



Cultural Practices for Healthy, Sustainable Turfgrass

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Recap

- **Bermudagrass** - Top choice for most Abilene yards. Excellent drought and heat tolerance, high traffic recovery, full sun only. Mow at 1-2 inches. Seeded varieties are budget-friendly; improved hybrids offer better color and some shade tolerance.
- **Buffalograss** - Best low maintenance/native option. Outstanding drought tolerance - it evolved for <25 inches of rain and thrives in our semi-arid conditions with very low water and fertilizer needs. Full sun only. Mow at 2-3 inches (or leave taller for a natural look).
- **Zoysiagrass** - Good secondary choice if you have partial shade. Solid drought tolerance plus moderate/high shade tolerance. Slower to establish but forms a dense turf. Mow at 1-2 inches.

It is strongly recommended to avoid St. Augustinegrass in new plantings because it has only moderate drought tolerance, needs significantly more water (typically 1-1.5 inches per week), and struggles with heat/dry spells, cold snaps, and pests when stressed in West Texas.

However, many of you in older Abilene neighborhoods (especially pre-1980s or 1990s homes) still have establishing St. Augustine lawns. That's common here - it was planted decades ago when water was cheaper and expectations were different. We'll address tailored care for it today too, because you can still manage it successfully with smart, water-conscious practices. The key message remains the same: choosing (or keeping) the right grass for our climate makes all the difference in ongoing maintenance.

Why does the correct species choice matter so much for long term maintenance success in Abilene?

Water limitations and conservation

- Abilene has year-round watering restrictions (currently a 2-day-per-week schedule for most residents: odd addresses on Thu/Sun, even on Tue/Sat, with specific time windows). Our high evaporation rates mean water disappears fast. Adapted grasses like Bermudagrass and especially Buffalograss develop deep roots and stay healthy on deep/infrequent watering (often 0.5-1 inch total per week or less). St. Augustine and mismatched grasses demand more frequent irrigation to avoid stress, which raises bills, risks violating restrictions during dry periods, and leads to shallow roots that make the lawn even more vulnerable next time.

Lower inputs overall

- Right grass = fewer problems. Buffalograss needs almost no fertilizer (0-1 or 2 lbs N per 1000 ft.² per year). Bermudagrass and Zoysia do well on moderate rates. Wrong grass under stress invites disease (brown patch, etc.), insects (chinch bugs love stressed St. Augustine), and weeds (khaki weed loves thin turf). Healthy, adapted turf crowds out weeds naturally and requires less mowing, spraying, and patching.



Time, money, and sustainability

- A mismatched lawn in our climate often thins out, turns brown, early, or needs constant rescue. The right choice (planted or converted to) gives you a resilient lawn that goes dormant gracefully in winter, greens up reliably in spring, and needs far less intervention - saving you time and aligning with Abilene's push for water conservation.



Mowing

- Height, Frequency, and Best Practices by Species

- Golden rule for all species in Abilene: Never remove more than one-third of the leaf blade in a single mowing. This keeps the grass from going into shock and helps it maintain deeper roots that pull moisture from lower in our clay loam soils. Mow when the grass is dry (not wet) and keep mower blades sharp to avoid tearing.

