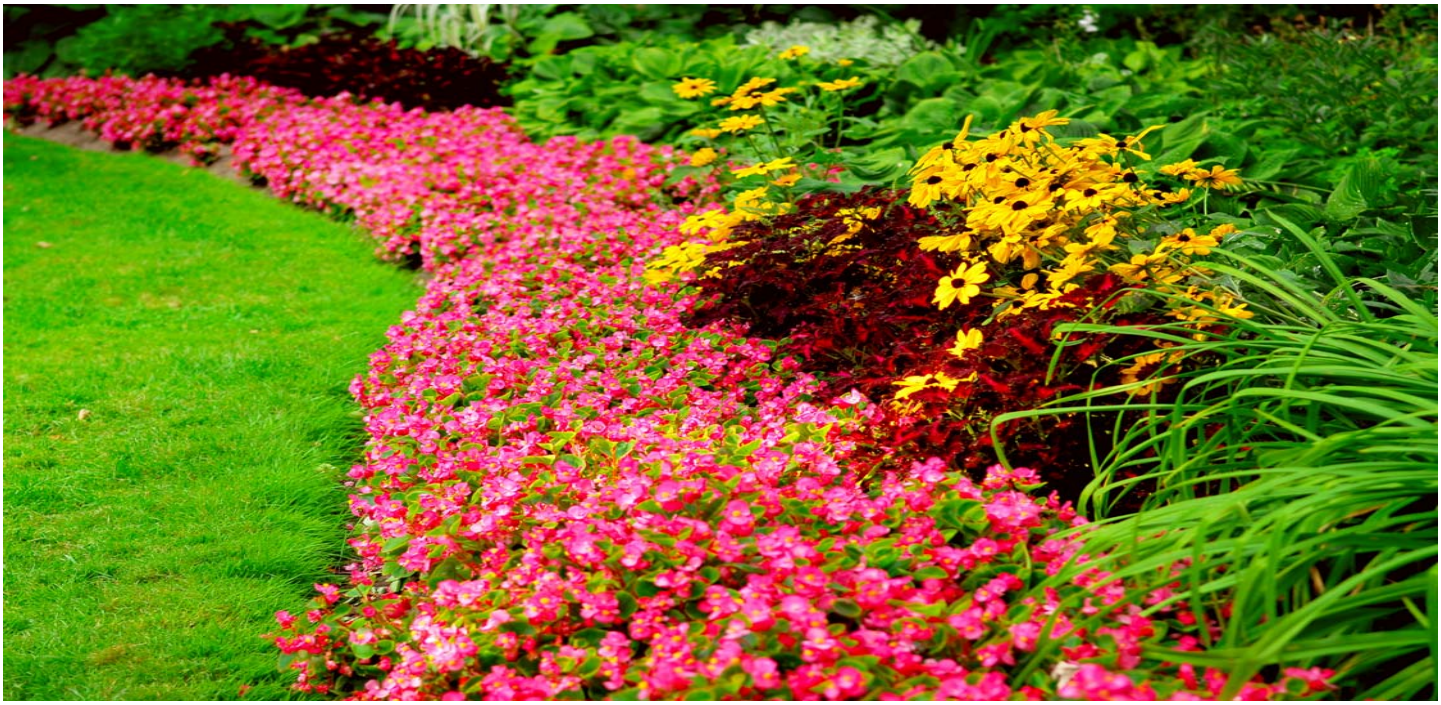
Homeowner's GUIDE

for

Fertilizing Your Lawn and Garden



It is hard to imagine that a green, flourishing lawn could pose a threat to the environment, but the fertilizers you apply to your lawn can be potential storm water pollutants! Your landscape requires nutrients to remain vigorous and healthy. However, if applied improperly or in excess, fertilizers can be washed off your property into the storm drains and end up in the streams and waterways; which eventually lead to the ocean. This potential source of pollutants can cause unsightly algae blooms and aquatic weed growth that lowers dissolved oxygen and releases ammonia, which becomes toxic to aquatic life.

Do you know that a proper lawn fertilization program can actually reduce leaching and runoff? A lawn with a good root system and greater amount of water infiltration occurs. This natural filtering process facilitates the breakdown of various types of organic pollutants and pesticides and significantly runoff by impeding the movement of water.

