What You Need to Know About Home Lawn Fertilizers

Another Report on Effective Turf Maintenance from the Lawn Institute

A well-planned, reasonable fertility program is a basic part of proper lawn maintenance. Lawngrasses that are under-fertilized tend to be thin with poor color. Lawns that are over-fertilized, especially with high levels of soluble nitrogen fertilizer, tend to have thatch problems and are more prone to insect and disease damage.

The goal of a good fertility program is to produce a reasonable amount of top growth, but not at the expense of root growth or carbohydrate storage. A good root system is the key factor to a healthy lawn.

Nitrogen (N), Phosphorus (P), Potassium (K).

Lawn fertilizers typically contain these three nutrients, although other nutrients may be included in small amounts. The three numbers on the fertilizer bag represent the percentages of N, P, & K-in that order. The back of the fertilizer bag should show the guaranteed analysis. Always follow the recommended application rates suggested by the manufacturer on the bag.

The grass plant needs more nitrogen than any other nutrient.

Nitrogen is part of the chlorophyll molecule and helps give the lawn its deep green color. Nitrogen also tends to promote high leaf growth rates at the expense of root growth. Phosphorus is responsible for the energy transfer systems in the plant and is generally required in much smaller amounts than nitrogen or potassium on an established lawn. The exception is for newly established lawns by seeding, sodding, or sprigging, when the need of phosphorus is higher in the new plant. Potassium has a lot to do with good cell wall development and the plant's ability to withstand stress, disease, and insect damage.

Look for slow-release forms of nitrogen.

The two basic forms of nitrogen that can be used as a fertilizer are organic and

inorganic. The most commonly used inorganic forms of nitrogen in fertilizers are ammonium nitrate and ammonium sulfate. Both are soluble, quickly available forms of nitrogen and both tend to produce a fast increase in leaf growth for a fairly short period of time. These are cheaper forms of nitrogen and are found in less costly fertilizers.

More and more, the slowly soluble or slow-release organic forms of nitrogen are being recommended by turf experts. These include sulfur-coated urea, ureaformaldehyde, I.B.D.U., methylene urea, natural organics, and resin-coated urea. These tend to produce a lawn with good color without excessive leaf growth. They are designed to meter-out the nitrogen over a longer period of time. The slow-release forms of nitrogen are more costly than the soluble quick-release forms, but do not have to be applied as often.

What fertilizer should I use?

Most turf experts recommend that a lawn fertilizer should have at least one-half of its nitrogen in one of the slow-release forms mentioned above. In most cases, both cool season and warm season grasses will do well when a 3-1-2 or 4-1-2 ratio of N-P-K is used on an established lawn. Some analysis numbers that meet these ratios are:

12-4-8
15-5-10
16-4-8
21-7-14
20-5-10

How much fertilizer should I use?

Fertilizer application rates should be as low as possible and still produce a high quality lawn. Over-fertilization weakens your lawn and causes excess leaf growth. As a general rule, if the amount of Nitrogen (N is the first number in the analysis) is between 5 and 12, the application rate should be 8 pounds per 1,000 square feet. If the N number is between 12 and 18, the application rate should be 6 pounds per 1,000 square feet. Any N number over 19 should be applied at a rate of 4 pounds per 1,000 square feet. Always follow the recommended rate stated on the bag by the manufacturer.

