



Soil Test Note 14: Athletic Fields, Golf Course Fairways, Sod Production, and Large Industrial/Recreational Lawns

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Introduction

Proper Fertilization is essential for the production of quality turf in Virginia. However, exceeding recommended fertilizer application rates or improper application timing can negatively impact surface water and groundwater quality. A well-planned and environmentally sound turfgrass fertilization program will take into account:

1. Native soil fertility;
2. Nutrient source characteristics
3. Desired turfgrass quality or performance
4. Nutrient application rate;
5. Application frequency;
6. Season of application and
7. Application

Applying Lime

If you are establishing new turf, incorporate the entire recommended amount of lime into the soil before seeding or sodding. If you are maintaining established turf, and if the recommendation calls for less than 1 ton of lime per acre, apply the entire amount any time the ground is not frozen. If the recommendation is for more than 1 ton of lime, apply in several applications of up to 1 ton each, at intervals of 1 to 6 months until the full amount is applied. Applying more than 1 ton per acre at any one time may cause a visible residue to remain on the turf for a prolonged period. Pelletized lime is an alternative to ground agricultural lime for established turf.

Table 1. Nitrogen (N) fertility programs for fairways, athletic fields, and large industrial lawns. Month of application and actual M (pounds per acre) *

Cool-season grasses	Bermudagrass
Mid-April to mid-May, 20-30	Mid-April to mid-May, 30-40
September, 30-40	June, 30-40
October, 30-40	August, 30-40
November, 20-30	September, 20-30
	If overseeded with ryegrass, 30 in fall, 30 in early to mid-spring

* Apply up to 30 lbs. N per acre for water soluble nitrogen sources and up to 40 lbs. N per acre for slowly available N sources. Consult Virginia Nutrient Management Standards and Criteria for specifics (dcr.virginia.gov/document/standardsandcriteria.pdf)

Table 2. Nitrogen (N) fertility programs for turfgrass establishment and sod production in native and modified (sand-based) soil systems. Timing/month of application and actual M (pounds per acre) *

	Cool- Season Grasses	Bermudagrass
Native Soil	<ul style="list-style-type: none"> • At establishment (preferably late summer to mid-fall), 40 • After 30 days of establishment, apply 20 lbs. every week for next 4 weeks 	<ul style="list-style-type: none"> • At establishment (preferably mid-spring to mid-summer), 40 • After 30 days of establishment, apply 10 lbs. per week for next 4 weeks
Modified (sand-based) soil	<ul style="list-style-type: none"> • At establishment (preferably late summer to mid-fall), 40 • Apply up to 10 lbs. every week after germination is complete for up to 8 weeks OR • Apply up to 20 lbs. every 2 weeks through 8 weeks after germination using slowly available N sources. 	<ul style="list-style-type: none"> • At establishment (preferably mid-spring to mid-summer), 40 • After 30 days of establishment, apply 10 lbs. per week for next 4 weeks as either soluble or slowly available N

*Apply up to 30 lbs. N per acre for water soluble nitrogen sources and up to 40 lbs. N per acre for slowly available N sources. Consult Virginia Nutrient Management Standards and Criteria for specifics (dcr.virginia.gov/document/standardsandcriteria.pdf)

Other Information

Equivalents:

Football Field Area: 360' x 160' = 57,600 sq ft = 1.3 acres

Area Between Football Field Hashmarks: 300' x 54' = 16,200 sq ft = 0.37 acres

Soccer Field Area: From 45,000 to 117,000 sq ft or from 1 to 2.7 acres

Area in 440 Yard Oval: 100,188 sq ft = 2.3 acres

IMPORTANT APPLICATION PRACTICES FOR SOUND NUTRIENT MANAGEMENT PROGRAMS TO PROTECT WATER RESOURCES:

- Never exceed 0.7 lb. of soluble N in any application
- Soil test to determine if phosphorus application is required
- Do not apply fertilizers to hard or paved surfaces (driveways, sidewalks, etc.)

Additional Information

For more information, contact your local Virginia Cooperative Extension (VCE) office or access the Internet and connect to VCE's site at <http://www.ext.vt.edu>.

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