It is important to follow Best Management Practices (BMPs) when maintaining your landscape to prevent pollution from entering into the waterways. BMPs are sound, common-sense methods that result in a healthier environment. Follow the tips outlined in the following pages for healthy and environmentally friendly lawns and gardens.

Don't Guess.....Soil Test!

Evaluating the nutrient status of your soil is an important step to developing a healthy landscape! The best way to determine if a fertilizer is needed for your yard is to have a nutrient analysis done on your soil[1]. The soil sample should be derived from several sampling locations taken to the depth of the root system. To take a representative composite sample:

- Remove mulch, grass, or thatch (dried grass clipping) from desired testing areas.
- With a clean spade, dig to a depth of 4-6 inches.
- Take 6-12 soil samples around the desired testing areas.
- Mix samples together in a clean bucket.
- Place one cup of soil mixture in a clean container to perform the soil analysis.
- Follow instructions listed within the soil test kit.

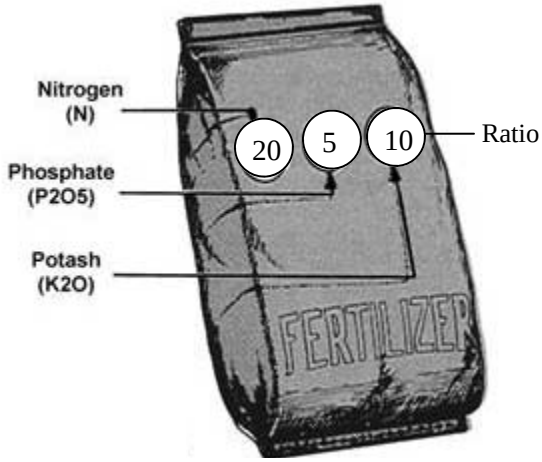
[1] Easy-to-use soil test kits can usually be found at your local hardware store in the gardening section or through the internet.

Looking for Visual Clues

It takes a "trained eye" to know if your lawn actually needs fertilizers and if so what nutrient(s) are needed? That is why a soil test is always the recommended choice to determine the nutrient status of your soil. The appearance of your turfgrass can assist you in determining a nutrient deficiency in your soil and indicates that a soil test should be done.

A nitrogen-deficient lawn has poor color (yellow-green to yellow), slow or restricted growth, poor density with possible weed invasion, and obvious reduction in grass clippings after mowing. Iron deficiency also results in yellowing of young turfgrass leaves, although there is no initial stunting of growth. Phosphorus is the third most common nutrient deficiency. A phosphorus-deficient turfgrass has a dull, blue-green color, which progresses to individual leaf blades, giving them a purple color along their margins and then a reddish ting from the leaf blade tip to the base.

Matching Your Fertilizer to Fit Your Needs



With all the fertilizers on the market, one might wonder how they differ. The nutrient sources are listed on each fertilizers bag in an analysis statement that gives the percentage of each supplied by the product. For example, 20-5-10 is a fertilizer that contains 20 percent nitrogen, 5 percent phosphorus (in the form of phosphate), and 10 percent potassium (in the form of potash).

Choose a fertilizer with the proper ratio of each of the nutrients to correspond to the soil test results. For example, purchasing the 25-5-10 fertilizer would not make sense if your soil test indicates high levels of phosphorus and potassium present.

In most cases, nitrogen is the limiting nutrient that is the basis for applying a fertilizer to a lawn. The availability of nitrogen within the fertilizer is one of the key components in choosing a fertilizer. Nitrogen is either available in fast release forms, slow release forms, or a combination. The percentage of total nitrogen that is water soluble and insoluble is usually listed on the fertilizer bag. In the water soluble form, the nitrogen is available quickly (fast-release), and in the insoluble form it is available through a "controlled-release", commonly referred to as slow release form.

Any fertilizer may "burn" your lawn if applied improperly. Fast-release nitrogen forms are more likely to burn than controlled-release forms.

