RECOMMENDED TURFGRASS CULTIVARS FOR CERTIFIED SOD PRODUCTION AND SEED MIXTURES IN MARYLAND

University of Maryland
Turfgrass Technical Update
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Numerous new turfgrass cultivars continue to be developed and released by turfgrass breeders. However, while many of these cultivars are adapted to the environmental conditions that prevail in other regions of the country, many are not adapted to the difficult environmental conditions that occur in the transition zone, which includes Maryland and Virginia. Thus, to identify cultivars that will perform well in this region, extensive cultivar trials are evaluated each year at the University of Maryland and Virginia Polytechnic Institute and State University.

The cultivar performance data obtained at various locations in Maryland and Virginia are reviewed annually in a joint meeting of university researchers and representatives of the Departments of Agriculture of both states. The use of recommended cultivars usually results in a turfgrass stand of higher quality and density, greater stress tolerance, lower nutrient requirements, less water usage, and fewer pest problems. Also, the use of recommended cultivars generally has the benefits of a reduction in the need for pesticide applications, greater water infiltration, reduced water runoff, and the enhancement of the environmental benefits of properly managed turfgrass.

There has been extensive interest in recent years regarding turfgrass species that have reduced nutrient requirements, especially nitrogen. The two recommended turfgrass species with the lowest nitrogen requirements are the fine fescues and zoysiagrass, while turf-type tall fescue and bermudagrass have intermediate requirements. Although Kentucky bluegrass generally has the highest nitrogen requirements, research is currently ongoing to identify Kentucky bluegrass cultivars that provide good quality under reduced nitrogen fertility and other maintenance inputs.

The following lists of recommended cultivars consist of two groups. “Proven” cultivars represent those that have been performing well in trials in both states over multiple years, and have had certified seed tested by the MD and/or VA Departments of Agriculture. “Promising” cultivars, listed in *green italics*, have shown good performance, but may have been tested in Maryland or Virginia for only 2 years, or may be difficult to find due to limited seed availability.

CULTIVAR NOTATIONS

Cultivars followed by a numerical notation may be removed from these lists in future years for the following reasons:

Cultivar[1] - May be removed from the list due to declining field performance relative to other cultivars

Cultivar[2] – may be removed from the list due to declining seed quality

Cultivar[3] – may be removed from the list because certified seed has not been tested recently by either the Maryland or Virginia seed testing labs.

Cultivar[4] - may be removed from the list due to the lack of current testing data relative to other cultivars. The cultivar will be removed from the list if it is not included in the next available cultivar trial.

KEY POINTS

Recommended cultivars have been evaluated for performance in Maryland and Virginia.

Maryland Certified Sod must contain only recommended cultivars.

Recommended cultivars generally provide better quality turf, improved ground cover, and reduced runoff.

The use of recommended cultivars reduces many pest and management problems.

Recommended cultivars often have lower fertilizer and water needs, and the need for pesticide applications should be greatly reduced.

The use of recommended cultivars enhance the environmental benefits of turfgrass.

Current Cultivar Evaluation Trials in Maryland

Following are the current cultivar evaluation trials being conducted at the University of Maryland Paint Branch Turfgrass Research Facility. These trials do not receive fungicide applications. Weeds are controlled on an infrequent basis. Irrigation occurs to prevent severe drought stress. Fine fescue trials, however, are not treated for weed control and are not irrigated.

Trial Name	Year Established	Annual Nitrogen Application
		Pounds Actual N per 1000 ft^2
NTEP Tall Fescue	2018	2.0 – 2.7
NTEP Kentucky Bluegrass	2017	2.0 – 2.7
NTEP Perennial Ryegrass	2016	2.0 – 2.7
NTEP Fine Fescue	2020	0.9
NTEP Zoysiagrass	2019	0.9
NTEP Bermudagrass	2019	2.0 – 2.7
A-List Tall Fescue	2018	2.0 – 2.7
MD-VA Tall Fescue	2019	2.0 – 2.7
MD-VA Kentucky Bluegrass	2019	2.0 – 2.7
MD-VA Perennial Ryegrass	2017	2.0 – 2.7

Maryland Certified Sod Program

The Maryland certified sod program is administered by the Maryland Department of Agriculture. Rather than naming individual cultivars, many specifications require that Maryland certified sod of a particular turfgrass species or mixture be used. Requiring certified sod in specifications guarantees that the sod will contain cultivars that are currently recommended by researchers in Maryland and Virginia, will have been seeded in recommended percentages, and will be of high quality with minimal pest problems. Listed below are the cultivar recommendations for Kentucky bluegrass, turf-type tall fescue, zoysiagrass, and bermudagrass certified sod.

