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Fertilizing Texas Lawns

10-Point Checklist for Warm-Season Grasses

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This checklist can help you make decisions on fertilizing your lawn so that it will be healthy and attractive yet minimize the damage to your pocketbook or the environment.

❑ 1. Determine the amount of work and money you want to spend on managing your lawn.

Management levels can be broadly defined as:

Low: the minimum level of management required to maintain turf density.

Moderate: the level required for enhanced visual appearance and quality.

High: the level needed for lawn areas that are highly visible or must withstand high traffic or use.

❑ 2. Measure your lawn and refer to its size when buying lawn care products.

If you know the size of your lawn, you are less likely to buy and apply too little or too much fertilizer. It's the first step to measured lawn care.

Start by measuring each section of your lawn in square feet (Fig.1). Then add up the sections to arrive at the total size of the lawn in square feet. Lawn care products are usually recommended and applied in measured amounts per 1,000 square feet.

❑ 3. Test the soil every 2 to 3 years.

Soil tests are available from your county Extension office or from the Web at http://soiltesting.tamu.edu/.

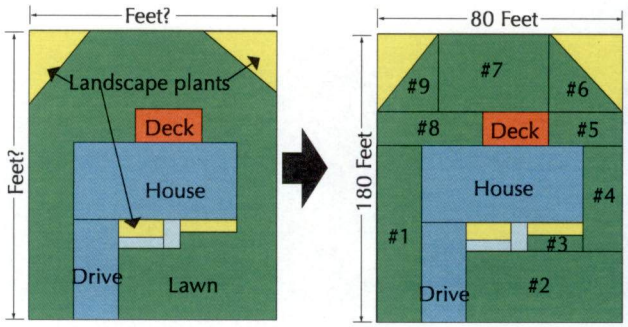

Figure 1. This lawn has been divided into nine sections so that the square footage can be calculated easily and accurately.

❑ 4. Choose a fertilizer product based on the soil test recommendations.

If you do not have a current soil test, apply nitrogen using a fertilizer analysis ratio (the three numbers that appear on the fertilizer package) that is four to six parts nitrogen (N), one part phosphorus (expressed as available phosphoric acid, or P_2O_5) and two to four parts potassium (expressed as soluble potash, or K_2O)

To determine future needs, have your soil tested before the next fertilizer application.

❑ 5. Match the annual nitrogen application program to your grass type and level of work and inputs.

The level of management needed—low, moderate or high—is based on the needs of the type of grass (Table 1) you have and your expectations for your lawn. In Texas, warm-season grasses include Bermudagrass, buffalograss, centipedegrass, St. Augustinegrass and zoysiagrass. The nitrogen requirements differ for each type.

The amount of nitrogen your lawn needs annually should be split into single applications of 1 pound of nitrogen or less per 1,000 square feet.

Low annual program: Apply nitrogen during the spring and/or fall. This program works where one or two applications are deemed adequate.

Moderate annual program: Make the applications listed in the low annual program as well as one supplemental summer application to improve turf density and quality.

High annual program: To enhance quality as needed, make two to three supplemental summer applications in addition to the applications listed in the low annual program.

❑ 6. Know how much fertilizer to apply in any single application by using Table 2.

1. Find the fertilizer analyses in the first column.
2. Select an application of ½ to 1 pound of fertilizer per 1,000 square feet of lawn.
3. Find the number of pounds of fertilizer product to buy for each 1,000 square feet of lawn area opposite the nitrogen analysis in your fertilizer.

Note: The fertilizer analysis listed in Table 2 leave P_2O_5 and K_2O blank. P_2O_5 and K_2O needs are best determined by a soil test.

❑ 7. Know how to determine the right amount of fertilizer to buy no matter what the analysis.

Using a 40-pound bag of 16-4-8 as an example, you can determine the percentage and pounds of each nutrient supplied in that 40-pound bag by multiplying 40 pounds by the percentage in decimals (0.16, 0.04, and 0.08):

- Nitrogen = 16 percent (40 x 0.16 = 6.4 pounds of N supplied)
- Phosphorus = 4 percent (40 x 0.04 = 1.6 pounds of P_2O_5)
- Potassium = 8 percent (40 x 0.08 = 3.2 pounds of K_2O).

At the 1-pound rate of nitrogen per 1,000 square feet, you could treat 6,400 square feet of lawn.

For more help in determining your fertilizer needs, see the fertilizer calculator on the Web (http://aggie-turf.tamu.edu/aggieturf2/calculators/fertsheet.html).

❑ 8. Know when to first apply fertilizer in the spring.

Make the first application of fertilizer after the second mowing of lawn grass (not weeds). At this time, the grass is actively growing and can readily use applied nitrogen. It is usually about 6 weeks after the average last spring frost date.

❑ 9. Know if additional fertilizer is needed between the spring and fall applications.

Space any supplemental nitrogen applications at least 45 to 60 days apart. Newly established, previously neglected or higher maintenance lawns can benefit from such applications.

❑ 10. Know when to apply the last fertilizer application in the fall.