Using a controlled-release form is important for pollution prevention. Controlled-release fertilizers are manufactured to release the nitrogen gradually throughout the growing season. Controlled-release nitrogen fertilizers are generally more expensive than fast-release nitrogen which can be applied less frequently, has a lower "burn" potential, and deters excessive growth flushes. The typical controlled-release nitrogen fertilizers on the market are: 1) coated soluble fertilizer, 2) sulfur coated urea, 3) Isobutylidene diurea (IBDU), 4) Methylene urea, 5) ESN (neutralized ionic elastomers), 6) polymer-coated ureas, and 7) ureaform. Each one of these products have varying nitrogen release durations and involves varying factors to work properly. Make sure the product label contains complete directions for proper application procedures and that you understand how the product can be used for your specific lawn.

How Much Fertilizer Should You Apply?

The application rate of a nitrogen fertilizer is dependent on the release characteristics as well as the "burn" potential. Applying too much nitrogen in one application is inefficient since the nitrogen not used by the turf can leach through the soil or runoff. In addition, over-fertilizing can cause excessive shoot growth and limit root growth. As a result, mowing occurs more frequently.

To determine the amount of fertilizer to apply, it is important to know your lawn area and to read the fertilizer label. The amount of fertilizer to apply can be determined by this simple calculation:

Calculating the Amount of Fertilizer to Apply				
1. Read the recommended rate of fertilizer application form directions listed on the bag. 2. Recommended rate is usually listed by lbs N/1000 ft^2.				
Recommended rate in lbs N/1000 ft^2	/	% nutrient (fractional basis)	=	Total fertilizer needed/1000 ft^2
Total fertilizer needed/1000 ft^2	X	Area to be treated in ft^2	=	lbs fertilizer needed to treat area
For example, how much 16-8-8 fertilizer[a] do you need to apply at 1.00 lbs N/1000 ft^2 to a 2000 ft^2 lawn?				
1.00 lbs N/1000 ft^2	/	.16	=	6.25 lbs N/1000 ft^2
6.25 lbs N/1000 ft^2	X	2000 ft^2	=	12.5 lbs of fertilizer

[a] *Remember the nutrient analysis on the fertilizer bag is always listed in this order: nitrogen, phosphorus (as P_2O_5) , and potassium (as K_2O)*

Split the application by applying 6.25 lbs of fertilizer and within several weeks apply the other 6.25 lbs of fertilizer. This will further minimize the risk of storm water pollution and provide maintenance of a healthy lawn.

Fertilize Your Lawn,
Not Your Creeks!

Simple Things You Can Do To Protect Water Quality

The misapplication of lawn fertilizer can contribute to surface water pollution if fertilizer is carried into storm drains. By dropping fertilizer onto sidewalks, driveways, streets, or bare soil, homeowners can unknowingly contribute to storm water pollution. Restricting fertilizers to grassy areas mitigates nutrient runoff and channels movement of dissolved fertilizer into the soil, where they can be quickly taken up by lawn roots.

The following tips to protect water quality are separated by what you need to do before, during, and after applying the fertilizer.

Pre-Application

- Calculate the area of landscape that will be fertilized to avoid over-applying.
- All drainage pipes within the fertilized area are to be covered with plastic and securely fastened. Keep plastic on the drainage pipes until you have irrigated your lawn at least two times.
- Calibrate and adjust fertilizer spreaders to prevent misapplication. If you are not sure how to set the spreader, put it on a “low” setting to avoid over-fertilizing.
- Use a tarp or sheet of plastic under the spreader when filling or emptying to prevent spillage.
- Avoid “weed + feed” mixtures. These contain herbicides to control weed growth and often are applied where they are not needed.

During Fertilizer Application

- Maintain a buffer or at least 15 feet for fertilizer applications around sidewalks, garage, driveway and other hardscapes.
- Never apply fertilizers at or near storm drain openings.
- If fertilizer is applied accidentally to hard surface, sweep granules off the hardscape and place back into the bag.
- When applying fertilizer, broadcast it uniformly over the targeted area of the landscape.

Post-Application

- Wash off fertilizer application equipment on the lawn, not on the sidewalk or driveway.
- Irrigate "lightly" following a fertilizer application.
- Adjust sprinklers to avoid over-watering.
    - * Observe how long it takes before your lawn starts "shedding" water off the lawn.
    - * If water flows from your yard, the system is over watering. The timer settings on your sprinklers should be adjusted.

PROJECT Pollution PREVENTION

For more information about BMPs for lawn care please call:

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ZERO WASTE
You Make It Happen