UCONN | COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

NEMO Bulletin

CT NEMO is a part of the Center for Land Use Education and Research at UConn.

Minimizing Pollution and Maximizing the Effectiveness of Lawn Fertilizer

Michael Dietz, Ph.D.
CT NEMO Director
July 2017

nemo.uconn.edu
nemo@uconn.edu
860-345-4511

NEMO (Nonpoint Education for Municipal Officials) provides information, education and assistance to local land use officials and other community groups on how they can accommodate growth while protecting their natural resources and community character.

Minimize Pollution

Although many improvements have been made in the water quality of Long Island Sound, pollution from nitrogen still leads to excess algae growth and low oxygen in certain parts of the Sound. Stormwater runoff from lawn fertilization is one source of nitrogen pollution. The following recommendations are based on the research of leading turf scientists in New England. By taking some of the following actions in your yard, you can help to improve the health of Long Island Sound:

- If an unfertilized lawn is considered acceptable, then do not fertilize.
- Return clippings to lawn and mow as high as can be tolerated (at least 3 inches). This practice can reduce nitrogen needs (and your fertilizer cost) by 50%.
- Test soil to determine if fertilization is needed. For information on having your soil tested and getting fertilizer recommendations, visit http://soiltest.uconn.edu and select "soil testing."
- If planting a new lawn or reseeding, choose grasses such as fescues that require less nutrient and water inputs.

Use the Right Formulation for YOUR Lawn

- If a soil test shows that phosphorus (P) and potassium (K) are adequate, only apply nitrogen fertilizer. Applying more than what is called for wastes your money, adds to pollution and doesn't make your lawn healthier.
- If fertilizing, slow-release fertilizers are better than soluble, fast release formulations.
- For new turf, if soil organic matter is below 3% (your soil test results will give you this value), incorporate compost or another organic matter to raise the OM in soil to at least 3% (preferably 5%).
- Avoid using combinations that include both fertilizers and pesticides. You may be over-applying harmful pesticides when they are not really needed.

Apply the Right Amount

- If adding nitrogen fertilizer, set a target maximum rate of one half (or less) of the bag recommendation, with a maximum annual application rate of 3.25 lbs of total nitrogen for every 1000 ft^2. Less fertilizer should be applied if you live near an environmentally sensitive area, such as next to a wetland or waterbody.

NEMO CLEAR

Riparian buffer along the water's edge.

Gutter downspout discharging to lawn.

Fertilize at the Right Time

- Do not apply fertilizer before spring greenup, or after October 15.
- Do not apply any fertilizer if major rain is expected within 48 hours. Excess fertilizer can wash off into the stormwater system, which leads directly to local streams.

Fertilize in the Right Place

- Do not apply ANY fertilizer or pesticide to turf that borders a waterbody.
- If property borders a lake/pond or river, leave a buffer of unfertilized grasses or other vegetation of at least 20 feet.
- Apply fertilizer carefully so that excess doesn't land on hard surfaces like sidewalks and driveways. The next rain event will wash the fertilizer into the storm system where it will be discharged to the nearest waterbody, where it causes problems.

Other Useful Tips

Trying to figure out how big your lawn is? Use our rain garden app or website! The sizing tool on the website or in the app allows for you to zoom in on your location and outline the shape of your roof, to measure the area. However, you can outline a shape on any area, including your lawn. Use this tool to figure out how big your lawn is to help determine how much fertilizer to apply. Visit our website here: http://nemo.uconn.edu/raingardens, or search for "rain garden" in the Google Play store (Android) or the App Store (iOS). It's free!

References

Guillard, K. (editor). 2008. New England Regional Nitrogen and Phosphorus Fertilizer and Associated Management Practice Recommendations For Lawns Based on Water Quality Considerations. Turfgrass Nutrient Management Bulletin B-0100, *University of Connecticut Department of Plant Science and Landscape Architecture.*

NEIWPCC. Final Report to the New England and New York State Environmental Agency Commissioners: Regional Clean Water Guidelines for Fertilization of Urban Turf. New England Interstate Water Pollution Control Commission. 30 pp.