**WHY THE ONE-THIRD
RULE PROTECTS GRASS
HEALTH**



Preserves photosynthesis

Supports deeper root growth

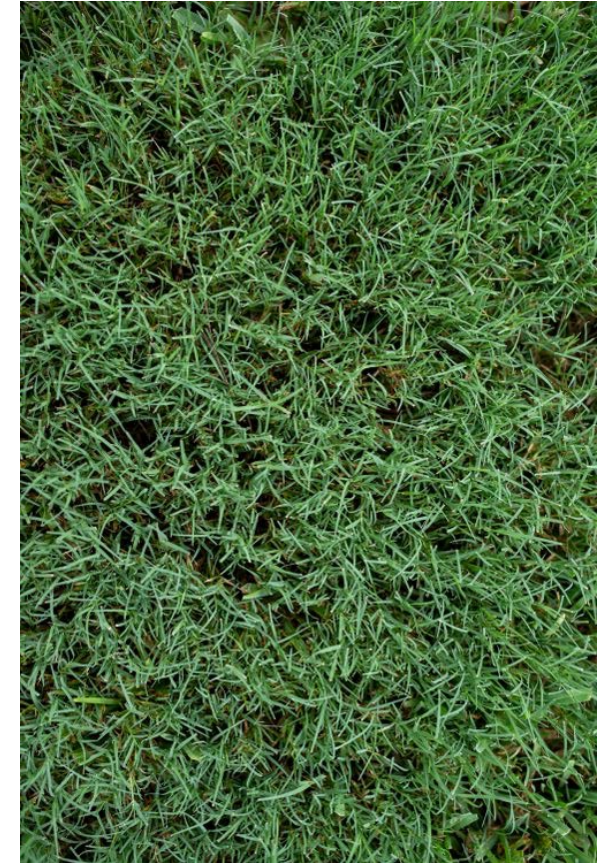
Reduces stress from mowing

Grass needs enough leaf surface to produce energy and maintain strong roots.

1. Bermudagrass

(Top Choice for Most Abilene Lawns)

- Mowing height: 1-3 inches (most common recommendations: 1.5 inches for improved varieties).
- Frequency: Every 3-7 days during peak growth (May-August). In Abilene's heat you may need to mow twice a week when it's really growing fast.
- Why this height in Abilene? Lower height, encourage dense, low growth that recovers quickly from traffic and drought. Higher than 2 inches in full sun can lead to scalping if you let it get too tall before mowing.
- Water-saving tip: Keeping it at 1.5-2 inches shades the soil better, reducing evaporation and helping the lawn stay greener longer between allowed watering days.



<https://www.thespruce.com/>

2. Buffalograss

(Best Low-Maintenance/Native Option)

- Mowing height: 2.5-3.5 inches (many people let it go to 3-4 inches for a natural look; it can even be left unmowed in low-traffic areas).
- Frequency: Every 7-14 days (or less often). It grows much slower than bermudagrass, especially once established.
- Why this height in Abilene? Taller mowing preserves more leaf surface for photosynthesis while the grass is under drought stress. Buffalograss naturally stay shorter in dry conditions, so you save time and fuel.
- Water-savings tip: Higher mowing height + in frequent mowing means less stress and dramatically lower water needs - perfect when we're limited to twice-weekly watering.



<https://www.johnstonseed.com/>

3. Zoysiagrass

(Good Secondary Option for Partial Shade)

- Mowing height: 1-2.5 inches (1.5 inches is ideal for most varieties like Empire or Palisades).
- Frequency: every 5-10 days during active growth. It grows slower than Bermudagrass, so you won't mow as often.
- Why this height is Abilene? Zoysia forms a very dense turf at these heights, which helps crowd out weeds and conserve soil moisture.
- Water-saving tip: The dense canopy at proper height reduces evaporation from the soil surface - very helpful in our high-ET Summers



<https://wesellgrass.com/>

4. St Augustinegrass

(Common in Older Abilene Neighborhoods)

- Mowing height: 2.5-4 inches (start at 3 inches and never go below 2.5 inches).
- Frequency: Every 5-10 days during the growing season. It grows faster than buffalograss or Zoysia, but slower than Bermudagrass in hot weather.
- Why this height in Abilene? St. Augustine has broader leaves and a shallow root system than the recommended species. Mowing too short (common mistake) causes severe stress, rapid browning, and higher water demand. Keeping it taller helps it shade the soil and survive our dry spells with the limited watering we're allowed.
- Water-savings tip: Taller St. Augustine loses less water to evaporation and stays greener longer between irrigation days. If your St. Augustine is struggling, raising the mowing height is one of the quickest ways to reduce its water needs.



<https://sodsolutions.com/>

Additional Mowing Best Practices for All Lawns in Abilene:

- Leave clippings on the lawn (grasscycling) - they return nitrogen and help retain soil moisture. This is especially valuable in our low-organic-matter clay soils.
- During extreme drought or heat waves (>100°F), raise the mowing height by 1/2 inch on all species to reduce stress.
- In late fall (after first frost), mow one last time at normal height to reduce winter disease and thatch buildup.
- If you have St. Augustine and want to transition to a more drought-tolerant grass later, mow it very short (scalping) in late spring before planting new sod or sprigs - this weakens the old grass and gives the new one a better start.

