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The
Texas Lawn Companion

(A Quarterly Newsletter on Lawn Management)



Summertime Edition



An Introduction



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Howdy! My name is Dr. Becky Grubbs and I am a Turfgrass Extension Specialist with Texas A&M AgriLife Extension. *What does that mean?* Well, my job is to conduct research and then produce outreach and education tools that serve Texans with their turfgrass needs. **“Turfgrass”** refers to **managed or manicured grass grown typically for recreational or aesthetic enjoyment.** Where do you see it? Golf courses, athletic fields, parks and recreation fields, sod farms, home lawns, and more! Basically, it is the outdoor “carpet” on which we live our lives.

So, what is this newsletter? This newsletter is the very first of what will become a quarterly guide to seasonal management of residential and similarly managed turfgrass systems. It’s catered primarily to home lawns, but that doesn’t mean there isn’t a little something in here for anyone that’s interested in managing a healthy turfgrass system.

In each issue, you’ll find an overview of seasonal management recommendations for common grasses in the state. You’ll also find some additional columns written by some other specialists in the state talking about **water, soil, weeds, plant diseases, insects, and more.** As we move forward, this will continue to expand, and you will get exclusive access to a variety of perspectives working together to help you create a **healthy lawn ecosystem.**

Tentative dates for upcoming issues:

Fall | August 25, 2018

Winter | November 26, 2018

Spring | February 25, 2019

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Management Overview for Warm-Season Grasses

	Watering Requirement	Annual Nitrogen Requirement (lbs of N per 1000 ft ²)	Mowing Height
Bermudagrass	Low - Moderate	2 to 4 lbs	1 to 2"
St. Augustinegrass	Moderate	2 to 4 lbs	2.5 to 4"
Zoysiagrass	Moderate	1 to 2 lbs	1 to 2"
Buffalograss	Low	0 to 2 lbs	2.5 to 4"
Centipedegrass	Moderate	1 to 2 lbs	1 to 2"
Seashore Paspalum	Moderate	2 to 4 lbs	1 to 2"

Watering Watering becomes one of the biggest issues for turfgrass lawns, fields, and park spaces throughout the summer. Pay attention to municipal water restrictions. Water early in the morning to optimize what your plant can use. Try not to water in the evenings, as sometimes this can leave the grass too wet overnight, inviting disease.

Different species have different degrees of drought tolerance and may require more or less water. Likewise, some varieties may be more drought tolerance than other varieties of the same species. Visit the AggieTurf website (www.aggieturf.tamu.edu) for more information of different turfgrass species.



Remember to water **deeply** and **infrequently**. A total of 1" – 1.5" of water from irrigation and precipitation per week is generally sufficient. To determine how long you need to water in order to put out 1" to 1.5," you will need to determine your irrigation precipitation rate (see below). You can spread this out over two mornings per week. Try to make sure that when you water, it is reaching a depth of 6" uniformly across the area. This may mean getting a trowel out and digging around. If you're noticing some inconsistency in water stress (patches that seem thirstier than others), it may mean that your irrigation system is malfunctioning in some way. Consider a **catch can** audit to check your system:

Check out this cool YouTube video by **AgriLife's Water University** on how to determine irrigation precipitation rate and the overall efficiency of your irrigation system:

"Determining Sprinkler Efficiency: The Catch Can Test"

https://www.youtube.com/watch?v=1nIwZ_imn9w

Mowing

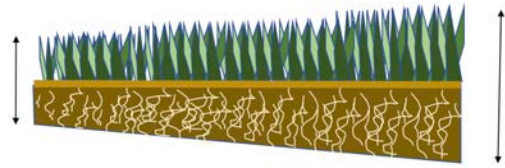
Summer is prime mowing season for warm-season grasses. It's a regular part of turfgrass maintenance, but it is also a stress. How you mow can have a big impact on the overall health of your turfgrass.



Height

Mowing height is determined by your species of grass, and how often you want to mow. Taller grass may shade out weeds and will promote a deeper, healthier root system. There is a direct relationship between your shoots (leaves) and your roots. This is often referred to as the **"Root-to-Shoot Ratio"**. *A higher mowing height = deeper roots.* Deeper roots = reaching water and nutrients that are deeper in the soil. It also means that you will improve your overall water infiltration. If you choose a higher

mowing height, work to stay within the recommended height range for your particular species and variety of grass.



