DELAWARE DEPARTMENT OF
NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

Urban Nutrient Management (Liveable Lawns)

Stormwater runoff from yards is considered one of the most significant sources of pollutants to U.S. waterbodies. Although all plants need nutrients like nitrogen and phosphorus for healthy growth, elevated nutrient levels in stormwater can negatively affect water quality. Individual lawns and gardens seem small, but collectively the total area of lawns is significant. Properly applying fertilizer as part of a lawn care regimen can enhance plant growth without polluting the environment.

By applying urban nutrient management fertilization practices, fertilized lawns can efficiently incorporate nutrients while minimizing the nutrient runoff that could damage water quality. Homeowners and lawncare professionals should follow Delaware's Livable Lawns Program to reduce fertilizer runoff from lawns.

Design Considerations

Practices to apply when following Delaware's Livable Lawns urban nutrient management program:

- Leave grass clippings on your lawn.
- Include more than just grass in your landscape.
- Test your soil to verify that fertilizer is needed before applying it to your lawn.
- Apply fertilizer according to directions.
- Sweep excess fertilizer and lawn clippings off your sidewalks and driveways.
- Wait to fertilize until the fall.
- Establish a no-mow buffer around waterways.

Benefits

- Reduces the risk that nitrogen and phosphorus will enter stormwater or groundwater.
- Improves lawn productivity while protecting the environment.
- Promotes healthy lawns that:
  - Prevent erosion
  - Provide cooling
  - Reduce dust and mud
  - Remove pollutants from the environment
  - Absorb carbon dioxide and produce oxygen
  - Provide a safe, comfortable surface for athletic and social activities
  - Add green areas to the urban environment

Set mower height to 3.5 inches or taller to keep grass healthier and more drought resistant. (Source: ©AdobeStock)

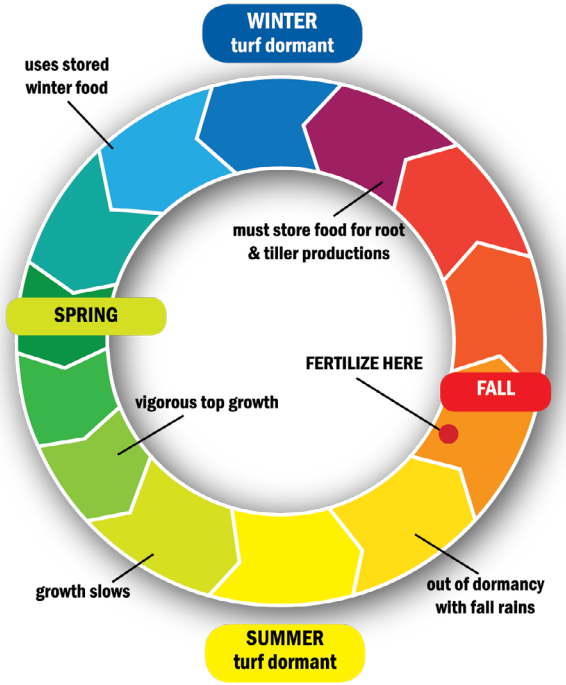
Maintenance

- Use a professional landscaper that is a certified Livable Lawns company (https://www.delawarelivablelawns.org/certified-businesses) or follow the Livable Lawns guidelines yourself.
- Apply a preemergent herbicide to lawn in early spring (April) if you had a crabgrass problem the previous year. Apply a small amount of fertilizer for green-up if necessary.
- Cut your lawn often enough to return clippings to the lawn. Maintain a height of at least 4 inches.
- Reseed or renovate lawns in mid to late August.
- Fertilize your lawn in September and again in October (if necessary).

Limitations

- Takes time to determine the correct amount of fertilizer to apply to your lawn when first applying urban nutrient management practices.
- Takes time to conduct a soil test and wait for results rather than fertilizing without a soil test.
- Must water newly established seeds or sod daily to keep the soil moist until seeded areas have reached 1.5 inches in height (about three weeks after emergence) or sod is well-rooted and cannot be lifted easily.
- Limit fertilization in spring because the grass puts its energy into growing leaves so you must cut your lawn more frequently.
- Avoid fertilizing in late spring or early summer when most cool season grasses are stressed and susceptible to diseases, insects, and weeds.

Why Fertilize in the Fall?



Fertilizer Recommendations:

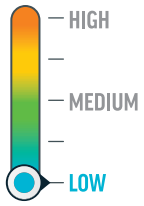
Turfgrass catagories	Cool season grasses	Warm season grasses
Examples	tall fescue, perennial ryegrass, fine fescue, Kentucky bluegrass	bermudagrass, zoysiagrass
Total N/year	1.5-3 lbs N/1000 square feet	
Rates and dates with less than 35% slowly available N (in lbs N/1000 sq. ft.)	March-June 15: 0.5 lb* Sept: 1 lb Oct: 1 lb Nov: 0.5 lb	May: 1 lb June: 1 lb July/Aug:1 lb
Rates and dates with 35% or more slowly available N (in lbs N/1000 sq. ft.)	September: 2 lb or August: 1.5 lb October: 1.5 lb	May: 1.5 lb July: 1.5 lb

* Spring fertilization is optional and only used to get quick spring green up.

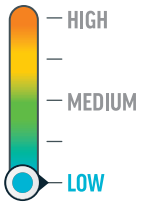
Note: lb = pound; N = nitrogen

Fertilize in the fall for denser, healthier, more deeply rooted lawns (Source: Delaware Department of Natural Resources and Environmental Control)

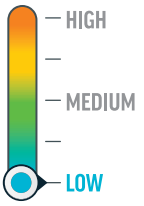
Implementation Considerations



Land Requirement



Level of Engineering



Maintenance Burden

Cost

$-$$

Environmental and Homeowner Benefits

Contaminants Reduced

Stormwater Runoff Reduced

Erosion Control

Stream Health Improved

Additional Resources:

Ask Extension, University of Delaware Cooperative Extension. https://www.udel.edu/academics/colleges/canr/cooperative-extension/ask/

Delaware Livable Lawns: Help save Delaware's rivers and bays one lawn at a time! https://www.delawarelivablelawns.org/

Delaware Livable Lawns: 7 Steps to a Livable Lawn. https://www.delawarelivablelawns.org/7-steps-livable-lawn

Delaware Soil Testing Program, University of Delaware Cooperative Extension. https://www.udel.edu/academics/colleges/canr/cooperative-extension/environmental-stewardship/soil-testing/

Lawn and Garden, University of Delaware Cooperative Extension. https://www.udel.edu/academics/colleges/canr/cooperative-extension/environmental-stewardship/lawn-and-garden/

Master Gardener Helplines, University of Delaware Cooperative Extension. https://www.udel.edu/academics/colleges/canr/cooperative-extension/environmental-stewardship/master-gardeners/garden-helpline/