Mowing Guide by Species

Trait	Bermudagrass	Buffalograss	Zoysiagrass	St. Augustinegrass
Mowing height	1-3 inches	2.5-3.5 inches	1-2.5 inches	2.5-4 inches
Frequency	3-7 days (May-Aug)	7-14 days	5-10 days	5-10 days
Water-savings tip	1.5-2 inches tall helps shade soil	3-4 inches tall for a natural look, less stress, and lower water needs	1.5 inches tall is ideal, proper height reduces evaporation	Raising mowing height reduces water needs

Irrigation

-Deep and Infrequent Watering Tailored to Abilene's Water Limitations

- Water deeply and infrequently, applying no more than 0.5-1 inch total per week (including rainfall). This encourages deep rooting into our clay loam soils, improved drought tolerance, and reduces disease risk. Shallow, daily watering creates weak, shallow roots that demand more water and fail faster during dry spells.
- Target: Replace only 60-80% of weekly ET loss with irrigation + rain, depending on grass type. Use the free TexasET Network tool or app (texaset.tamu.edu) for local Abilene-area data. It gives daily/weekly ET rates and customized recommendations.

Abilene's 7 Day Weather Summary *Sponsored by Texas Water Development Board*

Chill Units

Heat Units

Detailed Weather Data

Date	ETo (in)	Max Temp (f)	Min Temp (f)	Min RH (%)	Solar Rad. (MJ/m2)	Rainfall (in)	Wind 4am (mph)	Wind 4pm (mph)	Battery (v)
Mar 26, 2026 - Thu	0.27	90	64	29	24.68	0.00	6.89	10.34	<input type="checkbox"/>
Mar 25, 2026 - Wed	0.27	90	64	23	24.39	0.00	6.94	9.46	<input type="checkbox"/>
Mar 24, 2026 - Tue	0.21	87	50	24	23.56	0.00	0.00	6.61	<input type="checkbox"/>
Mar 23, 2026 - Mon	0.18	73	49	26	23.65	0.00	4.97	4.10	<input type="checkbox"/>
Mar 22, 2026 - Sun	0.41	100	63	8	24.77	0.00	6.25	6.96	<input type="checkbox"/>
Mar 21, 2026 - Sat	0.31	99	65	7	24.80	0.00	9.92	6.63	<input type="checkbox"/>
Mar 20, 2026 - Fri	0.30	97	61	7	24.62	0.00	7.82	7.30	<input type="checkbox"/>
Data Summary	1.94	100	49	17	170.47	0.00	6.11	7.34	

[3-Day Summary](#)

[5-Day Summary](#)

[7-Day Summary](#)

[2-Week Summary](#)

Calculators



Landscape



Crop

Calculators



Landscape



Crop

Landscape Watering Calculator

1.) ETo (pet)

1.94

2.) [Plant Coefficient](#)

Select A Coefficient

3.) Adjustment Factor

Select An Plant Quality Factor

4.) [Effective Rainfall](#)

0.00

5.) [Calculate Watering Req](#)

Precipitation Rate

0.5

Total Run Time

0

Irrigations/Week

1

Run Time/Irrigation

0

[Calculate Run Time](#)

Landscape Watering Calculator

1.) ETo (pet)

1.94

2.) Plant Coefficient

Warm Season : 0.6



3.) Adjustment Factor

Normal : 0.6



4.) Effective Rainfall

0.00

5.) **Calculate Watering Req**

0.70

Calculate Run Time

Precipitation Rate

0.5

Total Run Time

84

Irrigations/Week

2

Run Time/Irrigation

42

How Much and How Often?

