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CLA Water Quality Group Newsletter
May 2024

Lawn Fertilizer Use Around the Lake

Phosphorus and nitrogen are used in fertilizer because they promote plant growth. When these nutrients wash into the lake from stormwater runoff, they also promote excess plant growth in the lake, which can stimulate the growth of algae or toxic cyanobacteria, reduce water clarity, or reduce water oxygen levels needed for fish and other aquatic life to survive.

The New Hampshire Department of Environmental Services (DES) recommends having your soil tested to determine if your lawn needs fertilization. If so, DES recommends a single application at the beginning of fall. To reduce the need for fertilizer, DES also recommends leaving grass clippings and leaf litter on your lawn to break down and return nutrients to the soil.

If you do use fertilizer, there are some important limitations in the Shoreland Water Quality Protection Act to be aware of.

- Use of fertilizer is prohibited within 25 feet of the reference line (the shoreline) of public waters.
- Between 25 and 250 feet from the reference line, only slow or controlled release fertilizer may be used. Slow or controlled release fertilizer means fertilizer that is guaranteed, as indicated on the package label, to contain:
  - At most 2% phosphorous, and
  - A nitrogen component that contains at least 50% slow- release nitrogen (also called *slowly available nitrogen* or *water insoluble nitrogen*).
- No chemicals, including organic pesticides, can be applied within 50 feet of the reference line, except by a licensed professional.

What Lawn Fertilizer Can I Use?

Widely available commercial fertilizers such as those from Scotts generally have no phosphorus or very low phosphorus content. However, they are not suitable for use within 250 feet of the shoreline because they generally fail to meet the DES requirements for slow-release nitrogen content. They usually have *some* slow-release nitrogen, but not enough to meet DES requirements.

Check the label before buying fertilizer. For example, a package of Scotts Turfbuilder is labeled 32-0-4 (32% nitrogen, 0% phosphorus, 4% potash). This product is sometimes advertised as “slow release” because it has *some* slow-release content, but the label indicates “Contains 9% slowly available Nitrogen...”. So only 28% of the total nitrogen component is slow release, less than the 50% required by DES. (To relate the package label to the DES requirement, divide the slow-release nitrogen content by the total nitrogen content. In this case, 9 divided by 32 is 0.28, or 28%.)

Nice green lakeside lawn two weeks after application of DES-compliant Green Thumb 27-0-3 Lawn Food.

Two fertilizers that comply with the DES rules for use 25 to 250 feet from the shoreline are:

- **Green Thumb 27-0-3 Lawn Food** (50% of the nitrogen is slow release)
- **Jonathan Green 10-0-1 Organic Lawn Food** (95% of the nitrogen is slow release)

These products are available from True Value hardware outlets, some Agway stores, or from Amazon and other online vendors. Sources near Crescent Lake:

- **Depot Home Center** in Charlestown (True Value outlet) stocks some Green Thumb and Jonathan Green products and can order others.
- **Lambert Supply** in Claremont (True Value outlet) can order either product.

Keep in mind that slow-release fertilizer works over time, and your lawn will not green up as quickly as you may be used to with popular brands.

For more information:

- DES Environmental Fact Sheet SP-2, *Lawn Care Within the Protected Shoreland*: https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/sp-2.pdf
- DES Environmental Fact Sheet WD-BB-20, *Phosphorus: Too Much of a Good Thing*: https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/bb-20.pdf
- University of New Hampshire (UNH) labs soil testing service (mail in or drop off sample): https://extension.unh.edu/agriculture-gardens/pest-disease-growing-tools/soil-testing-services

Rain Gardens and Vegetative Swales

If April showers bring May flowers, what do May showers bring? More stormwater runoff! Did you know that the EPA estimates that 70% of all water pollution comes from stormwater runoff? It brings with it the nutrients and pollutants that support the growth of aquatic invasive species such as milfoil and cyanobacteria. These are detrimental to the water quality of our lake, not to mention our property values. There are things we can do to help keep Crescent Lake clean and free of stormwater pollutants. We can **Soak up the Rain!**

Rain Gardens

If you want an attractive way to absorb stormwater runoff, consider planting a *rain garden*. A rain garden is a sunken, flat bottomed, level garden planted on permeable soil for filtration. Compared to a conventional lawn, rain gardens allow for 30% more water to soak into the ground. In doing so, they remove most of the nutrients, chemicals and sediments from stormwater runoff.

Rain Garden (*VT Lake Wise Program*)

Plant a rain garden in a depressed area of your yard or on a natural slope where water tends to run off from driveways, roofs, downspouts, etc. Look for areas where soil has eroded or where ground retains water. Plant with native plants, flowers, grasses, bushes and shrubs. This makes for minimal maintenance, eliminates the need for fertilizer, and protects from invasive species. Because rain gardens are built on soil that drains quickly, they don't store water or attract mosquitoes.

Vegetative Swales

A *vegetative swale* is similar to a rain garden in that it absorbs stormwater runoff. It is different in that it is planted along a road or driveway or on a naturally occurring slope to redirect water runoff. In this way it can prevent soil erosion while it absorbs and slows the flow of water. Vegetative swales do best when planted with dense grasses or hardy plants to prevent rushing stormwater from destroying the vegetation.

Vegetative Swale (*Michigan State University*)

Although swales are not as effective as rain gardens in removing nutrients from the soil they can be effective in filtering particle pollution and redirecting runoff. They can be built to drain into a rain garden. Like rain gardens, vegetative swales require design, installation and maintenance.

A rain garden or vegetative swale can be a natural and effective way to reduce stormwater runoff and therefore pollution of our lake. With some preparation and hard work they can serve a purpose while bringing insects, birds, butterflies and beauty into your yard. There is a bit of effort that goes into designing and planting a rain garden or vegetative swale but the Soak up the Rain NH program has created detailed DIY fact sheets that will help you with your efforts, or you can hire a landscaper!

Soak Up the Rain NH program:

- https://www4.des.state.nh.us/SoakNH/
- https://www4.des.state.nh.us/SoakNH/wp-content/uploads/2016/03/Native-Plants-for-NH-Rain-Gardens_20160322.pdf

Vermont Lake Wise Program:

- https://dec.vermont.gov/sites/dec/files/wsm/lakes/Lakewise/docs/LP_BMPVegetatedSwales.pdf
- https://dec.vermont.gov/sites/dec/files/documents/LakeWiseInfoSheet_RainGardens.pdf

Save the Date:
The Second Annual Crescent Lake Water Quality Forum
June 29, 2024

THANK YOU for your involvement and interest to Protect Crescent Lake!

Have Questions? Email: clwaterquality@gmail.com