Frequency

Your mowing frequency will primarily be determined by one thing: **The 1/3 Rule**.

The 1/3 Rule is simple: *Never remove more than 1/3 of your total grass height at one time.* Doing so will stress your turfgrass. Removing too much tissue at one time is referred to as *scalping*. Scalped turfgrass is injured turfgrass. It will become extremely sensitive to drought and heat stress, and is more vulnerable to pests including weeds, diseases, and insects.

Grass will grow at variable rates depending on water, fertilization, and temperature changes throughout the season. Depending on species, you may need to mow every 4-7 days in the summer, taking care to follow the 1/3 Rule. **If you keep your grass at a shorter height, you will need to mow more frequently.**

Clippings

Returning clippings to the lawn can potentially reduce your nitrogen fertilizer requirements by between 25 and 50%. Mulching your clippings, as opposed to bagging them, can recycle these nutrients and provide good organic material for your soil. If you mulch your clippings, take care to rake them so that they are even across the area. Heavy piles or lines can damage the turf and cause problems down the road. Mowing in a different direction each time will also help prevent problems.

***Turf Tip:** When you are mulching your grass clippings, consider reducing your nitrogen inputs by 25-50%, as nitrogen can be recycled from the decomposing clippings.*

Fertilizing

Fertilizing is not so “one size fits all” as we would sometimes like for it to be. Every environment is different with its own expectations, use, history, and needs. Remember that the health of your turfgrass is heavily dependent on the soil it is being grown on. **Look for a custom approach that is specifically catered to your turfgrass area.**

Start by testing your soil. For information on soil testing, visit the Soil, Water, and Forage Testing Laboratory website: <http://soiltesting.tamu.edu/> or contact your local County Extension Agent for more information.

Soil tests will give you a feel for some of the characteristics of your soil that are important for growing healthy plants including **soil pH, soil salinity, and the relative abundance of the major nutrients your turfgrass needs to survive.** While there are approximately 18 plant essential nutrients, primarily, we focus on a select few: nitrogen, phosphorous, potassium (N-P-K) are the three primary macronutrients that are available in most fertilizer products. The **analysis or grade** on the fertilizer bag is indicative of the ratio of (N, P, and K). So, a product with a grade of 15-5-10 has a 3-1-2 ratio of these nutrients. The appropriate ratio will vary both based on the time of year and on the individual needs of your turfgrass system. It is important to note that while nitrogen needs are determined primarily by the species, most other nutrient requirements are best determined by the soil test.

Other elements commonly looked at by urban soil tests include calcium, magnesium, sulfur, iron, zinc, manganese, copper, boron, and sodium. Sodium testing is conducted to shed light on soil quality as opposed to plant nutritional needs. Every element, or nutrient, has a key part to play and balance is important. **Too much or too little of any one essential nutrient can have a negative effect on your turfgrass and its overall wellbeing.**

It is possible to apply fertilizers at inappropriate times. Nitrogen, in particular, should be applied only during months of active growth. **As a guide, use the first and last frost dates for your part of the state.** Your first fertilizer application of the year should come approximately 4 – 6 weeks after the last frost date, or once the grass has been mowed at least twice. Your last fertilizer application should go out approximately 4 – 6 weeks before your first frost date. This will minimize winter injury and disease risk. Use caution when purchasing or applying combination products such as those which combine preemergent herbicides and nitrogen fertilizers, as it is often not appropriate or beneficial to apply these types of products simultaneously in a home lawn setting. Exceptions to this may be when lawns are over-seeded with a cool-season grass such as perennial rye.

Maps for determining first and last frost dates can be found using the following links or page searches:

“Texas Average First Frost Date Map”

<http://www.plantmaps.com/interactive-texas-first-frost-date-map.php>

“Texas Average Last Frost Date Map”

<http://www.plantmaps.com/interactive-texas-last-frost-date-map.php>

What is “Soil Health?”



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The term “Soil Health” is fairly new and has been defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. The term is also described as “Soil Quality”, which like the definition above left much to the imagination. What homeowner or property manager doesn’t want healthy or quality soil, yet pinpointing what this means to that same person is difficult. The Soil Health professionals will also expand the discussion to include specific concepts of nutrient availability, pH, soil salinity, physical traits and event biological diversity. How does this fit into a turfgrass system and should we care?