Apply nitrogen in the fall to increase the density of your lawn, which will enable it to resist winter weeds as well as improve fall color and spring recovery. If not applied too late in the fall, nitrogen (1

pound or less per 1,000 square feet) will be taken up by the lawn, greatly reducing potential leaching into the groundwater supply during the winter.

The dates by which to apply your last fertilizer application are listed by growing season in Table 3.

For more information, see the Texas Cooperative Extension publication E-437, *Lawn Fertilization for Texas Warm-Season Grasses*. It further explains the principles behind the 10-point checklist and other important areas not covered here, including environmental issues with nitrogen and phosphorus, uniform application of fertilizer, factors (such as shade and soil) affecting fertilizer use, and evaluation of lawn fertilizers.

Table 1. Annual nitrogen recommendations for Texas warm-season lawns based on management level and grass type.

	Lawn management level		
	Low	Moderate	High
Warm-season grass	*lb nitrogen applied per 1,000 sq ft per year*		
Bermudagrass (common)	2	2-3	4-5
Bermudagrass (hybrid)	2	3-4	5-6
Buffalograss	0-1	2	NR*
Centipedegrass	0-1	1-2	NR*
St. Augustinegrass (sun)	2	2-3	3-4
St. Augustinegrass (shade)	1	1-2	NR*
Zoysiagrass	1-2	2-3	3-4

*NR = not recommended

Table 2. Amount of fertilizer to apply for various nitrogen analyses at rates of ½ and 1 pound of nitrogen per 1,000 square feet of lawn.

	Amount of fertilizer needed to apply nitrogen per 1,000 sq ft		
Fertilizer bag reads[1]	½ lb N rate	¾ lb N rate	1 lb N rate
6-?-?	8.3 lb	12.5	16.6 lb
8-?-?	6.2 lb	9.4	12.5 lb
9-?-?	5.5 lb	8.3	11.1 lb
15-?-?	3.3 lb	5.0	6.6 lb
20-?-?	2.5 lb	3.7	5.0 lb
21-?-?	2.4 lb	3.6	4.8 lb
29-?-?	1.7 lb	2.5	3.4 lb

[1] To determine the amount of phosphorus and potassium, you will need to have your soil tested.

Table 3. Recommended cut-off dates for late-season nitrogen fertilizer for Texas cities within the same autumn frost zones (Figure 2).

City	Average first autumn frost date[1]	Apply nitrogen by this date[2]
Harlingen, McAllen, Corpus Christi	No freeze	November 1
College Station, Laredo, Victoria	December 16	November 1
Austin, Houston, San Antonio, Waco	December 1	October 15
Abilene, Dallas, El Paso, Lubbock, Midland	November 16	October 1
Amarillo	November 1	September 15

[1] **These are averages across large areas of Texas. Frost dates may differ for some locations.**

[2] **The final late-season nitrogen application should be applied no later than 6 weeks before the expected autumn frost date.**

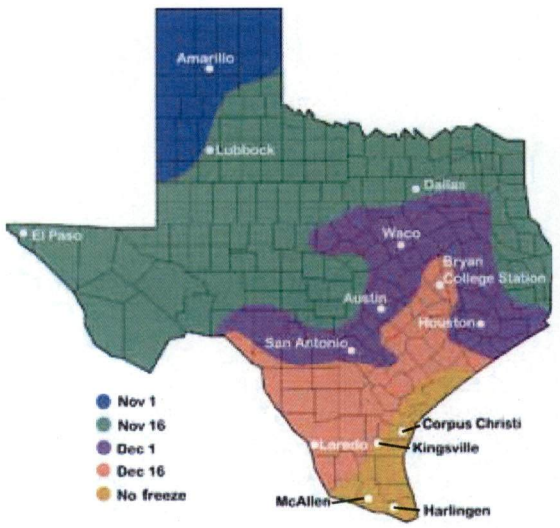

Figure 2. Average dates for the first fall frost.

Other publications on lawn care

The Texas Cooperative Extension Bookstore (http://tcebookstore.org/) also offers these publications on lawn care:

Publication Number	Title
E-159	*Chemicals for Plant Disease Control at Home*
E-420	*Chinch Bugs in St. Augustine Lawns*
B-6081	*Herbicides: How They Work and the Symptoms They Cause*
B-6126	*Keep Your Lawn Alive During Drought*
E-437	*Lawn Fertilization for Texas Warm-Season Grasses*
E-356	*Lawn Maintenance Safety*
E-356S	*Lawn Maintenance Safety* (Spanish)
B-6125	*Lawn Water Management*
L-5339	*Maintaining Bermudagrass Lawns*
L-5340	*Maintaining St. Augustinegrass Lawns*
B-6153	*Rainwater Harvesting*
L-5331	*Sprayer Calibration for Turfgrass*
L-5330	*Spreader Calibration for Turfgrass*
L-5170	*Take-All Root Rot of Turfgrass*
E-139	*Thatch Management for Home Lawns*
B-6165	*Turf Irrigation and Nutrient Management*
E-211	*White Grubs in Texas Turfgrass*

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