

A Quick Guide to Fertilizing Mississippi Landscapes



Why Fertilize?

To supply nutrients to achieve a *clearly defined objective*, such as—

- increasing shoot growth, root growth, flowering, or fruiting.
- establishing newly planted trees and shrubs.
- enhancing foliage color and plant appearance.
- correcting or preventing nutrient deficiencies.

When to Fertilize?

It is best to fertilize *only* when your plants need it. The reasons in the “Why Fertilize?” section will help you make this decision.

Landscape plants should be fertilized only during the growing season (March to October). Late fertilization may lead to winter damage.

Fertilization for most ornamentals and turf should be done in several applications over the season. Established trees and shrubs probably need to be fertilized only once in the spring.

Early fertilization of turf may lead to disease problems in the spring.

Which Fertilizer to Use?

Select fertilizer that has only the nutrients you want to add.

Complete fertilizers containing nitrogen (N), phosphorus (P), and potassium (K) (potash) can be used on landscapes and turf. It is generally best to look for an N-P-K ratio of 3-1-2 (for example, 18-6-12 or 24-8-16).

Slow-release fertilizers provide nutrients to plants a little at a time and are less likely to be leached from the soil and/or promote excess flushes of growth.

For a list of organic and inorganic fertilizers for use on landscapes, see Mississippi State University Extension Service Publication 2572 *Organic and Inorganic Fertilizers and Materials for the Home Gardener*.

Organic vs. Inorganic Fertilizers

	Pros	Cons
Organic	Add organic matter that helps improve soil structure and feeds soil microbes.	Large amounts of fertilizer may be required to achieve fertilization goals.
	Slow release.	Smell (sometimes).
	Has N-P-K and many micronutrients.	Salt content may be high.
Inorganic	Generally higher nutrient contents, so you need to apply less.	May require such a small amount of fertilizer that it is hard to apply.
	Quick and slow release forms available.	No benefit of adding organic matter.
	Can find single-nutrient fertilizers (e.g., iron-only) and complete fertilizers.	High salt content may cause burning if overapplied.

How Much to Fertilize?

	lb nitrogen per application	Timing of applications
New trees/shrubs (3 years old)	1 lb/1000 ft ²	Spring (or 4 weeks after planting) and late summer.
Mature trees/shrubs (3+ years old)	1 lb/1000 ft ²	Once in spring.
Annuals & perennials	1 lb/1000 ft ²	Every 4–6 weeks during season.
Turf St. Augustine, Bermuda, Zoysia	1 lb/1000 ft ²	Monthly during season.
Centipede, Carpetgrass	½ lb/1000 ft ²	Once in spring on most sites. Twice during season on coast (after May 1 and before August 15).

How much fertilizer is 1 pound of N per application?

Use this formula. All you need to know is the first number (N) from the fertilizer bag.

$$\text{lb fertilizer needed per 1000 sq ft} = 100 \div (\text{N on fertilizer bag})$$

How much total fertilizer do I need?

Use this formula. You need the answer from the equation above and the size of the area to fertilize.

$$\text{Total lb fertilizer needed} = (\text{answer from above}) \times (\text{sq ft of area}) \div 1000$$

Fertilizer Tips

Use soil and/or foliar nutrient analysis to determine whether you need fertilizer.

Information on soil testing is available at your county Extension office or online at <http://extension.msstate.edu/lawn-and-garden/soil-testing>.

Soil may be modified in order to improve nutrient uptake or plant responses to fertilizer.

Lime for acidic soils (low pH); sulfur for basic soils (high pH).

Adding organic matter (compost, etc.) can help with many nutrient deficiencies.

Soil pH should be considered when selecting the fertilizer.

Ammoniacal N tends to acidify soil around roots.

Nitrate N tends to raise pH around roots, but overall effect is neutral.

Urea lowers soil pH in the long term.

Chelated Fe (and other micros) are used for high-pH soils.

Rule out other causes:

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|-------------------------|-------------------------|
| <i>Insects/mites</i> | <i>Cold damage</i> |
| <i>Nematodes</i> | <i>Pesticide damage</i> |
| <i>Disease</i> | <i>Soil compaction</i> |
| <i>Too much water</i> | <i>Air pollution</i> |
| <i>Not enough water</i> | |

Don't try to fertilize your way out of a problem.

Many pest and disease problems only get worse with excessive fertilization.

Lawn fertilizers having some portion of N source as "slow release" will provide a more uniform growth rate and extend the period between applications. This is especially helpful with centipede and carpetgrass lawns.

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