The short answer is yes. Everyone wants their turf to be sustainable and while the definition of Soil Health or Soil Quality leaves us wondering, there are several very specific indicators of sustainability. The key indicators are equally represented in the three domains of chemical, physical and biological. In the chemical domain, have we soil tested, corrected for pH, salinity and/or nutrient deficiencies without over apply nutrients? In the physical domain, does water infiltrate into our soil as well as the same soil under more original

conditions? And from the physical domain, how deep and expansive are our grass roots? Understandably, each of these indicators can not be separated from the others and are naturally interconnected.

Key Steps in Promoting Soil Health

1) Soil Test and apply nutrients based on the soil analysis. This set will ensure the turfgrass has the appropriate level of available nutrients for reasonable growth and persistence, without creating environmental issues associated with over- or under fertilization.

2) Avoid walking or driving on wet soils. Undoubtedly, one of the greatest problems with many turfgrass systems is not nutrient, weed or disease based in origin, but simply soil compaction. Compaction may have occurred prior to turfgrass establishment, but often occurs by homeowners and landscape professional mowing or otherwise trafficking the area when the soil is moist or wet. Water acts as a lubricant in soil, thus allowing soil particles to be forced tighter together, thereby reducing or eliminating vital soil pores that allow for water, air and root passage.

3) Root development is key to sustainability of a turfgrass. We often forget that 15 of the 16 essential plant nutrients are solely taken up by roots. When roots are limited, the grass's ability to take up water and

nutrients are also limited. Additionally, this also weakens a grass's ability to withstand short periods of dryness. Promoting strong root development includes increasing mowing heights, extend the period of soil drying between irrigations, avoid soil compaction and ensure your nutrient levels, pH and soil salinity are optimal for your grass. Roots should extend well below the standard 6" soil testing sampling depth.

Each of these steps apply to all turfgrass species and soils. How healthy is your soil, your turfgrass? Go ahead, take a soil sample. Was your soil overly firm with limited rooting depth?

Weed Control

The best defense against weeds is healthy turfgrass. For the most effective approach to weed control, take an integrated approach. Herbicides can be great, but they are often more effective when combined with other forms of control such as **preventative, cultural, and mechanical control**. Some degree of **preventative** and **cultural** control can come by following the recommendations pulled from other areas of this newsletter:

1. Balanced irrigation with a uniform irrigation system to prevent localized drought or water pooling.

2. Mowing at a slightly higher mowing height.
3. Soil testing to follow a fertilizer and soil amendment program that optimizes conditions for healthy turfgrass.
4. Avoiding soil compaction by following the tips outlined by Dr. Provin and perhaps through annual cultivation such as *core aeration*.

Mechanical Control

Mechanical control, or physically removing the weeds either by hand or with the assistance of gardening tools, can also be highly effective against mature, stubborn, or sparse weeds. Mowing can also be a form of mechanical control through the physical removal of seedheads and by cutting weeds down to a disadvantageous height.

Turf Tip: When mowing a particularly weed-infested area, be sure to rinse the mower before moving it to an area with fewer weeds. This will prevent the spread of seeds.

Chemical Control

Chemical control of weeds involves the use of **herbicides**. Prior to purchasing any chemical control products, try to take these 3 steps:

1. Identify the weed(s) you are trying to control.
2. Check the product label. Ensure that the product is safe to use on

- your grass, and labeled to control the weed(s) you have identified.
3. Check with an expert. Contact your AgriLife County Extension Agent for support.

Turf Tip: The AggieTurf website has a number of weed photos for identification purposes. If you are stumped, try checking there.

Summertime can be a difficult time for weed control. Once weeds are mature, chemical control methods are often less effective. Additionally, once your grass is fully active for the year, the number of products appropriate for controlling grassy weeds in particular are more limited. Again, contact an expert for advice and fall back on your preventative, cultural, and mechanical control. Keep an eye out for preemergent herbicide recommendations in the fall and spring that can help prevent hard-to-control weeds.

Also, be aware that some products may be safe for use on one species of turfgrass, but not on another. For example, St. Augustinegrass is often more sensitive to common herbicide ingredients such as 2,4-D and Dicamba than bermudagrass. This is why it is critical to both check and follow the label.

Diseases and Insects

Similar to weed control, the key to preventing any pest issue is good management. To protect turfgrass from disease, ensure that there is good drainage and refrain from watering in the evenings, particularly as we get closer to autumn. Look for a section on disease scouting and treatment in our fall issue as the weather starts to cool and diseases become more active. For tips on scouting for and identifying insects, check out the AggieTurf website.

