as the ring. This often isn't a good idea because it tends to promote other turf problems. Commercial people can use certain fungicides to control fairy rings but these products are not available to homeowners. See http://www.ksre.ksu.edu/bookstore/pubs/EP155.pdf for more info on these fungicides.

Some mushrooms in lawns are not associated with fairy rings. These may be mycorrhizal (symbiotic association with tree roots) or saprophytic (live on dead organic matter such as wood, etc.) in the soil. Because some of these mushrooms are beneficial, you don't really want to kill them. Besides, a fungicide spray to the mushroom itself does little good. Remember the mushroom is simply the fruiting structure of the organism. Most of the fungus is below ground and inaccessible to the chemical. If mushrooms are a nuisance, pick them and dispose of them as soon as they appear. If there are too many for that to be practical, mow them off. Removing sources of organic debris from the soil can help if such is possible. Also, mushrooms tend to go away as soil dries. Patience may be the best control. Some of the mushrooms in the lawn are edible, but others are poisonous. Never eat mushrooms unless you are sure of their identity. (Ward Upham)

Three Steps to Choosing Potting Media for Outdoor Use

I have had several questions this spring on potting soils and how to choose the best potting media. Dr. Cheryl Boyer, our Nursery Crop and Marketing Specialist, has done extensive studies on potting soils and has written the following to help homeowners make a good choice. We will present her material is three parts or steps with one step each week.

There are a lot of choices in the potting media aisle of your local garden center. If you don't know what you're looking for, it can be a confusing experience to read the label. Fortunately, there are three easy steps/considerations for screening the available choices down to one that works for your needs.

Step 1: What are You Using it For?

It does make a difference whether you are planning to use media in a container or as a soil amendment in a raised vegetable bed or landscaping bed. Some materials are designed to hold water well while others are designed to drain well. What do you need for each of those situations?

· Growing plants in containers: Generally, you want to use a peat-based soil-less substrate for this application. Do not use field soil. These products are engineered for success in season-long growth of annual plants in containers of reasonable size for consumer use (very large containers are a different discussion). Peat-based mixes almost always have a "starter charge" of fertilizer mixed in to get your plants growing, but you'll need to supplement with fertilizer as the season progresses. Old potting media has likely lost its starter charge and may, in fact, become hydrophobic (repels water) over time. You'll need to spend some time rewetting and mixing old potting media for a new season if you intend to re-use it.

· Amending a landscape bed or raised bed: Products containing peat should not be the primary component but are acceptable in small quantities. Field soil mixed with compost and perhaps a coarse pine bark-size material is best in this situation. The objective is to enrich your existing soil with natural material that will break down over time and in the meantime provide nutrients and aeration for roots to grow well. Make sure to apply the material and mix/till it into a broad area and not just a single planting hole or your new

plants may experience the "soup bowl effect" and succumb to rapid decline. Check with your local landscape contractor to get a large volume of soil delivered, perhaps even mixed with compost from a local municipal composting facility.

Step 2: Understanding Major, Minor, and Specialty Components

These materials are regionally sourced and often composted to reduce particle size. Some materials are manufactured for the purpose of being used in potting media and many more are by-products of other industries. They are all fine as components but look at the label to understand how much of each "ingredient" is mixed, by volume, into the product you're purchasing. If that information isn't on the bag, be wary of purchasing.

· Major components: Bark (or "composted forest products"), peat (this might be defined by type of peat which often refers to the source material or the coarseness), soil (don't pay for this unless it's local/regional and advertised as a single-component soil amendment—not as a potting media), manure, sand. Other waste-product alternative materials such as coconut coir and wood fiber are also great to use, but they're not seen as often in consumer-level products.

· Minor components: Perlite (little white pellets--it's for aeration, not fertilization), vermiculite (shiny heat-expanded rock pieces), rice hulls (also for aeration with an added bonus of weed control when applied to the tops of containers). These are the most common.

· Specialty components: mycorrhizae (symbiotic fungal organism that, mixed in, can be very beneficial in a container system by expanding the root capacity to take up nutrients and water, it's less effective in field soil where these organisms are already abundant), fungicide (some products are designed to address specific fungal growth issues).

A note about manure and compost: These are good organic materials; however, you must be careful that the source can guarantee the material that produced the manure (hay, pasture grass, etc.) was not treated with herbicide. Many herbicides used in pasture management have a very long half-life and can persist in your landscape beds, killing desired plants.

A note about organic products: While most media components are considered "natural" and are likely produced using organic practices, few will be labeled as organic simply due to the nature of the organic certification process. An organically labeled product is not inherently better than another, though if you're looking for a bagged manure product, organic will ensure the absence of herbicide residue.