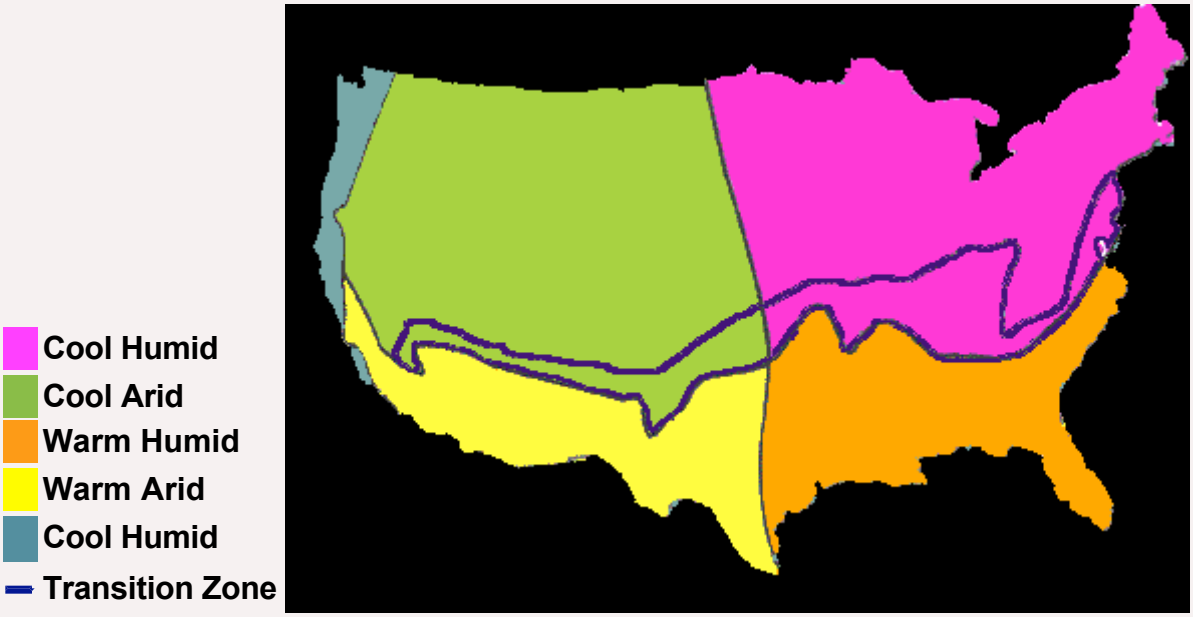
When should I fertilize?

The best time to fertilize a lawn is when it is actively growing. For Northern lawns (cool season grasses), begin the fertilization program as the grass begins to grow in the spring and reduce applications as the weather gets hotter. When cooler weather returns in the fall, the lawn can again be fertilized. A late fall fertilizer application after the first frost can increase lawn quality the following spring.

For Southern lawns (warm season grasses), the fertilization program should start just

after spring green-up and stop about two months before the average frost date in the fall. Frequency of fertilizer applications depends primarily on the amount and form of nitrogen used. The slow-release type fertilizers can adequately feed the lawn from 6 to 10 weeks. If the lawn still looks good and is growing well after 6 to 8 weeks, wait longer for the next application.

By leaving your grass clippings on the lawn, you are adding nitrogen almost continually, which can reduce the need for fertilization by as much as 25%. And, leaving the clippings on the lawn (grasscycling) helps the environment by keeping clippings out of our community landfills!



A proper mowing program goes hand-in-hand with a good fertilization program.

Your fertilization program will make the grass grow! Each species of grass has an optimum cutting height to help maintain the quality of the lawn. The following table gives the suggested mowing heights and frequency for the most common grasses in North American lawns. The "rule of thumb" is not to remove more than 1/3 of the leaf surface area each time the lawn is mowed.

Turfgrass	Optimum Height	Mow When It Is
Bluegrass	2 inches	3 inches
Perennial Ryegrass	2 inches	3 inches
Tall Fescue	2 inches	3 inches
Fine Fescue	2 inches	3 inches
St. Augustine	2 inches	3 inches
Buffalograss	2 inches	3 inches

Bermudagrass Centipede Zoysia	1.5 inches 1.5 inches 1.5 inches	2.25 inches 2.25 inches 2.25 inches
Note: Based on this mowing program, there is no need to remove the clippings.		

The Lawn Institute
1855-A Hicks Road
Rolling Meadows, IL 60008

Back to Main Brochure Page