Best Management Practices (BMPs) in Turfgrass Management

Master Gardener Volunteer Training

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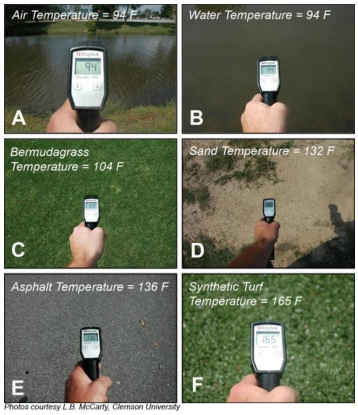
@vaturf

Virginia Cooperative Extension
Virginia Tech • Virginia State University

VTurfgrass Grow with us.

But what is most important about turf is its FUNCTIONAL use:
The fibrous root system of turfgrasses forms a dense web of living plant tissues that serve to filter and anchor the soil. The dense foliage of the turfgrass canopy further helps to reduce the energy of water (from rain or irrigation) that would increase the chances of soil erosion.

Both the foliage (turf canopy) and root system of turfgrasses also offer tremendous capacity for carbon sequestration. Grass systems are proving to be a very important part of the capacity of urban landscapes' rapid removal and long-term storage of carbon from the atmosphere.



Photos courtesy L.B. McCarty, Clemson University

Turfgrasses Offer Significant Environmental Temperature Moderation

Actively growing turfgrasses have the ability to significantly cool the surrounding environment through the process of evaporation and transpiration.

Achieving the Environmental Benefits of Turf

- Appropriate grass selection
  - Location
  - Light availability
  - Soil characteristics
  - Turfgrass use
  - Maintenance/inputs required and/or available
  - Surrounding environment
- The value of a soil test can not be overstated

Any successful plant system begins with a healthy soil. An important step in creating a healthy soil is to conduct a Soil Test

- Soil test at least every 3-4 years.
- Information will allow you to make informed decisions on the need to apply lime, phosphorus, potassium, and other nutrients.

Before attempting any type of lawn establishment or renovation, please understand and appreciate the value of a soil test. Work with your county Virginia Cooperative Extension office or see T&GS representatives in order to conduct a meaningful soil test… the first step towards improving your lawn in an environmentally responsible manner.

Lab ID: 100002 — 09/16/02 — MONTGOMERY / 121

Virginia Cooperative Extension

Soil Test Report

Virginia Tech Soil Testing Laboratory
145 Smyth Hall (0465)
Blacksburg, VA 24061

NOTES: X 1 17

OWNER: JANE GARDENER, 321 URBAN ST, YOUR CITY, VA 23456

COPY TO: XYZ LAWN CARE CO, P O BOX 123, SHOPPING CITY, VA 23579

SAMPLE HISTORY

Sample ID	Field ID	LAST CROP Name	LAST CROP Yield	LAST LIME APPLICATION Months Prev.	LAST LIME APPLICATION Tons/Acre	SOIL INFORMATION Soil Type	SMU-1 %	SMU-2 %	SMU-3 %	Yield Estimate	Productivity Group
FRONT				18+		Clayey					

LAB TESTS

SOIL pH	P lb/A	K lb/A	Ca lb/A	Mg lb/A	OM %	SS ppm		Zn ppm	Mn ppm	Cu ppm	Fe ppm	B ppm
5.6	3 L-	62 L+	1176 M	156 H-	10.3 VH	640 M		2.5	35.9	1.2 SUFF	12.6 SUFF	0.8 SUFF

FERTILIZER AND LIMESTONE RECOMMENDATIONS

***FAX: 540-231-9262

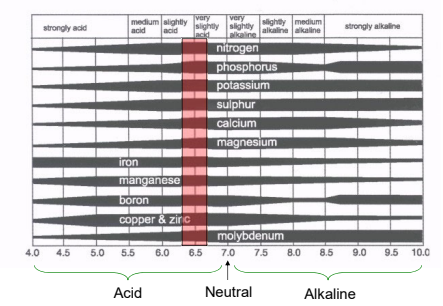
Crop: LAWN MAINTENANCE - BLUEGRASS, FESCUE (202)

205. FERTILIZER RECOMMENDATIONS: Apply a 1-1-1, 1-2-2 or 2-1-1 ratio fertilizer (examples of grades to use are 10-10-10, 5-10-10, 10-20-20, 16-8-8, etc.) according to the instructions in the enclosed note on lawn fertilization.

612. LIME RECOMMENDATIONS: Apply 100 pounds of agricultural limestone (ground or pulverized) per 1000 square feet in several small applications of up to 50 lbs each, at intervals of 1 to 6 months, until the full amount is applied.

677. Soluble Salts are not high enough to cause salt injury.

Why is pH so critical?

