



# WATER EFFICIENT LAWN CARE

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# Water Efficient Lawn Care

Is the green in your lawn, in your weeds or in your grass? Do you have brown circles or spots in your yard? Proper lawn care is a key component to a healthy lawn. Basic lawn maintenance practices, in conjunction with the selection of the right turf grass, can improve the health, longevity and value of your landscape while utilizing less water, fertilizer and pesticides. Healthy lawns offer a variety of advantages for the home. They not only add aesthetic value, but also provide





erosion control, temperature control and a usable outdoor space. But many times, they also tend to be over-watered, over-fertilized or over-applied with pesticides, which can have detrimental effects on our water resources and the overall health of the landscape. By incorporating best management practices and selecting the right turfgrass for your specific needs, you have the potential to drastically reduce water and chemical use, while saving precious time and money!

## Turfgrass Selection

When selecting a new turfgrass, there are important factors to take into consideration. In areas that receive less than 5 hours of sunlight, turfgrass is not a sustainable solution. Think outside your turf box and consider shade gardening in situations like this. Certain turfgrasses, like Bermudagrass and Zoysiagrass, handle foot traffic from kids and pets better than St. Augustinegrass and Buffalograss. Some turfgrasses have higher water needs than others, so choosing the right grass may save water and money.



**Remember**  
Big Lawns = Lots of Maintenance  
When determining the size of your lawn, be mindful of the amount of work you are capable of and are willing to perform.

	Bermudagrass	Buffalograss	St. Augustinegrass	Zoysiagrass
				
Minimum Light Requirement	6-8 Hours	7-8 Hours	5-6 Hours	5-8 Hours
Shade Tolerance	Low to Very Low	Very Low	High	High to Moderate
Water Requirement	Moderate to Low	Very Low	Moderate	Moderate
Wearability (foot traffic, pets etc.)	High	Low	Low	High to Moderate
Disease Potential	Moderate to Low	Low	High (in shade)	Moderate to Low
Mowing Frequency	3-7 Days	Infrequent	5-7 Days	5-10 Days
Mowing Height	1-2.5 Inches	3-8 Inches	2.5-3.5 Inches	1-3 Inches



## Irrigating an Established Lawn

### Remember

irrigation systems (sprinkler systems) are designed to supplement the lack of rainfall. If you want to have a more sustainable lawn, you need to irrigate less often and deeper rather than more often on shorter intervals.



Visit [WaterMyYard.org](http://WaterMyYard.org) for weekly advice on when and how much to water.

- Water without creating runoff. \*See “Cycle and Soak Method”
- Check your irrigation system monthly for problems.
- Water only when needed, not just because it's your day to water.
- Watering in the winter is not usually necessary unless it is unusually dry.

## Cycle and Soak Method



Irrigation controller box

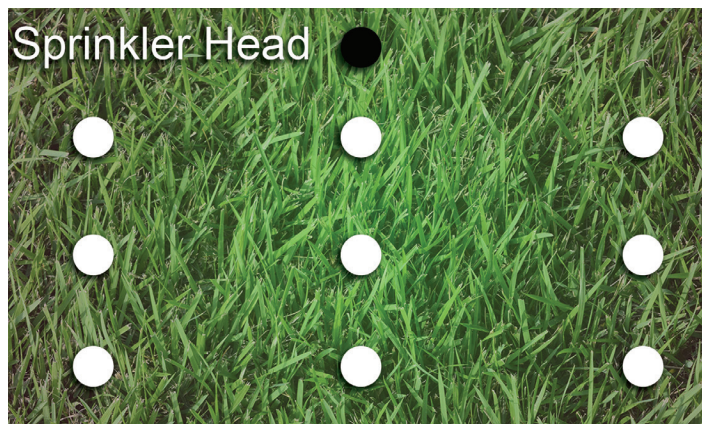
Some irrigation systems apply water faster than the ground will absorb. This is especially true in lawn areas with compacted clay soil. To avoid water running off the landscape into the street, you may need to run these stations several cycles instead of one long cycle. Use cycle and soak method to:

1. Determine how long to run each zone. (see ‘Catch Can Test’)
2. Water each station in 2 or 3 short cycles instead of 1 long cycle by setting several start times.
3. Set multiple start times 30 to 60 minutes after the last station runs to allow water to soak into the soil between cycles.

Most irrigation controllers have a way to set different start times. If you have trouble programming your controller, visit the irrigation controller company's web site or contact their customer service for instructions for cycle and soak. Some newer controllers have a cycle and soak setting, so this may be a good time to upgrade your irrigation controller.

During the active growing season, usually March-October, it's generally better to water your lawn after 6:00 p.m. and before 10:00 a.m. to slow evaporation rates.

