

# Lawn Fertilization And Weed Control

## *Lawn renovation – Part 3*

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In this final installment of our series on lawns we will address fall fertilization and weed control.

Here are three key principles of fertilization of turfgrass

- The most important component of lawn fertilizer is nitrogen because it is the most likely to be deficient in the soil.
- Timing is critical. The best time to fertilize with nitrogen is when the shoots (the green part of the grass plant above the ground) are growing. Shoots of cool season grass (fescue, bluegrass, and perennial rye) grow most vigorously in the fall and late spring so this is when we fertilize with high nitrogen fertilizers.
- Fertilization is most efficient when the fertilizer is applied in small quantities. Never spread more than 1 pound of soluble nitrogen per 1000 square feet in a single application.

Fast release vs. slow release nitrogen

Some nitrogen compounds in fertilizer are highly soluble in water. These provide nutrients to the grass almost immediately. Other fertilizers contain nitrogen that is released to the grass gradually. Some fertilizer products contain a mix of fast and slow release. The type of fertilizer makes a difference in application rates and timing.

Fertilization program

If you want a high quality, very green, thick lawn, your cool season grass needs about 3 pounds of nitrogen per 1000 square feet per year. The exception is fine fescue that requires about 2 pounds per 1000 square feet per year.

The fertilization program for cool season grasses is three fall applications of approximately 0.7 pounds per 1000 square feet and one late May application 0.5 pounds per 1000 square feet. The applications should be about 30 days apart. If you are satisfied with an average cool season grass lawn, you can get by with 1 to 1.5 pounds of nitrogen per 1000 square feet per year.

How do I know how much nitrogen to apply? You can calculate it from the N-P-K numbers on the bag, the weight of the bag and the total coverage in square feet on the bag. The nitrogen content of the fertilizer is shown in the first number of the three-number N-P-K series that is shown on every bag. If the bag has the numbers 32-0-4, this means the fertilizer is 32% by weight nitrogen, 0% phosphate, and 4% potassium.

We will use a simple example. Let's assume you have a lawn that is approximately 5000 square feet, and you buy a bag of fertilizer that says it covers 5000 square feet of lawn. If you follow the directions exactly on the fertilizer bag, the calculated application rate is shown in the far right column of the table below. If you use the full bag, you will apply a little less than 1 pound of nitrogen per 1000 square feet. To achieve the highest quality lawn, you will need 3 bags of this fertilizer for your 5000 square foot lawn. You will apply the contents of each bag approximately 4 weeks apart in the fall.

<b>Fast Release Nitrogen (Produces Rapid Green-up)</b>				
Typical retail lawn maintenance fertilizer	Weight of Bag (pounds)	Recommended Coverage Area (square feet)	N-P-K	"Bag Rate*" (pounds per 1000 square feet)
Scott's Turfbuilder	12.5	5,000	32-0-4	0.80
Scott's Turfbuilder Winterguard	12.5	5,000	32-0-10	0.80
Vigoro Lawn Fertilizer	14.26	5,000	29-0-4	0.83

\*Bag Rate is the amount of nitrogen applied per 1000 square feet if the user spreads entire contents of the bag over the recommended coverage area. Sample Calculation for Scott's Turfbuilder  
 32% nitrogen x 12.5 pounds of fertilizer = 4 pounds of nitrogen per bag  
 4 pounds of nitrogen divided by 5000 square feet x 1000 square feet = 0.8 pounds per 1000 square feet

If you have a 5000 square foot lawn, and you use one of the slow release fertilizers in the table below, you will need 2 bags of Milorganite per application, a total of six for the year. You will need a total of three bags of Turf Trust.

<b>Slow Release Nitrogen</b>				
	Weight of Bag (pounds)	Recommended Coverage Area (square feet)	N-P-K	"Bag Rate*" (pounds per 1000 square feet)
Milorganite	36	2,500	5-2-0	0.72
Turf Trust	15.6	5,000	24-0-12	0.75

\*Bag Rate is the amount of nitrogen applied per 1000 square feet if the user spreads entire contents of the bag over the recommended coverage area.

These products supply nitrogen to the lawn at a very slow rate, and so the fertilization dates are somewhat different.

For cool season grasses Milorganite recommends four applications at the bag rate: Labor Day, Thanksgiving, Memorial Day, and Fourth of July – easy to remember. Based on my use of this product, I recommend that you delete the July application.

Turf Trust recommends four applications per year: early spring, summer, early fall, and late fall. For cool season grasses I would delete the summer applications.

### **Controlling Weeds**

Fall is a good time to control perennial broad leaf weeds using a selective, post emergent weedkiller. You can also control winter annual weeds using a pre-emergent weedkiller. Post-emergent means that the product is applied after the weeds come up. Pre-emergent means the product is applied before the weeds come up to prevent the weed seeds from sprouting. Selective weed killers kill the weeds but not the grass.

If you are growing new grass in a lawn renovation, it is probably a good idea to wait until spring before applying any selective post-emergent weedkillers to your lawn. The rule of thumb on applying post emergent herbicide to a new lawn is to mow the lawn three times before applying the weed killer.

The first step in any weed control program is to identify the weeds. The Master Gardeners at the VCE help desk can help with identification if you bring them a sample.

Common Broad Leaf Lawn Weeds in Fairfax Lawns and How to Control Them		
	Winter Annual Broad Leaf	Perennial Broad Leaf
Life Cycle	Sprout from seed in late fall to early spring and die in summer.	Die back in winter, but roots remain alive and plant returns in spring. New plants also sprout from seed.
Examples	Common chickweed, Henbit, Corn speedwell, Hairy bittercress	Wild violet, Dandelion, Plantains, Ground ivy, White clover, Wild strawberry, Mock strawberry
Post-emergent Control	Broad-leaf post emergent applied in spring (see table below)	Broad-leaf post emergent applied in spring (see table below). Multiple applications are often needed for perennial broad-leaf weeds.
Pre-emergent Control	Broad-leaf pre-emergent product containing isoxaben applied in late September or early October (see table below)	None

Selective Herbicide Product Types and Weeds They Control		
Herbicide Types	Definition	Typical Active Ingredients and Products
Broad-leaf, Post-emergent	Kills broad-leaf weeds that are up and growing.	Contain 2,4 D, dicamba, and MCCP. In addition some contain triclopyr or carfentrazone. Typical products: Weed B Gone, Trimec, Speed Zone. Ortho Chickweed, Clover and Oxalis killer
Broad leaf, Pre-emergent	Prevents broad-leaf weed seeds from sprouting.	Contain isoxaben. Typical products: Gallery, FertiLome Broad Leaf Weed Control with Gallery

Timing in fall for application of pre-emergent control can be tricky. As I write this in mid-September, I notice that some winter annual weeds (e.g., Hairy bittercress) have already sprouted in my lawn. It is too late to apply pre-emergents to control all winter annuals this fall.

Two final pieces of advice

- Avoid using granular “weed and feed” products. The right time for feeding grass is not necessarily the right time for controlling weeds.
- It is imperative that you read the label for any herbicide very carefully so you know what the product is intended to control, what it does not affect, when to apply, how much to apply, how many times to apply, what temperature range to apply, how long for it to be unaffected by rain, and

#### References

- Establishing Lawns, Virginia Cooperative Extension 426-718, 2009
- Spring and Summer Lawn Management Considerations for Cool Season Turfgrass, Virginia Cooperative Extension 430-532, 2009
- Fall Lawn Care, Virginia Cooperative Extension publication 430-520