



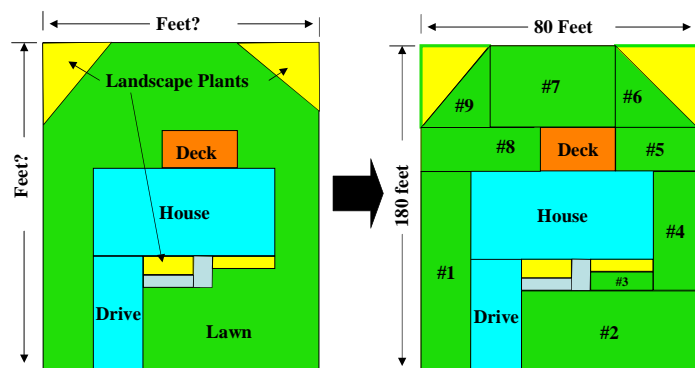
Lawn Fertilization for Texas Warm-Season Grasses: 10 Point Checklist

D. Chalmers, J. McAfee and R. Havlak,*

This checklist assumes you know the type warm season grass in the lawn: Bermudagrass, Buffalograss, centipedegrass, St. Augustinegrass or Zoysiagrass.

1 Balance the lawn you would like with level of work and inputs. Management levels can be broadly defined as: **Low** – the minimum level of management required to maintain turf density; **Moderate** – management required for enhanced visual appearance and quality; and **High** – management needed for lawn areas with greater expectations (highly visible, recovery from traffic/use)

2 Measure your lawn and refer to its size when buying lawn care products. Those who know the size of their lawn are less likely to purchase and apply too little or too much fertilizer. It's the first "step" to measured lawn care! Start by measuring each lawn section in square feet. Then add up the sections to arrive at the total size of the lawn in square feet. This publication will recommend fertilizer application by the amount of product to apply per 1,000 square feet.



Important Note: This information was drawn from the more complete publication entitled "Lawn Fertilization for Texas Warm Season Grasses: Frequently Asked Questions" (Reference number: SCS-2005-15). It is an excellent reference and further explains the principles behind the 10 point checklist and other important areas not covered here: environmental issues with nitrogen and phosphorus, applying fertilizer uniformly, how other factors (shade, soil, etc.) affect fertilizer use; and how to best evaluate lawn fertilizers.

*Associate Professor and State Extension Turfgrass Specialist, Associate Professor and Extension Turfgrass Specialist, and Extension Program Specialist-Turfgrass and Water Management; College Station, Dallas, and San Antonio, Texas, respectively.

3 Soil Test every 2 to 3 years, it is easy to do and inexpensive. This test kit is available through your local County Extension Office or can be found by visiting <http://soiltesting.tamu.edu/>

4 Select fertilizer nutrient analysis (also called grade or ratio) based on soil test recommendations. If you do not have a current soil test, apply N using a fertilizer analysis ratio (the three numbers that appear on the fertilizer package) that is 4 to 6 parts N, 1 part P₂O₅ and 2 to 4 parts K₂O. Get a soil test before your next fertilizer application to determine future needs.

5 Match annual nitrogen application program to your grass type and level of work and inputs. Nitrogen levels differ for each warm season grass type. Base the use of a low, moderate or high annual nitrogen program on grass needs (Table 1) and expectations. The annual nitrogen program amounts are split into a number of single applications of 1 pound of nitrogen or less per 1000 sq ft. These programs are:

Low Annual Program: Apply nitrogen during the spring and/or fall. This program works where 1 or 2 applications are deemed adequate.

Moderate Annual Program: Builds upon the "Low Level Program" applications with one additional supplemental summer application to improve turf density and quality.

High Annual Program: Builds upon the "Low Level Program" applications with 2 to 3 supplemental summer applications to enhance quality as needed.

Table 1. Recommended Annual Amounts of Nitrogen (N) for Warm Season Lawns.

Grass Type	Lawn Management Level		
	Low	Moderate	High
	Lbs N applied/1000 sq ft		
Bermudagrass (common)	2	2-3	4-5
Bermudagrass (hybrids)	2-3	3-4	5-6
Buffalograss	0-1	1-2	NR*
Centipedegrass	1	2-3	NR*
St. Augustine (sun)	2	2-3	3-4
St. Augustine (shade)	1	1-2	NR*
Zoysiagrass	1-2	2-3	3-4

*NR - not recommended

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

- Find the fertilizer analyses in the first column,
- Select an application of 1/2 or 1 lb per 1000 sq ft
- Find the number of pounds of fertilizer product to buy for each 1000 sq ft of lawn area opposite the N analysis in your fertilizer.
- *The fertilizer analysis listed in Table 2 leave P₂O₅ and K₂O blank. P₂O₅ and K₂O needs are best determined by soil test. Refer back to #4.*

Table 2. N rates based on fertilizer and N rate.

Fertilizer Label	Amount of fertilizer to apply N per 1000 sq. ft.	
	1/2 lb N rate	1 lb N rate
6-?-?	8.3 lb	16.6 lb
8-?-?	6.2 lb	12.5 lb
9-?-?	5.5 lb	11.1 lb
15-?-?	3.3 lb	6.6 lb
20-?-?	2.5 lb	5 lb
21-?-?	2.4 lb	4.8 lb
29-?-?	1.7 lb	3.4 lb

7 Know how to buy the right amount of fertilizer no matter what the analysis. Using a 40-pound bag of 16-4-8 as an example, the percentage and pounds of each nutrient supplied in the 40 lb bag is just multiplying 40 lbs by the percent in decimals (0.16, 0.04, and 0.08):

- Nitrogen = 16 % (0.16 x 40 lbs = 6.4 lbs N)
- Phosphorus = 4% (0.04 x 40 lbs = 1.6 lbs of P₂O₅)
- Potassium = 8% (0.08 x 40 lbs = 3.2 lbs of K₂O)

At the 1 LB of N per 1000 sq ft rate you could treat 6,400 sq ft of lawn with the 40 lb. bag. If you know fertilizer analysis and lawn size you can use the fertilizer calculator on the web at:

<http://aggie-turf.tamu.edu/aggieturf2/calculators/fertsheet.html>

8 Know when to first apply fertilizer in spring. The first application of fertilizer should be made after the second mowing of the lawn grass (not weeds!). This indicates the grass is actively growing and can readily use applied nitrogen. This is usually about 6 weeks after the average last spring frost date.

9 Know if additional fertilizer is needed between spring and fall applications. Space any supplemental N 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. N application is important during this period to increase density to resist winter weeds, improve fall color and spring recovery. Modest nitrogen rates (1 lb per 1000 sq ft or less) provide benefit, and reduce potential nitrogen carryover and potential leaching during winter months. The dates by which to apply your last fertilizer application are listed by growing season in Table 3.

Table 3. Recommended last dates for fall nitrogen fertilizer application for Texas cities within the same fall frost zones¹ (Figure 2).

Texas Cities	Apply N by
Harlingen, McAllen, Corpus Christi	November 1
College Station, Laredo, Victoria	November 1
Austin, Houston, San Antonio, Waco	October 15
Abilene, Dallas,	October 1
El Paso, Lubbock, Midland	
Amarillo	September 15

¹ Figure 2 frost zones are averages across large areas of Texas. Frost dates may differ for some locations.

Figure 2. Average dates for the first fall frost