Turf-Type Tall Fescue Sod

The following proven and promising turf-type tall fescue cultivars may be seeded individually or in blends, and may be mixed with Kentucky bluegrass (see note below for percentages). Addition of Kentucky bluegrass in the recommended percentages may improve sod strength as well as improving overall performance and quality without increasing management inputs.

Promising Turf-type Tall Fescue Cultivars

Battle Hawk	*Gallardo*	*Raceway*
Bentley	*GLX ACED*	*Rover*
Bladerunner 3	*GLX Revive*	*Rowdier*
Bonfire	*GRO-PRO*	*SR 8700*
Bravo 2	*Hellcat GLR*	*Talladega II*
Capitan	*Houndog Nine*	*Tank*
Clash	*Kizzle*	*Teacher*
Endgame	*Lafayette*	*Titan GLX*
Essential 2	*Matisse*	*Titan Max*
Estrena	*Motif*	*Tough*
Extravaganza	*Naturally Green*	*Triad*
Fairfield	*O Keefe*	*Valsetz*
Falcon Supreme	*Oriole*	*Xanadu*
Finelawn Supreme	*Padre 2*	*Zion*
Galatic	*Providence*	

Proven Turf-type Tall Fescue Cultivars

Annapolis	Firecracker SLS	Moondance GLX	Spyder LS[4]
Avenger II[4]	Firehawk SLT	Mustang 4[4]	Spyder 2 LS
Avenger III	Firewall[4]	Paramount	SR 8650
Birmingham[1]	Firenza II	Penn RK4[4]	Standout[4]
Black Tail	4th Millennium SRP	Pro Gold	Sunset Gold[4]
Bloodhound[4]	Gazelle II[4]	Raptor LS	Supersonic
Bullseye[1]	Gold Medallion[4]	Raptor III	Symphony
Bullseye LTZ	Grande 3	Rebel IV[4]	Talledega II
Catalyst	GTO	Rebel V[4]	Technique
Crossfire 4	Guardian 41	Rebel XLR[4]	Temple
Daybreak	Hemi	Rebounder[4]	Thor
Degas	Houndog 8[4]	Reflection	Titanium G-LS
Dragster	Inferno[4]	Regenerate	Titanium 2LS
Dynamite G-LS	Integrity[4]	Rendition RX[4]	Trinity
Fantasia	Justice[4]	Rockwell	Turbo[4]
Fastlane	Lifeguard	Rowdy[4]	Turbo RZ[4]
Fayette	Maestro	Saltillo[4]	Valkyrie LS
Firebird 2	Michelangelo	Screamer LS	Witchita
Firecracker G-LS	Monument	Serenade	Xtreme Green[4]

Kentucky Bluegrass Cultivars Recommended for Mixing with Tall Fescue Sod

Wildhorse[1] Kentucky bluegrass and all recommended Kentucky bluegrass cultivars can be mixed with turf-type tall fescue to enhance sod strength during harvesting. A maximum of 10% Kentucky bluegrass by weight may be included with tall fescue, although 5% Kentucky bluegrass is generally recommended.

Kentucky Bluegrass Sod

- A blend containing a minimum of 3 listed Kentucky bluegrass cultivars must be chosen.
- Each cultivar must range from a minimum of 10% to a maximum of 35% of the blend's weight.
- No more than 35% of the blend may be comprised of promising cultivars.

