

# Best Management Practices For the Homeowner

## Using Lawn Fertilizers and the Protection of Water Quality

A dense, well-maintained lawn provides many environmental benefits.

- **Every 25-sq. ft. of lawn produces enough oxygen each day for one person.**
- **Lawns reduce noise pollution by absorbing, deflecting and refracting sounds.**
- **Lawns trap and help control dust and pollen in the air that can cause allergic reactions.**
- **Turf absorbs gaseous pollutants (such as carbon dioxide) from vehicles thus serving to combat greenhouse effect implicated in global warming.**
- **A healthy lawn reduces storm water runoff and pesticide and nutrient leaching.**

The use of lawn fertilizers is an essential part of a program to develop and maintain a dense, healthy lawn. When used properly, applications of lawn fertilizers actually reduce or eliminate the possibility of pollution from

runoff. A dense lawn will impede the movement of water in such a manner that water will move into the soil rather than across it in the form of runoff.

A recent university study in Wisconsin found that less than 5% of the total annual precipitation ran off of a sloping lawn. Of that figure, only 1/4<sup>th</sup> of an inch of water was collected as runoff from turf that was not frozen at the time.

Today's modern lawn fertilizers have been formulated to provide the minimum amounts of nutrients necessary to maintain a healthy turf. When the fertilizer is properly applied, the fertilizer will not degrade water quality.

The primary nutrient found to cause the growth of algae and aquatic weeds in streams and lakes is phosphorus. Phosphorus from properly applied lawn fertilizers is rapidly fixed or immobilized following application and **will not run off the lawn**. However, phosphorus occurs in many natural sources that do get carried into storm drains and sewers, impairing water quality. Fortunately, there are several steps or actions, commonly referred to as "Best Management Practices" (BMPs) that a homeowner can do to help keep phosphorus out of storm water runoff and thus protect water quality.

### **1 - Select the proper fertilizer for new or established lawns**

Use a complete fertilizer with high levels of phosphorus when establishing a new lawn from seed, sod or plugs. Phosphorus is needed by young grass plants to promote rapid root development and tillering. Once established, however, the demand for phosphorus by the lawn is reduced but not completely eliminated. Check with your state agriculture extension office for additional information.

### **2 - Read and follow the manufacturer's recommendations and directions for use.**

Before you purchase any fertilizer, make certain that the product label contains complete directions for use. Follow the directions for use carefully and apply as indicated by the manufacturer for best results. Do not over apply these products. Over-fertilization can actually set the grass up for damage by insects, disease and drought. Call the manufacturer if you have any questions or do not understand the directions.

### **3 - Never apply any fertilizer to a hard surface such as sidewalks, driveways or streets. Sweep or blow granular fertilizers off all hard surfaces and back onto the lawn or into the flowerbed.**

Granular fertilizer that remains on sidewalks and driveways may be washed off of these hard surfaces by rainfall and into storm drains and

sewers. To these keep materials off of hard surfaces, do not open spreaders unless fertilizers will fall directly on to the turf. To prevent the over-application of fertilizer to small areas when the material begins to flow, do not open the spreader unless you are walking at normal speeds. Use of a single header strip along the edges of sidewalks and driveways will help prevent granules from falling onto these impervious surfaces. To insure that these nutrients are put to their best use, take a few moments to remove any stray particles and brush them back on to the lawn.

**4 - Do not wash your spreader out over a hard surface.**

The small amount of fertilizer residue left in the spreader after emptying left over material back into the bag can be rinsed out over a corner of the lawn without blemishing the grass. Investing a small amount of time to cleanup properly when you are finished can pay handsome environmental dividends later.

**5 - Do not blow grass clippings or tree leaves onto sidewalks or into streets.**

Leaves from grasses and trees contain significant amounts of soluble nutrients that can be washed into storm drains and sewers. For this reason, never blow grass clippings onto sidewalks or into streets when you mow unless you intend to pick them up.

**6 - Never pile tree leaves in the street.**

Numerous studies have shown that phosphorus can be leached out of a dead tree-leaf and carried into storm drains and sewers without the leaf ever having to move. Always remember that anything you place in a street can find its way into your local streams and lakes. Additionally, leaves, no matter where they are piled, will always attract kids. The street is no place for either.

**7 - Install gutter guards to keep leaves and other plant debris out of the rain gutters and down spouts.**

Leaves and flowering parts of trees contain significant amount of soluble phosphorus. When these natural sources of phosphorus fall onto rooftops and get caught in rain gutters, the phosphorus will leach out of these plant parts and be channeled into storm drains and sewers. To prevent this phosphorus from ever reaching the storm sewers, keep your rain gutters clean. Install gutter guards to help prevent the nutrients in these plant parts from ever reaching the storm sewers. Check and clean out your rain gutters in the spring to remove flower parts and in the fall to remove leaves and seeds.

**8 - Promote the frequent sweeping of streets.**

Frequent street sweeping in the spring and fall can significantly reduce the concentration of phosphorus in storm water. Sweeping the streets will help to remove plant debris and soil particles from new construction and will keep

the nutrients from these materials out of our waterways.

**9 - Do not feed waterfowl.**

A single goose can account for nearly two pounds of phosphorus each year from the droppings. Waterfowl make significant contributions to the aquatic plant growth in the waters on which they reside.

**10 - Cover bare ground with vegetation or mulch to prevent soil erosion.**

Phosphorus is rapidly immobilized after application of fertilizer to a lawn as it becomes chemically bound to soil particles. Once bound to clays, practically the only way phosphorus can move is if the soil particles are eroded and become suspended in storm water runoff. Maintenance of a dense, healthy ground cover such as turf is the best way to prevent soil erosion and thus nutrients from entering into storm drains and sewers. You can prevent soil erosion by using mulch where soils are not fully covered by a dense plant ground cover.