Step 3: Mixing and Managing

Knowing what you're working with and what you're trying to do with it will help you understand how to manage it in practical use. These materials may also listed on the ingredient list and it's helpful to know what to expect.

· Lime: One special challenge we have in Kansas is that we have a lot of limestone around, which raises the pH of our soil and our water. You may notice that many bagged products include lime or limestone as a fertilization amendment. This is because most soil-less media components are very low in pH, or acidic, and they're trying to get the mix to be pH neutral (so that most nutrients are available for plant uptake). In Kansas, most of our

soils are on the high pH, or alkaline, side. It is to our advantage to apply soil-less products that are low in pH because that will help to neutralize our native soil. We don't need the added limestone, but it's unlikely you'll find a product that doesn't have it mixed in. For sure, don't add more!

· Fertilizer: As mentioned earlier, most bagged products have a "starter charge" of fertilizer. You won't need to add anything immediately, but within a few weeks you'll need to apply a water-based fertilizer (immediately available to plants) and/or a long-term slow-release fertilizer product. These usually come rated for months of use. A short-term product (3-4 months) may sound like it will last all summer, but if it gets really hot outside the pellets may release early (if temperature is the mode of operation). Combining a shorter-term product with a longer term one (8-9 months) may cover your needs for a longer time.

· Wetting agent: Some products, like peat, are harvested and packaged in a very dry state and may need help retaining water when ready for use. This will likely be pre-mixed, though if you can tell it's very dry you may want to spread it in a wheelbarrow and mix in some water (and maybe your own re-wetting agent) until it's consistent.

· Watering: Containers will need to be monitored for water more frequently than landscape beds, but they all need to be checked. This will vary in every situation, so you'll need to keep an eye on it until you understand how all of the components are functioning together.

Potting media products are remarkably similar once you get past the packaging. Read the ingredient label (just like in the grocery store), find what you need for your application, and then choose the product that best meets your needs and your budget. Choose on price only after you've leveled the playing field of similar products.

Got questions about an unusual component? Let me know—I love a good alternative material discussion. (Cheryl Boyer)

Considerations when harvesting short wheat

In many areas of Kansas, prolonged drought has resulted in short wheat and thin stands. Harvesting wheat in these situations can be a challenge. Special attention needs to be given to cutting height, machine adjustments, and operator control. In short wheat, getting the heads into the combine with less straw will be a challenge. In some cases, the reel may not be able to effectively convey the wheat back from the cutter bar to the auger, nor hold it in place during cutting. Short cutting will also mean more contact potential with the ground and reduced levels of surface residue which will likely negatively impact cropping systems in water-limited environments.

In the case of material conveyance, stripper headers, air reels, and draper headers may be a great help.

Stripper headers

Stripper headers allow the grain to be harvested efficiently while leaving the maximum amount of standing residue in the field. Research has shown that this

preservation of wheat residue can reduce evaporative losses of water after harvest, aid in the moisture retention of snow, and improve the yields of the next year's crop.
To properly use a stripper header, note the following:

- Operators need to be aware of the stripping rotor height and the relative position of the hood to the rotor. This position needs to be set correctly so that heads approach the rotor at the proper angle for stripping.
- Keep the nose of the hood orientated so that the top of the wheat heads are even with, or slightly below, the forward point of the nose. This may require operating the header with the nose in a slightly lower-than-normal position relative to the rotor. However, it's important to note that running a stripper header lower than necessary will result in increased power consumption and accelerated finger wear.
- Combine ground speeds should be kept high (above 4 mph) to maintain collection efficiency and minimize header losses.
- Several people have reported that adjusting header height with a stripper header is not as critical as it is with a conventional header, and that a stripper header could easily be run by non-experienced people (see step 1).
- Continue to adjust stripping rotor speed throughout the day as conditions change. If rotor speeds are too high, that will result in detachment of the entire head and unnecessary increases power requirements. Rotor speeds that are too slow will result in unstripped grain remaining in the head. In general, rotor speeds will be less in thin short wheat than in better stands.

Air reels

Air reels will also aid in the material conveyance from the cutter bar to the auger in reel-type units when crops are light or thin. These units are made in several different types including finger air reels, non-reel, and units that fit over existing reels. Examples of manufacturers are Crary (West Fargo, ND) and AWS (Mitchell, Ontario Canada). Non-reeled units have the advantage of less eye strain from the continuously rotating header reel, but all units have collection efficiencies compared to conventional reels even in sparse or short crops. These units do not control the amount of wheat stubble left in the field and the operator still has to control the cutting height. In short wheat this may mean little to no field stubble will be left for next season's moisture collection and for these reasons stripper headers may be better choice for certain areas of Kansas.