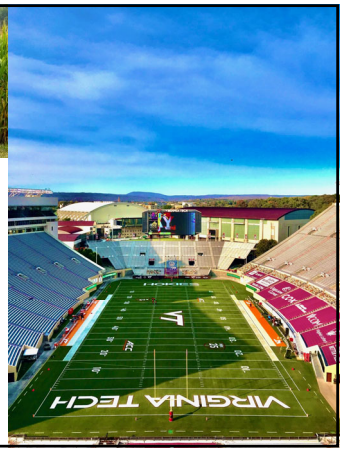


What piece of information is not provided by the soil test?

- No levels of nitrogen reported?
  - Isn't nitrogen the nutrient applied in the largest quantities?
- Although nitrogen levels are not provided, appropriate nitrogen recommendations will be made for the respective grasses.

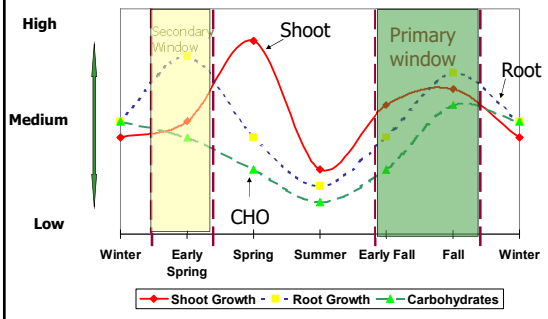
Now, let's talk about grasses.

What makes a grass a "turfgrass"?

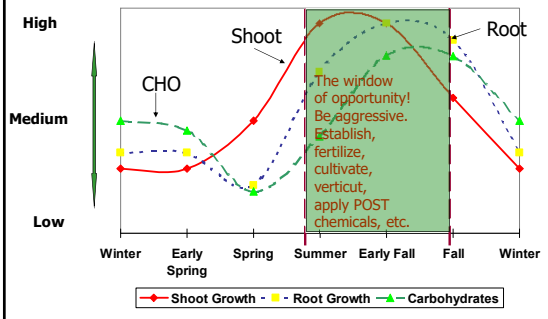


Seasonal Growing Patterns of Cool- and Warm-season Grasses

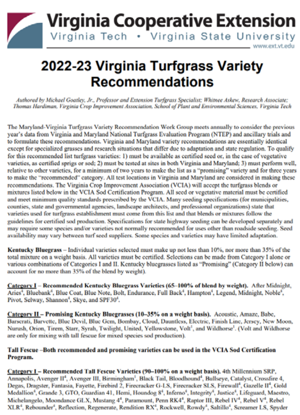
Seasonal Growth Patterns: Cool-Season Turfgrasses



Seasonal Growth Patterns: Warm-Season Turfgrasses



Go to the www.vt.edu website and search for Turfgrass Variety Recommendations in order to help you select the BEST grass for your situation.



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2022-23 Virginia Turfgrass Variety Recommendations

Authored by Michael Goatley, Jr., Professor and Extension Turfgrass Specialist; Whitnee Askew, Research Associate; Thomas Hardiman, Virginia Crop Improvement Association, School of Plant and Environmental Sciences, Virginia Tech

The Maryland-Virginia Turfgrass Variety Recommendation Work Group meets annually to consider the previous year's data from Virginia and Maryland National Turfgrass Evaluation Program (NTEP) and ancillary trials and to formulate these recommendations. Virginia and Maryland variety recommendations are essentially identical except for specialized grasses and research situations that differ due to adaptation and state regulation. To qualify for this recommended list turfgrass varieties: 1) must be available as certified seed or, in the case of vegetative varieties, as certified sprigs or sod; 2) must be tested at sites in both Virginia and Maryland; 3) must perform well, relative to other varieties, for a minimum of two years to make the list as a "promising" variety and for three years to make the "recommended" category. All test locations in Virginia and Maryland are considered in making these recommendations. The Virginia Crop Improvement Association (VCIA) will accept the turfgrass blends or mixtures listed below in the VCIA Sod Certification Program. All seed or vegetative material must be certified and meet minimum quality standards prescribed by the VCIA. Many seeding specifications (for municipalities, counties, state and governmental agencies, landscape architects, and professional organizations) state that varieties used for turfgrass establishment must come from this list and that blends or mixtures follow the guidelines for certified sod production. Specifications for state highway seeding can be developed separately and may require some species and/or varieties not normally recommended for uses other than roadside seeding. Seed availability may vary between turf seed suppliers. Some species and varieties may have limited adaptation.

