UNIVERSITY of NEW HAMPSHIRE
COOPERATIVE EXTENSION

Family, Home & Garden Education Center
practical solutions to everyday questions
Tollfree Info Line **1-877-398-4769**
M-F • 9 AM - 2 PM

Fertilizing Home Lawns

Fertilization is one of the most important aspects of lawn care. A properly fertilized lawn is more dense, darker green and has fewer weeds than one which is under-fertilized (or never fertilized). Few of our native soils contain enough of the most important nutrients needed by turfgrasses: nitrogen, phosphorus and potassium. As a result, lawns need supplemental fertilizer to maintain vigorous and healthy growth.

An inexpensive soil test will determine the soil's pH and overall fertility status. For a soil test kit, stop by your local UNH Cooperative Extension county office or call Extension's Family, Home & Garden Education Center Info Line at **1-877-398-4769**, Monday through Friday, 9 AM-2PM.

Fertility options for home lawns

What to buy? When to apply? Fortunately, there are several effective products on the market (both organic and synthetic). The calendar and comments below serve only as a guideline.

Maintenance Level	***Timing***	***Comments***
None	Never	Crabgrass galore!
Lower (1x/yr)	Fall	Efficient & economical
Moderate (2x/yr)	Spring & Fall	Good over-all choice
Higher (3x/yr)	Spring, Summer & Fall	Season long beauty

Fertility needs during the year

Fall

Fall is a recovery time for turfgrasses. Warm days and cool nights are ideal for producing new growth in both roots and leaves. Early fall is often considered the most efficient time of the year to fertilize a lawn with products containing nearly equal amounts of nitrogen, phosphorus and potassium.

Spring

Spring also represents a time for new growth. While nature alone helps stimulate spring green-up, most turfgrasses benefit from fertilizer. Starter-type fertilizers which generally contain more phosphorus than nitrogen are best for spring feedings. Additional phosphorus helps initiate root development and early establishment of young seedlings.

Summer

Most turfgrasses turn brown and go dormant during the hot periods of summer without additional water. Fertilize the summer lawn only with light applications of products containing mostly slow-release nitrogen sources (including organics) to avoid burning.

Nutrient functions

Nitrogen

Turfgrasses require nitrogen in larger quantities than other essential nutrients, as is involved with nearly all growth and development processes. Increased top growth, darker green color and denser turf are generally associated with moderate (2 applications per year) nitrogen levels.

Phosphorus

Phosphorus helps seedlings establish rapidly and develop strong roots. Most turfgrass rooting occurs in the spring and fall.

Potassium

Among its various roles, potassium helps in cell wall development and regulates water movement within the plant. Adequate potassium levels can improve drought and wear tolerance. A nitrogen-to-potassium ratio of 4:3 is desirable.

Characteristics of Nitrogen Fertilizers

Fertilizer Name	Nitrogen (%)	Low Temp. Response	Residual N Activity	Leaching Potential
Fast release				
Ammonium nitrate	33	rapid	4-6	high
Ammonium sulfate	21	rapid	4-6	high
Urea	46	rapid	4-6	moderate
Slow-release				
Synthetic Organic				
Sulfur-coated urea	22-38	mod. rapid	10-15	low
Once	24-35	mod. rapid	15-36	low
Scotts Poly-S products	16-40	medium	12-24	low
IBDU	31	mod. rapid	10-16	mod.- low
Nitroform	38	slow	10-30	very low
Fluf	18	medium	6-10	low
Nutralene	40	medium	10-16	low
Methylene urea	39	medium	7-9	low
Natural/Organic				
Sustane (turkey waste)	5	medium	10-12	low
Milorganite (activated sludge)	6	slow	10-12	low

Where trade names are used for identification, no product endorsement is implied nor is discrimination intended against similar materials.

Safety first: protecting shallow wells and surface waters

Once applied, fertilizers and pesticides may move downward through soil (leach) or move over soil surface (run-off), posing possible threats to water quality.

New Hampshire's Shoreland Protection Act prohibits application of any fertilizers but limestone, slow-release nitrogen and low-phosphorus products within 250 feet of surface waters. State law also prohibits use of all pesticides and all fertilizers but limestone within 25 feet of shore.

Although state law doesn't regulate use of pesticides and fertilizers on home grounds (lawns, gardens, landscapes) that drain into shallow (dug) wells on private property, UNH Cooperative Extension urges home gardeners to err on the side of safety in protecting their drinking water supply. Even environmentally-friendly products may pose health risks to humans and domestic animals if the product drains into drinking water.

As a rule of thumb, we suggest applying no pesticides and limiting fertilizers to agricultural lime and slow-release nitrogen within 75 feet of a shallow well.

Original fact sheet by John Roberts, UNH Extension Turf Specialist, revised 5/03