

Horticulture

John W. Jett, Horticulture Specialist
WVU Extension Service

May 2002

Establishing Turfgrass

Adapted from the West Virginia Master Gardener Manual

The quality of a new lawn depends on the time, effort, and expense devoted to proper planning and site preparation. If steps are omitted the resulting stand may be thin and may deteriorate over time.

Common causes of lawn establishment failures include poor-quality seed or sod, improper selection of turfgrass species or varieties, unsuitable soil conditions, inadequate site preparation, or lack of moisture during seedling establishment.

One of the most important steps in establishing turfgrass is to select high-quality seed or a seed mixture that is adapted to the site conditions and intended use of the turf.

When purchasing turfgrass seed, read the label to determine the kind, amount, and quality of seed in the container. All seed sold in West Virginia is required by law to bear a tag indicating basic information about the seed's quality. The basic information that should appear on the label includes:

- Name and address of labeler
- Lot number
- Kind and variety of turfgrass seed listed in order of predominance
- Percentage by weight of pure seed of each species and variety (percentage purity)
- Germination percentage (percentage of viable seed)
- Percentage by weight of other crop seed
- Percentage by weight of weed seed
- Percentage of undesirable grass seed
- Percentage by weight of inert matter
- Date on which the germination test was conducted.

Listed below are some suggested turfgrass seed and seed mixtures for different site conditions and uses in West Virginia. All seeding rates are in pounds per 1,000 sq. ft.

1. Seed mixtures for general conditions (home lawns, parks, institutional grounds, and commercial properties)

Open, sunny locations and well-drained soils

Kentucky bluegrass	100% at 2-3 lb. per 1,000 sq. ft.
Kentucky bluegrass	80-90%
Perennial ryegrass	10-20% at 2-3 lb. per 1,000 sq. ft.
Kentucky bluegrass	40-60%
Fine fescues	30-40%
Perennial ryegrass	10% at 3-4 lb. per 1,000 sq. ft.
Turf-type perennial ryegrass	100% at 4-5 lb. per 1,000 sq. ft.
Turf-type tall fescue	100% at 6-8 lb. per 1,000 sq. ft.

In some cases, suggestions call for "turf-type" tall fescues or ryegrasses. This designation is required to distinguish between finer textured, persistent grasses designed for high-quality turf use and coarser textured, pasture-type grasses such as 'Kentucky-31' tall fescue or nonpersistent grasses such as 'Linn' perennial ryegrass.

Fine fescues include creeping red, Chewings, and hard fescue. Sheep fescue is also a fine fescue but is generally used for low-maintenance situations and not in high-quality turfs.

Moderate to partial shade

Fine fescues	40-50%
Kentucky bluegrass	40-50%
Perennial ryegrass	10% at 4 lb. per 1,000 sq. ft.
Fine fescues	100% at 4-5 lb. per 1,000 sq. ft.
Turf-type tall fescue	100% at 6-8 lb. per 1,000 sq. ft.

Heavy shade, well-drained soils

Fine fescues	100% at 4-5 lb. per 1,000 sq. ft.
--------------	-----------------------------------

2. Turf seed mixtures for heavy-use areas (parks, playgrounds, athletic fields)

Turf-type perennial	100% at 4-5 lb. per 1,000 sq. ft.
Kentucky bluegrass	80-90%
Perennial ryegrass	10-20% at 2-3 lb. per 1,000 sq.
Turf-type tall fescue	100% at 6-8 lb. per 1,000 sq. ft.

3. Seed for renovating recreational turf

Turf-type perennial	100% at 2-5 lb. per 1,000 sq. ft.
---------------------	-----------------------------------

4. Temporary seed mixtures (temporary cover for quick erosion and dust control)

Annual ryegrass	100% at 4-5 lb. per 1,000 sq. ft.
-----------------	-----------------------------------

Steps in Site Preparation and Turfgrass Establishment

Late summer to early fall is the best time for seeding turfgrass. Suggested times of seeding for West Virginia conditions are September 1 to October 1. Where spring seedings are necessary, for best results, seed no later than May 20.

A soil test to determine lime and fertilizer requirements provides the best guide for proper turfgrass establishment. Recommendations for liming, soil physical amendments, basic fertilizer, and starter fertilizer will be returned to you along with the test results. Free soil test mailing kits may be obtained from your county's WVU Extension Service.

Rough grading involves removing all debris, including large stones or wood left by construction work. Till the soil and bring the area to a rough grade before liming or fertilizing. Where topsoil is to be replaced or brought in, grade the area to the contour of the desired finished grade to facilitate uniform distribution of topsoil.

If a soil test indicates the soil has a low organic matter content, work the recommended amounts of organic matter into the soil to a 2- to 4-inch depth before applying the starter fertilizer. Well-rotted sawdust, well-rotted manure, mushroom compost, or compost may be used as sources of organic matter.

Till the seed bed to a 4- to 6-inch depth, making sure the limestone (if required), physical amendments (if required), and basic fertilizer are uniformly mixed throughout the soil profile.

Immediately before seeding, broadcast and work into the top inch of soil 40 pounds of a 10-5-5 or 10-6-4 fertilizer per 1,000 sq. ft., or 25 pounds of a 16-8-8 fertilizer (or the equivalent) per 1,000 sq. ft., unless your soil test results specify otherwise.

Sow a seed mixture that is adapted to use and climatic conditions of the site. Divide the total seed quantity into two equal lots, sowing one lot in one direction and the second lot at right angles to the first with a mechanical seeder or spreader. Rake lightly or drag the area to cover seed no deeper than 1/3 inch. Roll lightly to firm soil around seed.

Mulch the seeded area with clean straw at the rate of 80 pounds per 1,000 sq. ft. Mulches may be left on the area to decompose. Do not use mulches that may contain weed seeds.

Immediately after seeding, irrigate enough to thoroughly wet the soil to a 4- to 6-inch depth. During the period of initial rooting (usually two to three weeks) irrigation should be applied to maintain adequate soil moisture. At no time during this period should the soil be allowed to dry.