## Conducting a Catch Can Test



This grid shows placement of catch cans in relation to a sprinkler head.



**Watch our catch can test instructional on YouTube**

[www.tinyurl.com/agrican](http://www.tinyurl.com/agrican)

A catch can test is used to determine how long to run an irrigation system or hose-end sprinkler and how well the water is distributed over the landscape. The root zone (where water and nutrient absorbing roots grow) is typically 6 inches deep in clay soil. Usually 1 inch of water will fill this root zone, but in many cases, irrigation systems apply water faster than the ground can absorb. During a summer drought with high temperatures, the water requirement may be higher. Each type of sprinkler (spray, rotors, multi-stream rotor, drip) applies water at different rates; therefore, a catch can test is essential to determine the optimum run time and efficiency of the system. Follow the steps below to determine the runtime of your irrigation system:

1. Place 5 to 9 catch cans (tuna or cat food cans work great) in each irrigation zone or station.
2. To determine how much water is applied to each area, run each zone with spray nozzles for 5 minutes; run 10-15 minutes for zones with rotors. Measure the amount of water in each catch can at the end of the specified time.
3. To determine run time (time each station should run), use this example: if there is  $\frac{1}{4}$  inch of water in each catch can after running for 5 minutes, to apply 1 inch of water, set the run time for 20 minutes (**this is just an example; your measurements could vary greatly**). Some irrigation systems apply water faster than the ground will absorb 1 inch of the water. To avoid water running off the landscape into the street, you may need to run these stations several short cycles instead of one long cycle. With this example, set the controller to run 10 minutes 2 times. (See ‘Cycle and Soak’ and ‘Aerate Lawn Area’ for more ideas.)
4. If the water levels in the catch cans are equal or near equal, your irrigation system is working efficiently (distributing water evenly).
5. Test each zone. Water application and distribution can vary by zone.

## Mowing Tips



Make sure all of your equipment is in top-notch condition for clean cuts and better performance.

- When mowing, remove no more than 1/3 of your lawn's height (leaf blade.) This may occur weekly or more often during the growing season and less frequently at other times of the year, depending on your turfgrass species.
- Raise your mower. A slightly taller leaf blade helps shade the soil holding moisture. (heights vary per turf species)
- Don't bag your grass clippings! Mulching your grass clippings in place provides water and nutrients back to your lawn.
- Change your mowing pattern regularly to prevent ruts or irregular growth patterns.
- Aerating reduces compaction of heavy clay soils. Compacted soils contain less oxygen, which is critical for root growth. Aerate when the lawn is actively growing. May, June and September are good aerating months.

## Reel vs. Rotary Mowers

### Reel Mower

The blades of a reel mower spin vertically (north to south) and use a spinning scissoring action to cut the grass. The scissor-like cut of a sharp reel mower is healthier for the lawn; however, twigs and other debris can stop the reel mower. Reel mowers should be used on sports type Bermudagrass and some fine-blade Zoysiagrass.



*Reel mower*

### Rotary Mower

The single blade of a rotary mower spins horizontally (east to west) and uses more of a tearing action to cut the grass. Rotary mowers are typically used on Bermudagrass, St. Augustinegrass and medium-blade Zoysiagrass.



*Rotary Mower*

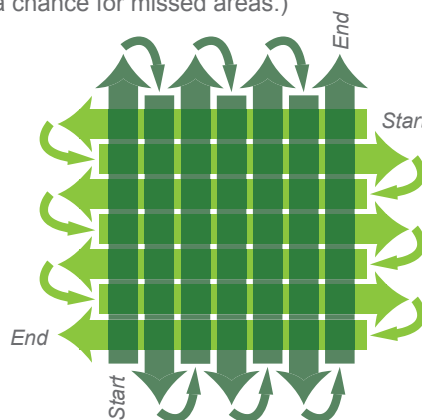
## Fertilization

An important first step to fertilizing your lawn is to test your soil to determine what fertilizer is best for your lawn. Testing your soil through AgriLife is inexpensive and can help you determine what nutrients you actually need. For Example: North Texas soils may already have enough phosphorous and potassium, so a fertilizer that provides only nitrogen might be the best choice.



When purchasing fertilizer, the three numbers on the bag represent Nitrogen, Phosphorus and Potassium ratios. A well-balanced general fertilizer has a 4-1-2 ratio of nutrients. However, North Texas soils are commonly very high in potassium. Fertilizers that contain primarily nitrogen (like 21-0-0) and little to no phosphorous or potassium are often sufficient for our soils. Consider selecting a fertilizer that has slow release nitrogen. This information can be found on the back of the fertilizer bag. The fertilizers and other chemicals you apply to your landscape which go unused have the potential to leach out or wash away, wasting your money and polluting our stormwater. Fertilizer should only be applied to actively growing plant material for this reason. When applying your fertilizer, it is important to follow the label closely for safety protocols and application rates.