Special Considerations for The Panhandle and White Grubs



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The Panhandle region of Texas has been experiencing very dry weather and incredible heat lately. You may be doing everything correctly, but still seem to be lacking the lush green look you expect from your lawn. Parts of the Panhandle may have gotten more rain, but generally we have only received 2 inches or less since October. Needless to say, that is putting a lot of pressure on our water resources that are used to irrigate our lawns.



Photo: Celebration bermudagrass on Texas Tech campus showing some discoloration, but healthy growth in many areas. Brown areas may be a result of poor irrigation coverage or limited irrigation applied to this portion of campus. Keep in mind that this is still a very healthy bermudagrass area.

As mentioned earlier in this newsletter, you still should not be applying more than 1 to 1.5 inches of irrigation to your lawn per week. Bermudagrass and buffalograss lawns can easily grow in the lower range of those values, but our tall fescue lawns will likely need to be watered more frequently.

As these temperatures continue to increase above 100 degrees (8 days already with more in the extended forecast), our cool-season turfgrass species are likely going to exhibit signs of stress (rolling of leaves, purple to blue color, browning of the leaf tips). I would caution everyone from being too concerned about seeing these types of symptoms in the heat of the day. The heat alone may be causing a reaction by the plant, and water may still be available for growth.

The good part about our weather patterns is that we generally cool off a

good bit during night time, so check on your turf first thing in the morning and see if you are still seeing signs of drought stress described. If so, it is likely time to irrigate the lawn to the 6-inch depth as previously described. It is very important to watch your irrigation system run from time to time. Previous sections discussed the importance of correcting problems with your sprinkler system that may be wasting water.

As our soils become very dry from lack of rain or irrigation, the surface of the soil can start to repel water more than allowing it to move into the root system. If you are trying to truly minimize irrigation in your lawn, it will be critical to ensure water is not running off the surface of your property without making its way into the soil. If you notice water running off your lawn in a period of time shorter than the scheduled run time, cycle through your irrigation zones running them for a shorter period of time to allow water to seep into the soil before coming back to the original zone.

Turf Tip: *In many parts of the state, including The Panhandle, it may be beneficial to have a water quality test performed on your irrigation water. Though it can be difficult to change or filter water used for irrigation, an understanding of water quality is beneficial in selecting an appropriate turfgrass, and in knowing the best ways to manage the entire system. Water testing, like soil testing, can be performed by the Soil, Water, and Forage Testing Laboratory.*

Lastly, I have been noticing lots of aerification-like holes in my lawn and research areas here in Lubbock.



Photo: Aerification-like holes in a bermudagrass lawn from adult beetles leaving the soil to fly around and mate to produce the next generation of white grubs. Image from May 16, 2018, but still seeing symptoms like this in other locations.

This is a clear sign that the dreaded **white grubs** are pupating into their adult form.

Many people recognize the adult form of the white grub as “June Bugs”. Technically, we normally have masked chafers in this region. My wife and I spent some late evenings working in our yard over the Memorial Day weekend, which meant we needed to turn on porch lights to complete our activities.

Once preparing to go inside each night, we killed 15-20 adult masked chafers each night. The evidence of the adults being present should not create a desire to purchase insecticides for control at this time.

More information on the control options for white grubs can be found on the

AggieTurf Website:

<https://aggieturf.tamu.edu/turfgrass-insects/white-grubs/>

Most of the white grubs have an annual life cycle similar to landscape plants, so they complete their life cycle in a single year. Any grubs present currently are very large in size and would be really difficult to control. The proper time to apply insecticides for the control of white grubs would be a preventative insecticide in June-July prior to egg laying or curative applications in August-September when the grubs are smaller and in the upper root zone of the turf.

All insecticides for white grubs must be watered in to get the chemical in the soil where they are feeding. Adults do not cause any issues to turf or ornamental plants (Japanese Beetle is the exception on ornamental plants), so do not fret much about those adults you may see flying around or present in your lit areas currently.

If you're out that way, Dr. Young and the TTU Turf Program will be hosting a homeowner field day event on Saturday, July 7th.

Thanks for Reading!

Special Thanks To:

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Dr. Tony Provin (TAMU)

Dr. Joey Young (TTU)

And Beth Ann Luedeker (TAMU)

For their respective contributions to this newsletter.

Want updates from the AggieTurf program?

Website: www.aggieturf.tamu.edu

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See you next season!