



Evaluating a Fertilizer Program

One of the most confusing aspects of homeownership is figuring out a fertilizer program. Should you have it done or do it yourself? Lots of people sell fertilizer programs, which one is the best? Many people offer advice, but what does the grass really need?

Fertilizer 101: The Science Overview

First, you must learn what the numbers on a fertilizer bag stand for, and how do they affect the turfgrass. The first number represents the element Nitrogen (N), second is Phosphorus (P) and the last is Potassium (K). All fertilizers are stated in this order: N, P and K. Now how do they affect the plant? Remember this phrase **UP, DOWN, AND ALL AROUND**. Nitrogen affects top growth, Phosphorus affects root development, and Potassium affects all around health of the plant. Each number tells you how much of each element is present as a percentage by weight. For example, if you see this fertilizer, 10-5-14, then you know it is 10% nitrogen, 5% phosphorus and 14% potassium. One hundred pounds of this fertilizer contains 10 pounds of actual nitrogen, 5 pounds of actual phosphorus and 14 pounds of potassium. Being able to calculate how much actual N, P and K is in any given fertilizer is important. The rest of the fertilizer is inert ingredients.

Next, you need to know some basic information. Rates in applying fertilizer are expressed in pounds of fertilizer applied per 1000 square feet. Actual amounts of each element are expressed the same way. For example, if you applied 10 pounds of 10-5-14 per 1000 square feet, you have applied 1 lb. of actual N, .5 lbs. of actual P, and 1.4 lbs. of actual K. Professionals always talk about a program in actual pounds applied. So if someone says they have applied 1 lb. of K, they mean they have applied 1 lb. per 1000 square feet of actual potassium.

What does grass actually need in a year? The big rule of thumb accepted by everyone, is to start out with about 4 # (# is short for pounds) of N, 1# of P and 2# of K per year for Kentucky Bluegrass. For Tall Fescue & Fine Fescue will require 2# of N, .5 of P, and 1# of K per year. All programs will need some adjustment due to soil type, desired appearance and the fact that Mother Nature has the final word. Adjustments are usually changes in amounts, timing and kinds of fertilizer applied. Let's evaluate a sample program:

<u>Date</u>	<u>Product Applied</u>	<u>Pounds Applied per 1000 sq. ft.</u>	<u>Actual N</u>	<u>Actual P</u>	<u>Actual K</u>
April 15 th	23-3-6	6	1.38	.18	.36
May 15 th	12-4-8	10	1.2	.4	.8
September 1 st	28-5-8	3.57	1.0	.18	.29
November 1 st	6-24-24	4.17	.25	1.0	1.0
Total actual nutrients applied in one year:			3.83	1.76	2.45

This is close to the 4-1-2 ratio, being under for N and over for P and K.



Evaluating a Fertilizer Program (cont'd)

Rules of Fertilization

1) Don't apply more than 1 lb. of N at a time of an all mineral based fertilizer, and if you do put 1# on, wait at least 4 weeks before applying any more. Think very carefully before you consider putting on more than 4.5# of N per year; while over fertilized lawns are greener, they are more prone to problems such as excessive thatch and lawn disease.

2) September 1st is the most important application of the year, and November 1 is the second. Don't miss these. This is the time of year when your lawn works on root production and recovers from the summer stress.

3) All fertilizer programs are maintenance programs. This means that P and K are present in the soil at medium or high levels. The only way to determine what the soil's P and K level is to take a soil test and send it to a soil lab for analysis. A lab soil test will measure P and K levels and then a plan can be made to correct any P and K deficiencies. The lab will also test the soil pH. Lime should never be added unless a soil test is taken. Soils in Northern Indiana usually have a high pH, so lime seldom needs to be applied. Soil tests do not check nitrogen levels because N is not stored in the soil and must always be a part of an application plan. If you have very high expectations for your lawn, it is recommended that you have a soil test performed every three years.

4) You will likely need to make adjustments in any program to fit your desires. To have the kind of grass you want, you may need to shorten the intervals between fertilizations, and go to 5 applications. Your soil type has a big influence. Sandy soils or soils without added topsoil have less nutrient-holding capacity than a clay soil or one with three or more inches of topsoil. One way to lengthen out fertilizer applications even in sandy soils is to use a slow release fertilizer.

5) Potassium plays a vital role in a grass plant's appearance, and many soils, particularly sandy types, have low potassium levels. Grass growing on soils with adequate potassium levels are deeper rooted, has more drought, heat and cold hardiness, better disease and insect resistance, and better color.

6) Over applications of fertilizer will also cause problems.

7) There are many different fertilizers. If you are low in K, 0-0-60 is a good one. If the fertilizer program you like does not apply enough K, you can make an additional application of 0-0-60. Don't apply more than 1.2# actual at one time, and don't mix potassium with another fertilizer; make separate applications.