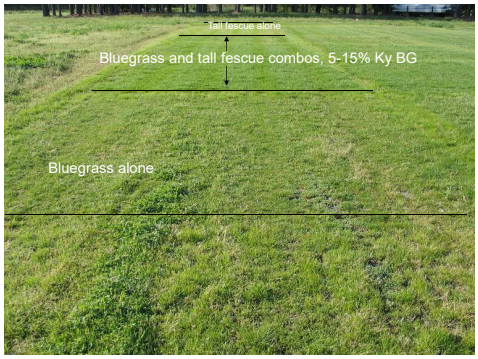
Kentucky Bluegrass – Individual varieties selected must make up not less than 10%, nor more than 35% of the total mixture on a weight basis. All varieties must be certified. Selections can be made from Category I alone or various combinations of Categories I and II. Kentucky bluegrasses listed as "Promising" (Category II below) can account for no more than 35% of the blend by weight).

Category I – Recommended Kentucky Bluegrass Varieties (65–100% of blend by weight). After Midnight, Aries[4], Bluebank[4], Blue Coat, Blue Note, Bolt, Endurance, Full Back[4], Hampton[4], Legend, Midnight, Noble[4], Pivot, Selway, Shannon[4], Skye, and SPF30[4].

Category II – Promising Kentucky Bluegrasses (10–35% on a weight basis). Acoustic, Amaze, Babe, Barserati, Barvette, Blue Devil, Blue Gem, Bombay, Cloud, Dauntless, Electric, Finish Line, Jersey, New Moon, Nurush, Orion, Tirem, Starr, Syrah, Twilight, United, Yellowstone, Volt[1], and Wildhorse[1]. (Volt and Wildhorse are only for mixing with tall fescue for mixed species sod production).

Tall Fescue –Both recommended and promising varieties can be used in the VCIA Sod Certification Program.

Category I – Recommended Tall Fescue Varieties (90–100% on a weight basis). 4th Millennium SRP, Annapolis, Avenger II[4], Avenger III, Birmingham[1], Black Tail, Bloodhound[4], Bullseye, Catalyst, Crossfire 4, Degas, Dragster, Fantasia, Fayette, Firebird 2, Firecracker G-LS, Firecracker SLS, Firewall[4], Gazelle II[4], Gold Medallion[4], Grande 3, GTO, Guardian 41, Hemi, Houndog 8[4], Inferno[4], Integrity[4], Justice[4], Lifeguard, Maestro, Michelangelo, Moondance GLX, Mustang 4[4], Paramount, Penn RK4[4], Raptor III, Rebel IV[4], Rebel V[4], Rebel XLR[4], Rebounder[4], Reflection, Regenerate, Rendition RX[4], Rockwell, Rowdy[4], Saltillo[4], Screamer LS, Spyder

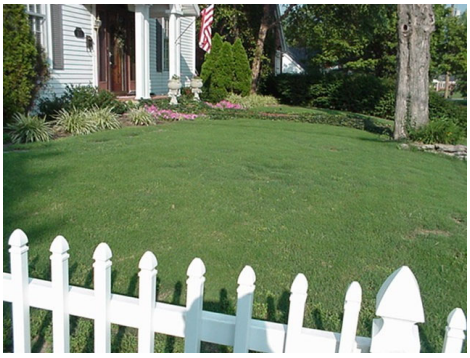


Mixtures of bluegrass (5-10% by weight) and tall fescue (90-95% by weight) provide desirable aesthetic and disease suppression qualities.

Perennial Ryegrass

- Used primarily in seed mixtures with Kentucky bluegrass or for overseeding bermudagrass turfs rather than a monostand.
- Noted for its very rapid germination rate from seed, bunch-type growth habit, and great mowing quality (i.e. striping)
- Lots of pest and environmental stress pressures.

Zoysiagrass



A bermudagrass lawn One of its biggest strengths is its aggressiveness and one of its biggest weakness is its aggressiveness. Both seeded and vegetative varieties are available. It will have a 4-5 month dormancy period.

Centipedegrass

- Very low input, creeping grass suitable from South Central to Eastern VA.

St. Augustinegrass

Primarily only found in the southern coastal areas of Va; a creeping, wide-bladed grass noted for its shade tolerance, but it has major issues with cold and pest pressure.

A problem solving activity for your break:

-this is a bermudagrass practice field at Christopher Newport University (Newport News, VA) during late August

-these strange looking spots suddenly appeared on a Monday morning when they were not present when the sports field manager last saw the fields on Friday; the football team was out of town over the weekend, and as far as the sports field manager was aware, the field was in 'recovery' mode following a heavy week of practice.

- What might have happened? Perhaps you can not be specific (I often can not myself, but I do ask lots of questions to try to come up with a hypothesis), but the first question I try to answer is if we the damage is most likely man-made or biological… what do you think?
- And the next question the client wants to have answered is "how might I mitigate the problem?"

The answer follows in Part 2 after Intermission.