- **Target:** Replace only 60-80% of weekly ET loss with irrigation + rain, depending on grass type. Use the free **TexasET Network** tool or app (texaset.tamu.edu) for local Abilene-area data. It gives daily/weekly ET rates and customized recommendations.
- **Bermudagrass:** Moderate-low water user. Can often thrive on 0.5-0.75 inch per week once established.
- **Buffalograss:** Very low water user – the champion for Abilene. Many established stands need a little to no supplemental irrigation after the first year, especially if mowed taller.
- **Zoysiagrass:** Moderate water needs, similar to improve bermudagrass but slightly more forgiving in light shade.
- **St. Augustine:** Higher water requirements than the recommended species. It may need closer to 0.75-1 inch per week to avoid stress and browning, but raising the mowing height (as discussed earlier) and proper fertility help reduce this demand.

Apply water in one or two deep sessions per week rather than multiple light ones. This matches our soil's moderate drainage and prevents runoff on clay loams.

Abilene Watering Restrictions

(Current as of 2026)

Abilene operates under year-round 2-days-per-week restrictions (Stage that applies when lake levels are 40-50% capacity or similar triggers):

- Odd-numbered addresses: Thursday & Sunday
- Even-numbered addresses: Tuesday & Saturday
- Allowed times: Midnight–10 a.m. and 6 p.m.–midnight

Check abilenetx.gov/598/Save-Abilene-Water or the city's Water Utilities page for the latest stage and rules.

ABILENE LAKE LEVELS

April 2025

Available Capacity:

50.7%

Combined Available Capacity of Lake Fort Phantom Hill & Hubbard Creek Lake

Water Conservation:

Year-Round

You May Water:

2 Days per Week

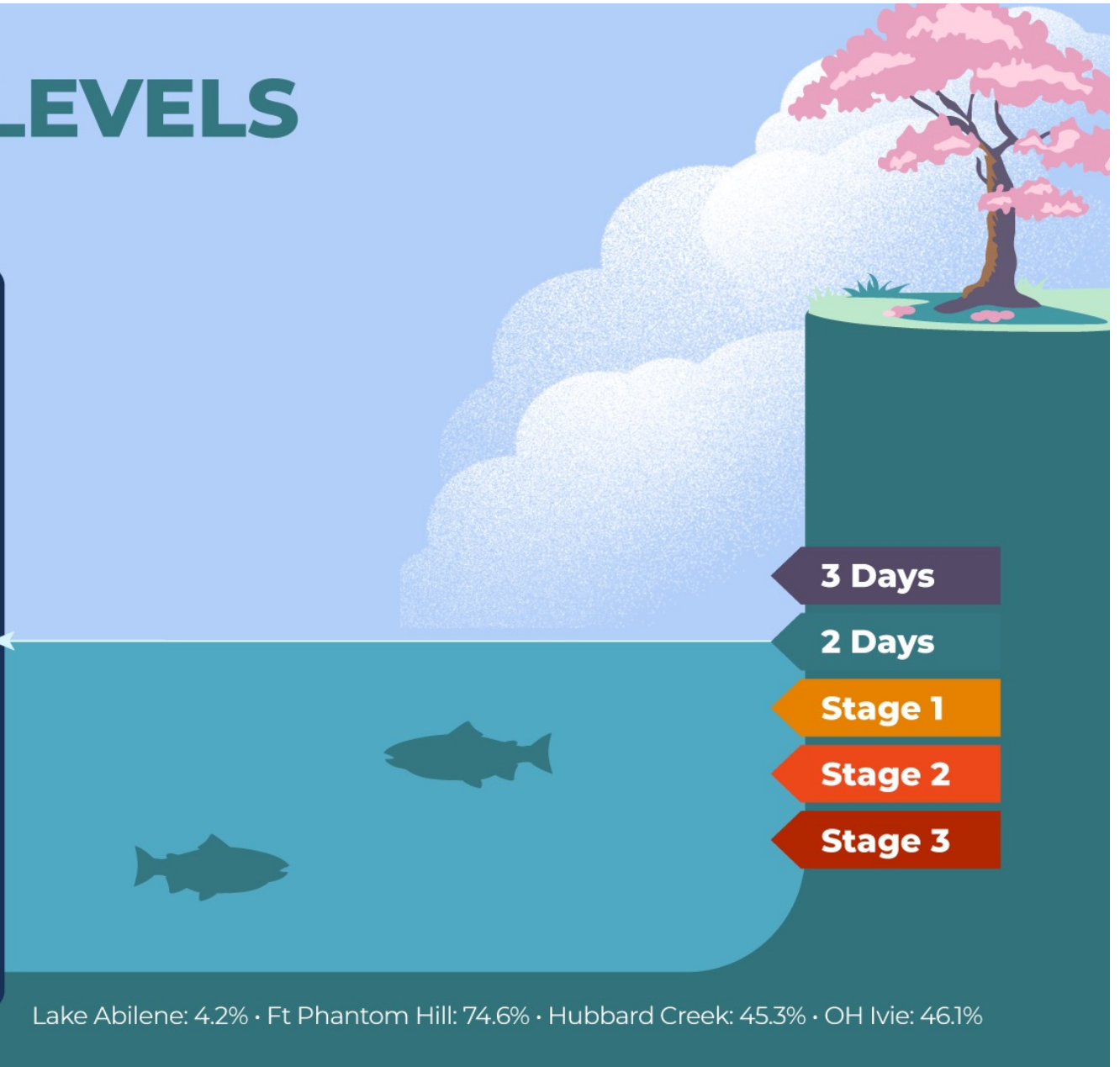
Schedule at saveabilenewater.com

DATA AS OF APRIL 13, 2025



WATER UTILITIES
CITY OF ABILENE TEXAS

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%



Lake Abilene: 4.2% · Ft Phantom Hill: 74.6% · Hubbard Creek: 45.3% · OH Ivie: 46.1%

YEAR-ROUND WATER USE

2 Day Watering Schedule

ODD
Numbered
Addresses

THU • SUN

EVEN
Numbered
Addresses

TUE • SAT

Commercial
Industrial
Government
Schools

MON • FRI

Water from Midnight to 10am & 6pm to Midnight
MORE INFO: [SAVEABILENEWATER.COM](https://www.saveabilenewwater.com)

Practical Tips for Deep Infrequent Irrigation

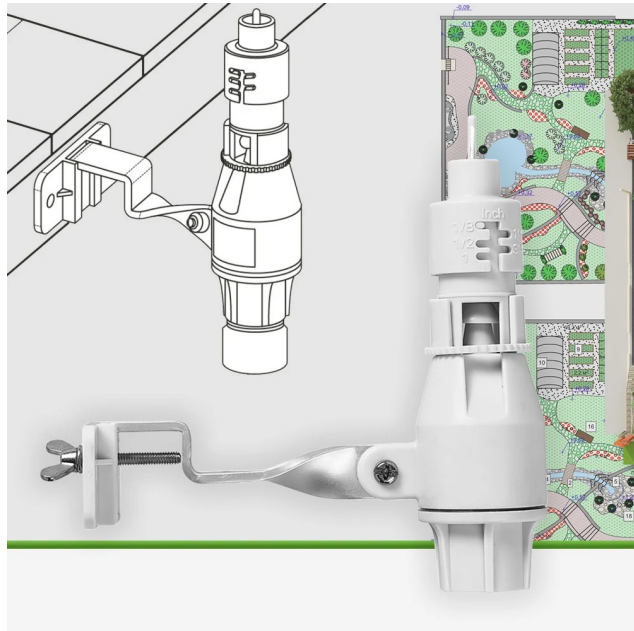
- Measure your application: Do a "catch-can" test - place shallow cans or tuna cans across your yard, run your system for 15 minutes, and measure the average depth. Adjust runtime so you deliver about 0.5 inches per session.



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- **Adjust for ET and rain:** Before watering, check TexasET for the week's forecast. Subtract any rainfall (effective rain is usually 50-70% of measured amounts on clay soil). Skip watering if recent rain meets needs.
 - **Timing within allowed days:** Water early morning (best) or evening to reduced evaporation. Avoid midday.

Rain Sensors and Smart Technology

- Install a rain sensor or soil moisture sensor on your irrigation controller - it's often required or strongly recommended and prevents watering right after rain. Many modern "smart" controls connect to TaxesET data or weather stations and automatically adjust runtimes. This is one of the easiest ways to save water and stay compliant in Abilene.