One recommended practice is to apply fertilizer with a spreader at half the application rate in the first pass. Then, apply the remainder on a second perpendicular pass in a checker board pattern to ensure you do not miss any areas of your lawn. Missing areas could result in a striped pattern (example: If your fertilizer calls for you to set your spreader at an 8, set it at a 4 and apply back and forth in one direction and then again in the perpendicular direction. This provides the proper application rate with less of a chance for missed areas.)



*Fertilizer spreader distribution pattern*



# Weeds

A weed is simply an unwanted plant or a plant growing out of place. There are different categories of weeds and proper identification helps determine the proper treatment. Herbicide treatments should always be applied per manufacturers' labeled instructions and only for the weeds you have present. Caution should be taken when applying chemicals around trees. Over applying herbicides can cause increased pollution of stormwater runoff.

## Treatments

There are different categories of weed treatments. Understanding their purpose and applying them properly should be taken very seriously.

**Non-Selective** weed treatments are not selective of what they kill so caution should be taken to not spray the leaves of desired plants.

**Selective** weed treatments are specific as to what type of plant they will kill; however, caution should be taken to not spray desired plants that the chemical may still affect.

**Post-Emergent** weed treatments are used to treat weeds that are already present. Apply per label instructions when weeds are green and actively growing.

**Pre-Emergent** weed treatments are used to stop weeds before they ever emerge from the soil; they are best used to treat annual weeds. Apply pre-emergents around late September for winter weeds and around early March for summer weeds. Most pre-emergents control grassy annual weeds but might not be as effective against broadleaf weeds. As always, carefully follow label instructions.



## Weed Identification



**Broadleaf** weeds have wider leaves with netted veins and can be identified by distinct leaf shapes depending on the species.



**Grassy** weeds have narrow leaves with parallel veins and round hollow stems. Seedlings can be difficult to identify, but most have similar control methods.



**Sedges** have narrow leaves and can look very similar to grasses, but can be easily identified by their triangular, solid stems. Sedges are also generally perennial which can affect their treatment options.

For more help identifying problem weeds in your lawn or landscape, visit us online.

[aggieturf.tamu.edu/turfgrass-weeds/](http://aggieturf.tamu.edu/turfgrass-weeds/)

# Insect Pests and Diseases

Properly identifying the disease or pest in your lawn is extremely vital in the treatment plan. Misdiagnosing a problem can cost you money and could be detrimental to your landscape, the environment and even you. Some disease and insect damages can appear similar, so “**know it before you treat it.**” When applying

chemicals to your lawn and landscape, is it important to follow the label for safety protocols and application rates. Follow these closely for your safety. There are numerous resources within AgriLife that are there to help! Below is a list of the most common lawn pests and diseases in North Texas.

## Insect Pests



**Chinch Bugs** are small hard bodied winged insects which usually cause patches of damage (primarily in St. Augustine lawns.) Chinch bug damage often mimics drought stress and commonly occurs in late spring and summer.



**Grubs** are most often the larvae of the Japanese beetle, but other grubs may be present as well. Some can be pests in turfgrass, feeding on the root area which can cause brown spots in the turf.



**Army Worms** are species of moth larvae that infest warm season turfgrass, stripping foliage in large numbers. They are commonly seen in summer and early fall in North Texas.



**Scale** forms small cottony or waxy white masses at the base, stem and leaf axis. Damage can mimic symptoms of drought or nutrient deficiency.

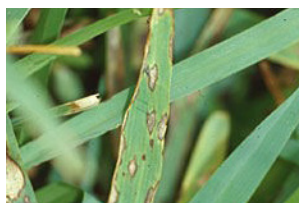
## Diseases



**Large Patch and Brown Patch** are diseases that affect lawns in early fall or spring. These fungal problems cause circular or irregular, thin or light brown spots in your turfgrass. They are especially problematic when lawns are over watered or over fertilized.



**Take-all Patch** is a fungus most active in cooler temperatures under moist conditions. Symptoms appear as yellowing leaves and thin roots when temperatures rise in spring or summer.



**Gray Leaf Spot** is mostly a nuisance disease in North Texas and usually does cause thinning of turfgrass. Fungicide applications are not recommended to control this disease in North Texas.

## Insect Pest Assistance

For more help identifying pests in your lawn or landscape visit:

[aggieturf.tamu.edu/turfgrass-insects/](http://aggieturf.tamu.edu/turfgrass-insects/)

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Subject matter currently under review