

# Get The Phosphorus Out

## Cutting the Link from Green Lawns to Green Water

Many New Jersey residents will soon be required to use phosphorus-free fertilizer. Over 100 municipalities will be required to adopt ordinances that ban the use of fertilizer containing phosphorus.

Phosphorus has been identified as a significant pollutant in many waterways in the state and phosphorus from fertilizer has been identified as a pollution source. Since most soils have plenty of phosphorus for grass and other plant growth, requiring the use of phosphorus-free fertilizer is one way to control phosphorus pollution that makes environmental and economic sense.

### **What is Phosphorus?**

Phosphorus is an essential nutrient for plant growth and is contained in many fertilizers. Phosphorus is an element found naturally in the air, soil, rocks and organic materials. There are many natural sources of phosphorus such as decomposing plant matter, phosphate rock, and fecal matter. But human activity is the most abundant source, either from household wastewater or fertilizers.

### **Why isn't more better?**

Statewide soil test results indicate that most soils have plenty of phosphorus for plant growth. When phosphorus fertilizer is applied unnecessarily, stormwater washes away the excess phosphorus from lawns and gardens to local waterways.

Phosphorus can be thought of as junk food for aquatic plants. Just one pound of phosphorus can produce 10,000 pounds of algae and aquatic plants. Too much phosphorus can cause algae blooms: reducing water quality and clarity. Also, when the algae bloom is over, and the bacteria start decomposing the algae, it can lead to foul odors and fish kills due to lack of oxygen. These conditions can eventually prevent recreational use for fishing and swimming.

As a result, many New Jersey waterways are considered impaired because the levels of phosphorus in the water exceed the surface water quality standard.

### **From TMDLs and Fertilizer Ordinances**

As the DEP Division of Watershed Management develops Total Maximum Daily Loads (TMDLs), they are submitted to the US Environmental Protection Agency for approval. Once approved, the TMDL is adopted by DEP as a water quality management plan amendment and the adoption notice is published in the NJ Register.

The Department is in the process of adopting each of the phosphorus TMDLs to the appropriate water quality management plan and does not anticipate that there will be significant, if any, change to TMDL implementation plans upon its adoption. The adoption of fertilizer ordinances is part of the implementation plan to reduce phosphorus. These phosphorus TMDLs will affect 110 municipalities, primarily in the northeastern section of the state.

When these phosphorus TMDLs become adopted, the implementation plans become part of the DEP regulatory framework. Municipalities located in those watersheds with phosphorus TMDLs will be required to adopt local ordinances that prohibit the use of fertilizers containing phosphorus except under special circumstances. This adoption of this ordinance will be required through the Municipal Stormwater Permit Program.

A copy of the ordinance is available on the Division website. The ordinance does allow residents to use fertilizer with phosphorus if they can provide a soil test showing a phosphorus deficiency or if they are establishing new lawns or plants. In addition, commercial farming is exempt from the ordinance.

In order for the ordinance to be effective, municipalities should work with their residents to encourage behavior changes with respect to selection and application of fertilizers. The DEP is currently developing strategies and materials for municipalities to use in these efforts.

### **Phosphorus-free Across the Country**

On a national scale, many communities require the use of phosphorus-free fertilizers. From Minnesota to New Mexico, ordinances banning the application of phosphorus-containing fertilizers have been adopted in order to improve water quality. Many communities and agencies work with local retailers and fertilizer producers to insure that appropriate fertilizers are available.

In 2006, the Chesapeake Bay Program announced a Watershed Partnership with the Lawn Care Product Manufacturing Industry to reduce nutrient losses from lawns, including reducing phosphorus from fertilizers. Minnesota established a statewide ban on the use of phosphorus containing lawn fertilizer in 2005.

### **Fertilizer Bag Numbers**

The numbers on a bag of fertilizer refer to the percentages of plant nutrients: nitrogen (N), phosphorus (P) and potassium (K) in the fertilizer. In a 100-pound bag of 5-10-10 mixture, for instance, there would be 5% (5 pounds) of nitrogen, 10% (10 pounds) of phosphorus and 10% (10 pounds) of potassium.

A phosphorus-free fertilizer would have a middle number of zero, such as 10-0-5.

These nutrients are necessary for plant health and growth. Nitrogen is needed for healthy green growth and regulation of other nutrients. Potassium and phosphorus help proper root and seed development and disease resistance.