Cultivar evaluation trials identify disease prone cultivars

Leaf spot of Kentucky Bluegrass

Summer Patch of Kentucky Bluegrass

Promising Kentucky Bluegrass Cultivars

Acoustic	*Blue Magic*	*Jersey*
Amaze	*Bombay*	*New Moon*
Barserati	*Cloud*	*Nurush*
Barvette	*Dauntless*	*Orion*
Blue Devil	*Electric*	*Syrah*
Blue Gem	*Finish Line*	*Twilight*

Proven Kentucky Bluegrass Cultivars

After Midnight	Full Back[4]	Shannon[4]
Aries[4]	Hampton[4]	Skye
Babe	Legend	SPF30[4]
Bluebank[4]	Midnight	Starr
Blue Coat	Noble[4]	Tirem
Blue Note	Pivot	United
Bolt	Selway	Yellowstone
Endurance		

Bermudagrass

Eight vegetatively (v) reproduced cultivars are currently recommended for use in Maryland for certified sod production. These can only be obtained as sod, plugs, or sprigs. Three cultivars that can be seeded (s) are recommended as well. A prime characteristic in evaluating bermudagrass for use in Maryland is winter hardiness (cold tolerance). Cultivars listed have improved winter hardiness, but may exhibit some damage in extreme years, particularly under low mowing heights or if the bermudagrass was established late in the growing season. Thirty-five bermudagrass cultivars are currently being evaluated at the University of Maryland in the 2019 National Turfgrass Evaluation Program bermudagrass trial.

Proven Bermudagrass Cultivars

Iron Cutter (v)[4]	Northbridge[4] (v)	Tahoma 31 (v)
Latitude 36 (v)	Patriot (v)[4]	Tiftuff (v)

Promising Bermudagrass Cultivars

Astro (v)	Celebration Hybrid (v)	Monaco (s)
Rio (s)	Sun Queen (s)	

Winterkill differences among bermudagrass cultivars in Maryland

Zoysiagrass

Only three zoysiagrass cultivars are currently recommended in Maryland for certified sod production due to potential winter hardiness problems or due to a lack of availability of other cultivars. The group listed as vegetative (v) cultivars can only be obtained as sod, plugs, or sprigs. Zenith may be obtained as seed (s) as well as in vegetative forms. Thirty-nine zoysiagrass cultivars are currently being evaluated at the University of Maryland in the 2019 National Turfgrass Evaluation Program zoysiagrass trial.

Meyer (v)	Zenith[4] (s)	Zeon (v)

Recommended Seeding Blends and Mixtures for Cool Season Turfgrass Species

The following seed blends and mixtures are those recommended for the large majority of sites in Maryland. *Seed mixtures other than those recommended in this publication may be appropriate for the specific conditions or use at a particular site, but should be checked by a turfgrass specialist.* The percentages (%) recommended for seed mixtures are on a seed weight basis. For example, when mixing 6.0 pounds of a 95% tall fescue – 5% Kentucky bluegrass mixture, 5.7 pounds of tall fescue seed and 0.3 pounds of Kentucky bluegrass seed should be used for the mixture.

Low Maintenance Turf – Full Sun or Shade (For use on sites that will receive minimal management, including no irrigation and low fertility).

Fine Fescue (100%). The fine fescues include creeping red fescue, chewings fescue, hard fescue, hard-blue fescue, and sheep fescue. The hard fescues are particularly good for low maintenances sites in Maryland. Creeping red fescues should be considered only for shady sites and not for sunny, low maintenance sites. The fine fescues do not have good wear tolerance and should not be mowed when weather conditions are hot and/or dry.

One or more recommended fine fescue can be selected. However, neither mixing fine fescue species nor blending cultivars has been studied extensively in MD or VA for compatibility. Limited research doesn't indicate an advantage to either.

Key to table, below: (C) = Chewings Fescue
(H) = Hard Fescue
(R) = Creeping Red Fescue

Proven Fine Fescue Cultivars

Beacon (H)[4]	Jetty (H)[4]	Resolute (H)
Compass II (C)	Minimus (H)[4]	Sword (H)[4]
Gladiator (H)	Radar (C)[4]	

Promising Fine Fescue Cultivars

Beacon II (H)	Radar II (C)	Tenacious (H)
Brittany 2 (C)	Sword II (H)	

Medium Maintenance Turf - Full Sun to Moderate Shade (For use in full sun to moderately shady areas and for turf that will tolerate a wider range of management inputs, with infrequent or no irrigation).

