



UConn Soil Nutrient Analysis Laboratory

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Your Lawn and The Phosphorus Law

In 2012 the Connecticut legislature passed a bill regulating the use of phosphorus on established lawns. The bill went into effect on January 1, 2013. This legislation was enacted because of a little known fact about phosphorus: it is the number one cause of declining water quality in fresh water lakes and ponds in Connecticut.

Anyone who has purchased fertilizer knows that each package comes with a guaranteed analysis or grade consisting of three numbers such as 5-10-5. These numbers stand for the percent, on a dry weight basis, of nitrogen, phosphorus as phosphate and potassium as potash contained in that particular fertilizer. Fertilizers contain these three nutrients because they are often needed by cultivated plants in larger quantities than most native soils can supply for optimal plant growth. Plants need a number of other elements too, but they are usually supplied either by the soil itself or by additions of limestone and organic matter.

Typically nitrogen is associated with green leafy growth and that is why many lawn fertilizers have an analysis like 24-2-8, where the nitrogen content is proportionately high relative to the phosphorus and potassium. Phosphorus is essential for root growth and flowering, and potassium helps regulate water movement as well as increasing the plant's ability to withstand stresses like disease and winter injury.

When fertilizers, either organic or synthetic, are applied in the correct amounts and at the appropriate times during the growing season, plants will do well and the risk of nutrients entering water bodies will be minimized. Both nitrogen and phosphorus will cause problems when they enter lakes, streams, ponds and other water sources. Because phosphorus especially is low in concentration in native water sources, even the addition of small amounts will stimulate the growth of algae and other water plants and the water body will become eutrophic. As the lush aquatic plant growth dies and decomposes, oxygen levels in the water body become reduced often resulting in fish kills. The bottom line is that phosphorus contamination results in lakes that are undesirable for swimming, fishing and other recreational activities.

The phosphorus that enters water bodies primarily comes from wastewater treatment plants, failing septic systems and fertilizers. Many towns are spending large sums of money to reduce phosphorus from wastewater discharges, and many are working with homeowners that reside near water bodies to rectify problems with septic systems. The Connecticut legislature decided that the decline in water quality was significant enough to merit restrictions of phosphorus-containing fertilizers on established lawn areas. Golf courses and agricultural land are exempt from this regulation.

What will this law mean for those responsible for maintaining a lawn area? If seeding or sodding a new lawn area or overseeding an existing lawn, no changes to your fertilizer regimen is needed. Typically new plantings of any crop benefit from the addition of some phosphorus to aid in root growth establishment so turfgrass starter fertilizers or complete garden fertilizers can be used at rates recommended on the package or by a soil test report.

Established lawns do not have high phosphorus requirements and once optimum amounts are established in the soil you will supply sufficient phosphorus for good growth simply by leaving grass clippings on the lawn. The new legislation prohibits the application of lawn fertilizers containing phosphorus on

established lawns unless a soil test, done within the past two years, shows that phosphorus is deficient and phosphorus needs to be applied. A quick glance at some name brand fertilizer websites shows that many of the larger companies have no-phosphorus synthetic fertilizers available, most likely in response to the growing number of states that are passing laws restricting phosphorus fertilizer use.

The biggest challenge is going to be for those wanting to maintain their lawns using natural organic lawn fertilizer products because it is much easier to manufacture chemical fertilizers that do not include phosphorus than it is to remove phosphorus from an organic fertilizer or soil amendment such as fish meal or compost.

Some choices for materials that contain low or no phosphorus include: Corn gluten (9-0-0) or bloodmeal (12-0-0) can be used to supply nitrogen to lawns, and OMRI certified potassium sulfate (0-0-50) and sul-po-mag (0-0-22) may be used to supply potassium. There are a few blended organic fertilizers that are appropriate for lawns and that do not contain phosphorus.

Any fertilizer, soil amendment or compost that contains less than 0.67% phosphorus is exempt from the phosphorus restriction. Composts made from only leaves typically contain low amounts of phosphorus and could be used to topdress established lawns to improve organic matter levels if necessary. We recommend you test any compost or soil amendment for phosphorus content before application. The University of Maine (<http://anlab.umesci.maine.edu/>) and Penn State University (<http://aasl.psu.edu/>) have laboratories that test compost for nutrient content.

The legislation also restricts the application of phosphorus-containing fertilizers to lawn areas between December 1 and March 15. The University of Connecticut, however, recommends applying fertilizers, to lawns or to any other plants, only between April 15 and October 15 when plants are typically still actively growing.

No fertilizers containing phosphorus can be used on lawn areas that are less than 20 feet away from any body of water unless applied with a drop spreader, rotary spreader with a deflector or targeted liquid spray in which case the application may be within 15 feet of a water body. Phosphorus containing fertilizers are also not to be applied to any impermeable surface. The CT Department of Agriculture is responsible for enforcement of this law.

If you have questions about the phosphorus legislation or soil testing, you can call the Soil Nutrient Analysis Laboratory (860) 486-4274 from 8:30 am to 4:30 pm Monday to Friday.

By Dawn Pettinelli, Associate Extension Educator and Thomas Morris, Professor Emeritus, 2013, revised 2023.

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