Water conservation tips

- Grasscycling (leave clippings): Returns nutrients and helps retain soil moisture - especially helpful on our low organic-matter soils.
- Mulch bare spots or transition areas: Reduces evaporation.
- Aerate annually: Improves water infiltration into clay loams so more water reaches roots instead of running off.
- Raise mowing height during extreme heat/drought: Reduce water loss (as covered in the mowing section).
- Zone your system: Separate full-sun areas from any shaded spots; water St. Augustine zones more carefully or consider gradual conversions to bermudagrass/buffalograss over time.

- Accept dormancy: All warm-season grasses (including St. Augustine to some extent) can go dormant and brown during extreme drought - they recover when rains return. This is normal in water-saving.
- Hand water problem spots instead of running the whole system.



Fertilization and Soil Health

We've covered mowing at the right height/frequency and deep/infrequent irrigation (0.5-1 inch per week max, adjusted via TexasET and Abilene's 2-days-per-week restrictions: odd addresses Thur/Sun, even Tues/Sat). Now let's talk fertilization and soil health - practices that keep your turf dense and resilient while maximizing inputs in our low-rainfall, alkaline clay loam environment.

The foundation is always a **soil test**. In Abilene's calcareous soils (Abilene clay and similar series), nutrients like iron and phosphorus often become unavailable due to high pH (commonly 7.5-8.5+). Guessing leads to waste, yellowing (chlorosis), or runoff.

Every 2-3 year soil testing is optimal for smart management. Pick up a kit or submit samples through the Taylor County AgriLife Extension office or directly at soiltesting.tmu.edu. The results tell you exact needs for nitrogen (N), phosphorus (P), potassium (K), and any amendments. Without it, use a balanced fertilizer with a 4-1-2 to 6-1-4 N-P-K ratio when applying nitrogen.

Nitrogen recommendations by species

(lbs N per 1000 ft.² per year)

Texas A&M AgriLife extension provides these guidelines (from "Lawn Fertilization for Texas Warm-Season Grasses" and related publications). Split applications into 0.5-1 lb N per 1000 ft.² at a time - never dumped it all at once.

- Bermudagrass (common): Low 2 lbs; Moderate 2-3 lbs; High 4-5 lbs. Hybrids: Low 2-3 lbs; Moderate 3-4 lbs; High 5-6 lbs. (Most home lawns do well on moderate levels with proper mowing/irrigation.)
- Buffalograss (low-maintenance native): Low 0-1 lb; Moderate 1-2 lbs. High not recommended (NR) - it thrives with minimal nitrogen. Over-fertilizing encourages weeds and extra mowing/water needs.

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- Zoysiagrass: Low 1-2 lbs; Moderate 2-3 lbs; High 3-4 lbs. (Slower growth means lower overall needs than bermudagrass.)
 - St. Augustinegrass (common in older Abilene neighborhoods): Sun - Low 2 lbs; Moderate 2-3 lbs; High 3-4 lbs. Shade - Low, 1 lb; Moderate 1-2 lbs (High NR). (It needs careful management; excess N + our heat/dry conditions increased disease risk like brown patch.)

Use slow-release or a mix of quick- and slow-release nitrogen for steady feeding. Always water in lightly after application (within Abilene's allowed times) and avoid fertilizing stressed/dormant grass.

Grass Type	Low Management	Moderate Management	High Management
Bermudagrass (common)	2	2-3	4-5
Bermudagrass (hybrid)	2-3	3-4	5-6
Buffalograss	0-1	1-2	NR (Not recommended)
Zoysiagrass	1-2	2-3	3-4
St. Augustinegrass (sun)	2	2-3	3-4
(Shade)	1	1-2	NR

Timing for Warm-Season Grasses in Abilene

Fertilize only when the grass is **actively growing** (after green up and at least 2 to 3 mowings - weeds don't count). In Abilene (average last spring frost ~mid-March to early April), this usually means:

