

Calculating Turf Fertilizer Application Rates



Before even considering fertilizer application rates we must be aware of the nutritional requirements of the treated turf. Is the turf make-up primarily bluegrass, fescue or ryegrass (see chart)? What is the soil type? Is the area irrigated? Are we treating an area that is fully sun exposed or partially shaded? Is the turf intended for high intensity usage ie. sports field or home lawn?

Turf Fertilizer Rates* lb N/1000 sq ft/ year	Low	High
Bluegrass	3	4
Fine fescue	2	3
Perennial ryegrass	2	3
Creeping bentgrass	3	6

*Maintenance fertilizer rates are usually based on the amount of Nitrogen required in a growing season because it is utilized by the plant in the greatest quantity.

For purpose of example we will use a **20-5-15** 75% slow release fertilizer to treat a 4000 sq ft Kentucky Bluegrass lawn. This particular lawn will require **3 lb N per 1000 sq ft per growing season**. If we determine that the lawn will be treated 3 times over the year, then **1 lb actual N per 1000 sq ft** will be applied each of three visits.

A **20-5-15** analysis fertilizer contains **20% nitrogen, 5% phosphorus and 15% potassium**. A 55 lb (25kg) bag will contain **.20 x 55 = 11 lb nitrogen, .05 x 55 = 2.75 lb phosphorus and .15 x 55 = 8.25 lb potash**.

In order to apply 1 lb actual N per 1000 sq ft, then $100 \times .20 = 5$ lb product must be applied to each unit of 1000 sq ft on that treated area. The entire lawn would therefore receive **5lb product x 4 (units of 1000 sq ft) = 20 lb product** per application or **60 lb product for the year**.

In order to ensure accuracy and uniformity in applying fertilizer please pay particular attention to the following guidelines:

- Take time to accurately measure the properties that you are treating. Not only will these measurements serve as a monitor for checking application rates, but collectively they will make up a database from which to calculate future purchases.
- Apply fertilizer using a clean and well calibrated rotary type spreader.
- Apply fertilizer evenly with a uniform overlap pattern.
- Remove fertilizer from non-target areas like walks and driveways.
- Do not apply fertilizer to frozen or dormant turf. Unutilized fertilizer can sometimes be subject to runoff or other forms of loss.