Draper headers and flex heads

Draper headers may help with the conveyance of material since they have a very short distance between the cutterbar the conveyance belt. The ability to tip the cutterbar completely back will aid in keeping harvested crop material moving across the cutter bar and onto the belt as well as ensuring some stubble remains standing on the soil surface. Cleats on the belt need to be in good to new condition to maximize conveyance of crop material away from the cutterbar. Set gauge wheels properly to maximize cutting height and leave standing residue.

Flex heads will also help deal with the lower cutting heights and potential ground strikes. In thin stands of wheat it is even more important that sickles and guards are in good

condition as there is less crop material pushing into the cutting area, which would normally help ensure cutting by worn sickles and guards. On headers with finger reels, it is quite likely that the short cut wheat will pass in between the fingers rather than being swept backward. Producers may consider adding material over or behind the fingers to act more as a bat to sweep the cutterbar clean. Plastic/vinyl materials or repurposed round baler belting have been successfully used for this purpose.

If harvesting with a draper or flex header, maintain the cutting height as high as possible to preserve standing stubble. Typically, cutting wheat at two-thirds of its full height will result in losses of less than 0.5 percent as any missed heads contain light weight grain that will be lost as tailings during the harvesting process.

Conventional headers

For many farmers, new equipment may not be an economical choice and you may have to make do with a conventional head on your combine. In this case, adjust the reel to get the best movement of the heads from the cutter bar to the auger. Combining in slightly damp conditions may help prevent shatter and decrease losses. If wheat heads have flipped out of the header from the top of the auger, an extra "auger stripper bar" may necessary. A small strip of angle iron can be bolted slightly behind and below the auger to help with material conveyance. In thin wheat stands it is even more important that sickles and guards are in good condition as there is not as much crop material to push into the cutting area and ensure cutting by worn sickles and guards.

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Combine adjustments

In addition to material conveyance and cutting height, lower yields and uneven crop flow may also require performing combine adjustments to the concave/rotor cage clearance, cylinder/rotor speed, and fan speed. Follow the manufacturer's recommendations. The leading cause of grain damage under almost any harvesting condition is overly fast cylinder or rotor speed. This will especially be evident in harvesting short wheat as there will be less material in the concave or rotor cage to thresh against, increasing the likelihood of grain damage if cylinder/rotor speed is too high.

On conventional machines it may be necessary to reduce concave clearance to attain good separation. On rotary combines it may be advantageous to maintain a typical clearance to provide a more normal threshing condition while using less threshing area. The use of blanking plates on the rotor cage may improve separation. Fan speeds may need to be reduced slightly in order to minimize grain losses. Once adjusted properly, try to keep material crop flow as constant as possible as most threshing and cleaning units work best under these constant flow conditions. As the amount of material passing through the combine decreases the response to various settings such as cylinder/rotor speed, concave/rotor cage clearance, and fan speed will be more sensitive than under more normal operating conditions.

Performing kill-stops during harvest will be especially critical in evaluating grain losses and identifying which stage of the harvesting process is the source. After performing a kill-stop the operator should look at shattered grain losses before the header, losses after the header and before the spread pattern of the combine, and losses in the tailings behind the combine. Losses can be quickly checked by looking at the number of seeds in the tailings and elsewhere around the combine.

Typically, 20 seeds per square foot is equal to 1 bushel per acre for a sampling area equal to the cutting width of the combine. For the tailings area, where the material is concentrated, multiply the 20 seeds per square foot by the header-to-tailings width ratio. For example, a combine with a 7-foot spreader width and 28-foot header would have a factor of 4 (28 divided by 7), and 80 seeds per square foot (20 x 4) would be the correct number for a bushel-per-acre loss. Also, a normal shoe length is typically one foot, so estimated measurements can be done with your foot. Individual field and header losses are determined by looking at areas before and under the combine. Actual combine threshing losses are determined by subtracting these numbers from the tailing loss.

Summary

Although this will be a rough wheat harvest for many farmers, some changes can be made to help maximize harvest efficiencies. If you have ever wanted to try an alternate header (stripper, flex-draper, etc.), this may be the year for you. For those not wanting to buy, renting may also be a viable option.

Producers in dryland production systems need to keep in mind that in very low-yielding wheat years, anything that can be done to preserve what little crop residue is present will have large impacts on evaporative losses and productivity of the next crop.

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