



Berkshire Fundamental Phosphorus Facts



Phosphorus is one type of nonpoint source (NPS) pollutant. Phosphorus and nitrogen can come from lawn and garden fertilizers and phosphorus and bacteria can come from septic systems. Phosphorus and other pollutants can also be bound to sediment particles that can come from parking lots, roadways, construction sites, and soil erosion. Excessive nutrients, such as phosphorus, stimulate algal and plant growth, limiting the recreational use of the lake (fishing, swimming and boating) and degrading wildlife habitat.

Phosphates and Detergents

The Federal government limit on the phosphorus content of laundry detergents (<5% by weight) in the 1970's. There is, however, no Federal regulation of the phosphorus content of dishwashing detergents. Phosphate content in various dish detergents sold in Massachusetts ranges from 0% to 8.7%.



To improve and protect the lake quality, it is important to make wise consumer choices when it comes to buying automatic dishwashing detergent. Read product labels for phosphorus or phosphate levels before making a purchase: The lower the of phosphate percentage, the better. If the package does not indicate the phosphorus content, beware.

Look for low phosphate or phosphate free detergents wherever you can!

Zero-phosphate or low-phosphate dish detergents are readily available in most commercial stores. There is often a limited selection of zero-phosphate or low-phosphate automatic dishwasher detergent found in commercial stores. One familiar brand is **Palmolive Gel** detergent, which has a phosphorus content of 1.6% and can be found in most commercial stores.

Other options include **Seventh Generation, President's Choice, Bi-O-Kleen, Shaklee, Ecover, Country Save, Enviro-Links, Earth Friendly Wave, Life Tree, Ultra Citra-Dish,**

and **Ecos** which make zero-phosphate detergents. These products may need to be specially ordered through the internet, mail order, or purchased through Health Food Markets.

Phosphate levels in commercial dishwashing detergents	
Dishwashing detergents	Phosphate content
Palmolive Gel	1.6%
Cascade Complete: Liquid	4.0%
Cascade Complete: Gel	4.0%
Sunlight Gel	4.3%
Cascade PureRinse	4.4%
Sunlight Tablets	8.7%
Electra-Sol Tablets	8.7%
Palmolive Tablets	8.7%

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Fundamental Phosphorus Facts

Lawn Fertilizers

Homeowners take great pains to ensure that their lawns are thick and lush, and to achieve this they often apply fertilizers to help grass grow. Fertilizer is a “growing” problem for lakes, rivers, and streams, especially if it’s not used carefully. If you use too much fertilizer or apply it at the wrong time, it can easily wash off your lawn or garden into storm drains and then flow into lakes or streams. Just like in your garden, fertilizer in lakes and streams makes plants grow. In water bodies, extra fertilizer can mean extra algae and aquatic plant growth. Too much algae causes water quality problems and makes boating, fishing, and swimming unpleasant. As algae decay, it uses up oxygen in the water that fish and other wildlife need.

What to Look for When Shopping for Fertilizer

Watershed Friendly Lawns (Dos and Don'ts)

- Do** have your soil tested before applying fertilizers to your lawn and gardens. A standard soil test costs \$13.00. You may not need to add any fertilizer. (Call the UMass Extension Soil Testing Lab at (413) 545-2311 or download a soil test order form at www.umass.edu/plsoils/soiltest.)
- Do** maintain grass at 2 1/2-3”, this will create a better root system and more drought resistant grass
- Do** use fertilizer sparingly. Many plants don’t need as much fertilizer or need it as often as you might think.
- Do** close the gate on your fertilizer spreader when crossing hard surface areas.
This step will ensure that fertilizer will be absorbed by the soil and not washed directly into the water system.
- Do** leave a buffer zone of unmanaged grasses or natural vegetation along a shoreline.
- Do** consider using organic fertilizers, they release nutrients more slowly, or use Slow Release Fertilizers (see guide below)
- Do** recycle your grass crop
Leave grass clippings on your lawn. Grass clippings are a cheap source of slow release nitrogen fertilizer that adds organic material to your soil. If you prefer to remove grass clippings from your lawn, compost them.
- Don't** apply fertilizer in natural drainage areas.
- Don't** apply fertilizers directly into surface water or onto frozen ground.
- Don't** fertilize before a rain storm.
During a storm the fertilizer will wash off into the street and enter the nearest waterway. Check the forecast before you fertilize.

Most lawn fertilizers contain a blend of the three major nutrients that plants typically need, nitrogen (N), phosphorus (P) and potassium (K). The amount of each nutrient in the fertilizer is printed on the bag as a ratio, for example, a "2-3-3" fertilizer contains 2% nitrogen (N), 3% phosphorus (P) and 3% potassium (K). In addition to the nutrient ratio, look for the percent of each nutrient that is **water soluble** (inorganic) and **water insoluble** (organic). The amount of soluble versus insoluble fertilizer is important because **water soluble** or "*quick-release*" fertilizers are much more likely to wash off your lawn. **Water insoluble** or "*slow-release*" fertilizers, take longer to become available to plants and sustain plants over a longer period of time.