GREENWorks

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Green Grass and Blue Water:
Water Friendly Lawn Care Recommendations

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Spring is around the corner and homeowners throughout New Hampshire and New England are eager to see more green around them…except in their local streams, lakes and bays. Algal blooms in water bodies are often a result of excess nutrients (phosphorus and nitrogen). When the algae die and decompose they rob the water of oxygen ordinarily used by aquatic animals. Fresh water algae are considered more sensitive to phosphorus (P) levels and estuarine and marine water algae are more sensitive to nitrogen (N) levels. Many New Hampshire communities are becoming more concerned about increasing nutrient levels in local waterbodies because of the effects excess nutrients can ultimately have on water quality, public health and property value.

Excess nutrients can come from several sources including wastewater effluent, faulty septic systems, agricultural and pet waste, and the atmosphere, as well as from runoff containing residential and commercial fertilizers. Excess fertilizer applied in the quest for a green lawn near streams, lakes and bays, can contribute phosphorus and nitrogen to waterbodies.

To keep our waters healthy, the ultimate goal is to reduce the flow of nitrogen and phosphorus from lawns into local waterbodies. Research indicates that trees and shrubs along waterbodies - even tiny streams, offer some of the best protection for water quality. However, New Hampshire has experienced a significant conversion of forests and fields into residential development over the last few decades resulting in increased opportunities for nutrient runoff.

In your own backyard, you can use practices that are healthy for your lawn and surrounding waters. Studies show that in New Hampshire many mature established lawns planted over ten years ago, don't need additional fertilizers and newer lawns may require less fertilizer than you originally thought. Below are some recommendations on practices that are sensitive to water quality broken down for lawn care with and lawn care without fertilizers.

Recommendations for Lawn Care without Fertilizer:

1. Mow high (3 inches or higher), cut no more than 1/3 of the blade to encourage longer, stronger turfgrass roots, and leave the clippings after mowing to provide a source of slow release nutrients. This practice is also recommended when applying fertilizers.
2. When seeding or overseeding use grass varieties that require less maintenance. In northern New England choose seed mixes with higher percentages of turf-type tall fescues, compact-

type tall fescues and/or fine fescues and smaller percentages of Kentucky bluegrass and/or perennial ryegrass. Overseeding may solve what fertilizer cannot.

3. Incorporate white clover into the lawn. It naturally fixes nitrogen in the soil. If someone in the household is allergic to bee stings, use another type of low growing legume or disregard this recommendation.
4. Do a soil test if the lawn condition is unacceptable. Sometimes only adjustments to pH or soil organic matter are what are needed. If soil test results come back as acceptable, then it may be necessary to check for other problems such as pest infestations.
5. Manage expectations. Grass requires abundant sun and some additional maintenance. Consider limiting lawn area to sunny locations where lawn will actually be used for playing, picnicking and other activities. Make health and safety of children, pets and the environment a top priority.

Recommendations for Lawn Care with Fertilizer:

1. Calibrate the fertilizer spreader and use only the portion of the bag that is needed and store or share the remainder.
2. Measure the dimensions of the area where you plan to apply.
3. Do not apply any fertilizers in vegetated buffers and lawns within 25 feet of waterbodies.
4. Select lawn fertilizers with no phosphorus unless your soil test indicates otherwise.
5. Apply no earlier than spring green up and no later than mid-September. Applying fertilizer when the soil temperature is too low increases the likelihood of nutrient losses off the lawn.
6. Avoid combination products that include pesticide and fertilizer. They may result in soil and water contamination by unnecessary nutrients and pesticides at unnecessary cost.
7. Slow release formulations (those containing >50 percent water insoluble nitrogen) are generally preferable to soluble, fast release formulations. Under certain limited circumstances, quick release products may be preferable e.g. when there is a need to grow turf very quickly to prevent erosion of bare soil during a new seeding.
8. For lawns greater than 10 years old, set a target maximum loading rate of 2 lbs N/1000ft^2 per year.
9. Calculate the amount of fertilizer needed based on the size of the area, the desired rate of application and the proportion of N in the formulation listed on the bag. Use the calculator at: http://www.cag.uconn.edu/ces/sustainability/fertcalc.html.
10. Alternatively, apply one-half to one-third (or less) of the amount recommended on the fertilizer bag label and monitor the turf response. Reapply at the reduced rate only when the lawn response falls below acceptability. Expect a slower response from slow release products.

For more information about these recommendations contact:
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These recommendations are adapted from a set compiled by Karl Guillard PhD, Professor of Agronomy at the University of Connecticut, for a New England-wide cross-disciplinary project (USDA CSREES Grant # 2006-51130-03565) coordinated by UNH Cooperative Extension, Water Resources.