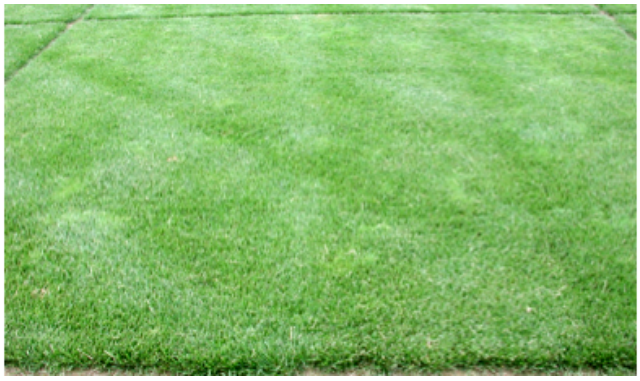
Turf-type tall fescue is the most commonly recommended species for home-lawns, institutional grounds, and general use areas. They are also extensively used for general-purpose athletic fields and in golf course roughs.

Turf-type Tall Fescue (90-100%) and Kentucky Bluegrass (0-10%). A single cultivar or a blend of turf-type tall fescue cultivars may be used, and may be mixed with up to 10% of a recommended Kentucky bluegrass, although a maximum of 5% is generally preferred. The addition of Kentucky bluegrass to turf-type tall fescue generally results in an excellent turf without increasing needed management inputs.

Recommended Tall Fescue Cultivars: Same as the cultivars recommended for certified sod production (page 2,3).

Recommended Kentucky Bluegrass Cultivars: Same as the cultivars recommended for certified sod production (page 3,4).

turf-type tall fescue | turf-type tall fescue + perennial ryegrass



The effect of the mixing of perennial ryegrass (photo on right) with turf-type tall fescue on red thread disease. Perennial ryegrass should generally not be mixed with turf-type tall fescue due to increased disease problems.

High Maintenance Turf - Full Sun (For use in full sun areas that will receive irrigation during stress periods and more intensive management).

Kentucky Bluegrass (85-100%) and Perennial Ryegrass (0-15%). Due to the higher maintenance requirements usually needed to successfully maintain most Kentucky bluegrasses in Maryland, it is primarily for use on showcase sites, for stadium athletic fields, and for low cut rough areas on golf courses. A minimum of 3 bluegrass cultivars should be selected, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight, respectively.

No more than 15% perennial ryegrass should be used in a mixture with Kentucky bluegrass, as the perennial ryegrass will predominate if seeded at a higher rate. Although perennial ryegrass is generally not recommended for mixing with Kentucky bluegrass due to the susceptibility of perennial ryegrass to numerous disease problems, its inclusion may be warranted with Kentucky bluegrass where erosion may be a significant problem during establishment. Perennial ryegrass germinates and becomes established much more quickly than Kentucky bluegrass.

Proven Kentucky Bluegrass Cultivars

After Midnight	Endurance	Pivot
Aries[4]	Full Back[4]	Selway
Bluebank[4]	Hampton[4]	Shannon[4]
Blue Coat	Legend	Skye
Blue Note	Midnight	SPF30[4]
Bolt	Noble[4]	

Promising Kentucky Bluegrass Cultivars

Acoustic	*Cloud*	*Orion*
Amaze	*Dauntless*	*Starr*
Babe	*Electric*	*Syrah*
Barserati	*Finish Line*	*Tirem*
Barvette	*Jersey*	*Twilight*
Blue Devil	*New Moon*	*United*
Blue Gem	*Nurush*	*Yellowstone*
Bombay		

Proven Perennial Ryegrass Cultivars

Apple SGL	Grandslam GLD	Soprano
Apple 3GL	Homerun	Stellar 3GL
Benchmark	Karma	Stellar 4GL
Big League	Slugger 3GL	Superstar GL
Fastball 3GL		

Promising Perennial Ryegrass Cultivars

Black Pearl	*Sideways*	*SR 4660 ST*
Gray Fox	*Signet*	*SR 4650*
Infusion	*Silver Sport*	*Wicked*
Shield		

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