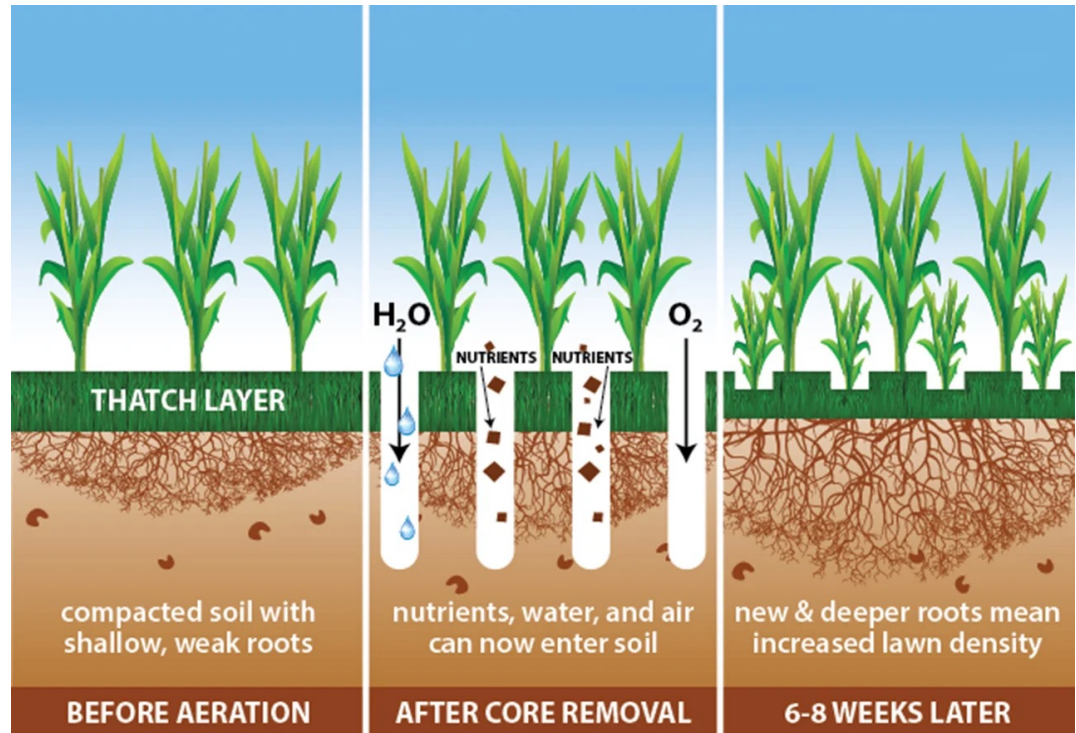
- **First application:** Around early to mid-May (about 6 weeks after last frost, when soil temps are warm and grass is growing vigorously).
- **Supplemental applications** (if using moderate/high program): One or more in June-August, spaced 45-60 days apart. Peak growth occurs May-August in our region.
- **Last (fall) application:** No later than early October for Abilene (6 weeks before average first frost ~mid-November). This boost density for winter weed resistance and spring recovery without risking leaching.

Do **not** fertilize in hot/dry periods when irrigation is limited, or after early fall if the grass is slowing down. Buffalograss often needs little to no summer N.

Aeration & Thatch Management

Our clay loam soils compact easily, especially with traffic or heavy equipment. Compaction reduces water infiltration (critical for deep watering) and root growth.

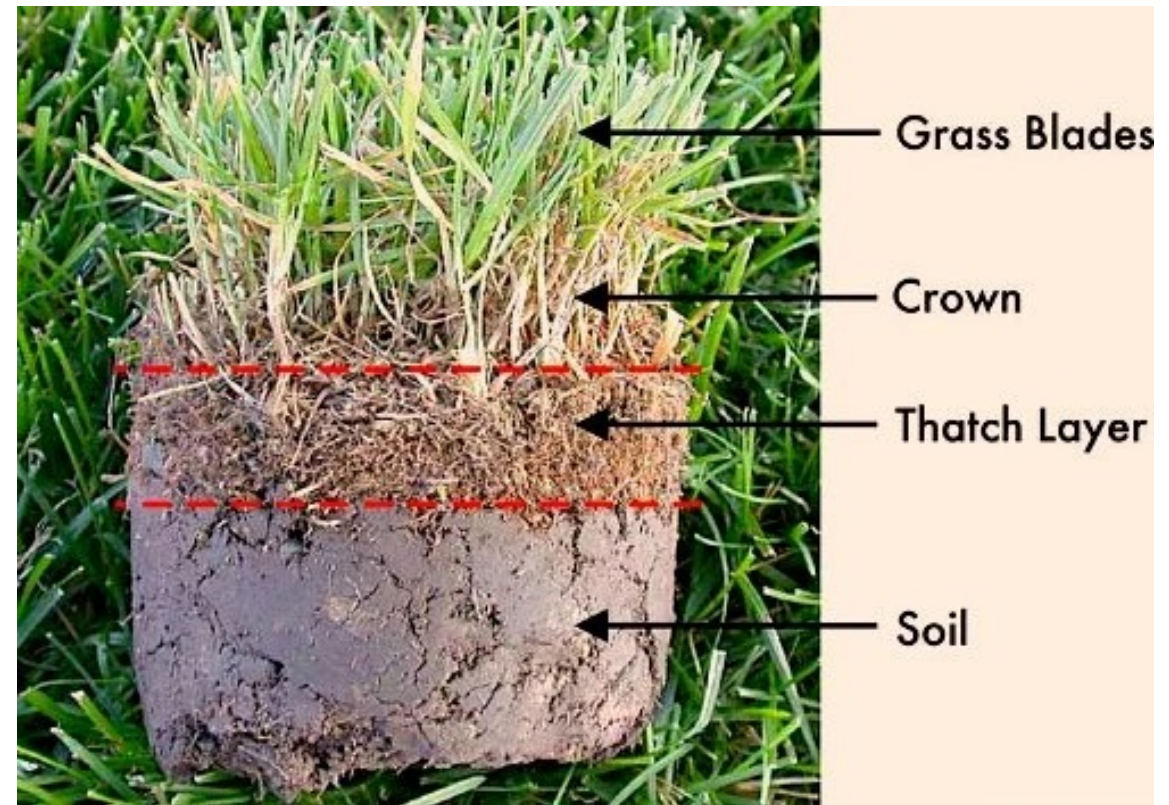
- Core aeration (pulling small plugs of soil): Best done in late spring to early summer (May-June) when warm-season grasses are actively growing and can recover quickly. Aerate once a year or every other year if your soil feels hard or water runs off. Leave plugs on the lawn- they break down and add organic matter.



<https://www.americasbestlawncarellc.com/>

- Thatch (layer of dead stems/roots $>1/2$ inch thick): buffalograss and Zoysia can build thatch; bermudagrass and St. Augustine less so if mowed properly. Excessive thatch blocks water/fertilizer and harbors pests.
 - Prevent with proper mowing (never remove $>1/3$ blade), grasscycling (leave clippings), and balanced fertility.
 - If thatch exceeds $1/2$ - $3/4$ inch, combine aeration with light vertical mowing or power raking in late spring/early summer. Avoid heavy detaching in hot/dry weather.

These practices improve soil health, enhanced drought tolerance in our high-ET climate, and reduce the need for extra water or chemicals.



<https://www.gardenmyths.com/dethatching-lawn-thatch/>

Bottom line for Abilene

- Mow properly: Correct height and frequency equals deeper roots, better drought tolerance, fewer chemical needs.
- Water wisely: Deep, infrequent watering (0.5-1 inch/week, adjusted for TexasET builds resilience and conserves water.
- Fertilize smart: Soil test-based, species specific feeding (low for buffalograss, moderate for others) during May-August.
- Support soil health: Periodic aeration improves efficiency and reduces pests & disease pressure.

Result: Healthier lawns with less water, fewer inputs, and fewer problems.



Texas A&M Agrilife

<https://agrilife.tamu.edu>

TexasET Network

<https://texaset.tamu.edu>

Water Utilities City of Abilene Texas

<https://abilenetx.gov/598/Save-Abilene-Water>

Big Country Master Gardener

<https://bcmgtx.org>

Taylor County Extension

<https://taylor.agrilife.org>