

Establishing Lawns

Seeding and Mulching. Prepare a smooth, firm seedbed. Rake the seedbed to create shallow, uniform depressions (rows) about a quarter-inch deep and 1 to 2 inches apart. Divide seed in half; sow first half of seed in one direction (north/south); sow the remaining seed in the opposite direction (east/west). Cover the seed by raking lightly. Next, the seedbed should be rolled. Mulch the area with straw or other suitable material so that approximately 50 to 75 percent of the soil surface is covered. This is normally accomplished by spreading 1½ to 2 bales of high quality, weed-free straw per 1000 square feet. A light mulch does not need to be removed after establishment of the turfgrass.

Seeding Rates

Turfgrass Species	Seeding Rate lbs/1000 sq. ft.
Kentucky bluegrass	2 to 3
Tall fescue	4 to 6
Fine fescue	3 to 5
Perennial ryegrass	3 to 5
Bermudagrass (hulled)	1 to 1½
Bermudagrass (unhulled)	5 to 10

Caring for a New Lawn

Post-Planting Irrigation. New seedlings and spriggings require frequent watering to ensure constant surface moisture for 30 days following planting. On hot days, several light waterings may be required during the day. Sod and plugs also need constant moisture until rooted.

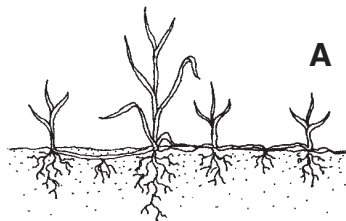
New Lawn Maintenance. Begin mowing the new lawn when the grass is one-third taller than the intended mowing height. Be sure the mower blade is sharp. Avoid excessive traffic on a lawn until it is mature. Weed control may be necessary, but do not apply herbicides to new lawns until they have been mowed twice. Ask your local Extension agent or nursery expert for recommendations on a fertilization program.

It usually takes two full growing seasons for a lawn to become fully established and exhibit the desirable characteristics for the individual turf species, such as drought tolerance, wear tolerance, density, and competition against weeds. Following a sound maintenance program will help your lawn mature and persist.

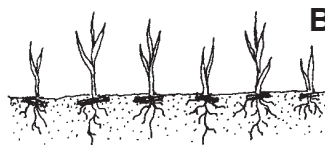
For more information on selection, planting, cultural practices, and environmental quality, contact your local Virginia Cooperative Extension Office. If you want to learn more about horticulture through training and volunteer work, ask your Extension agent about becoming an Extension Master Gardener. For monthly gardening information, subscribe to *The Virginia Gardener Newsletter* by sending your name and address and a check for \$5.00 made out to "Treasurer, Va. Tech" to The Virginia Gardener, Department of Horticulture, Virginia Tech, Blacksburg, VA 24061-0349. Horticultural information is also now available on the Internet by connecting with Virginia Cooperative Extension's server at <http://www.ext.vt.edu>

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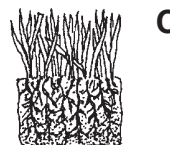
A) Grass plants spread by tillering or by sending out surface runners (stolons) and underground spreading stems (rhizomes).



B) Some grasses are established using sprigs – stem fragments with blades of grass and bits of root attached.



C) Some species of turfgrass are established using plugs – small cubes of sod approximately 2 inches wide and 2 inches deep.



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Producing quality lawns in Virginia can be challenging. Geographically, Virginia is located in what is known as the transition zone for turfgrasses. This means the climate can be hostile to both cool-season grasses (Kentucky bluegrass, tall fescue) and warm-season grasses (bermudagrass, zoysiagrass). However, with proper cultural practices, a healthy lawn can be established and maintained.

Turf may be established from seed, sprigs, plugs, or sod. The method depends on the grass species desired, the environmental conditions, time constraints, and financial considerations. If possible, use only certified seed and sod. The same requirements for soil preparation apply for all methods.

Methods of Lawn Establishment

Grass	Seed	Sod	Sprigs	Plugs
Kentucky bluegrass	Yes	Yes	No	No
Tall fescue	Yes	Yes	No	No
* Bermudagrass	Yes	Yes	Yes	Yes
* Zoysiagrass	Yes	Yes	Yes	Yes
Perennial ryegrass	Yes	No	No	No

**some varieties can only be established vegetatively, not by seed*

When to Plant

Turfgrasses are best established during certain periods of the year when temperature, moisture, and day-length are most favorable for establishing cool-season or warm-season grasses. Cool-season turfgrasses are best seeded in late summer; early spring seedings are prone to damage from crabgrass invasions and summer drought. Warm-season turfgrasses are best established from May to July.

Sod of Kentucky bluegrass and tall fescue can be installed throughout the year except in mid-winter when the ground is frozen. Sod should not be placed in extreme heat or drought conditions.

When to plant cool-season grasses

Area of Virginia	Seed	Sod
Northern Piedmont and areas in and west of the Blue Ridge	Aug. 15 to Sept. 15 or March to early April	Anytime soil is not frozen
Southern Piedmont and Eastern Virginia	Sept. 1 to Oct. 15 or Feb. and March	Anytime soil is not frozen

When to plant warm-season grasses

Area of Virginia	Seed	Sod	Sprigs	Plugs
*Northern Piedmont, areas in and west Blue Ridge	Not recommended for this area	June 1 to July 15	June 1 to July 15	June 1 to July 15
Southern Piedmont and Eastern Virginia	a) Hulled bermudagrass: May to July 15 b) Unhulled bermudagrass: Late fall or winter prior to growing season	Late May to Aug. 15	Late May to July 15	Late May to July 15

**select cold hardy varieties*

Soil Preparation

Soil Test. The first step is to have the soil tested; this will determine which nutrients are available in the soil, and will provide liming and fertilization recommendations. Forms and instructions for obtaining soil samples are available from your local Extension office.

Weed Control. Any perennial broadleaf or grassy weeds should be eliminated prior to planting by properly applying a herbicide.

Installation of Irrigation and Drainage. An irrigation system or drainage tile, if needed, should be installed prior to topsoil preparation, in order to avoid subsoil contamination of topsoil.

Soil Tillage and Grading

Completely till the soil to a depth of 4 to 6 inches where: 1) soil compaction is severe; 2) large amounts of phosphorus or lime are recommended; 3) surface drainage is inadequate; or 4) the soil is to be amended. If the area is to be graded, first save the topsoil by moving it to one side, stockpiling it for later use.

The subgrade should slope away from buildings, and the area should be allowed to settle through two or more rains before planting. Low spots in the yard where water collects should be filled with additional soil. All building debris, large rock, and rotting wood should be removed from the site. If the topsoil has been stockpiled, it should be spread uniformly over the entire lawn area. Ideally, there should be a minimum of 6 to 8 inches of topsoil. Where topsoil is limited, mix the available topsoil into the upper inch of subsoil by tilling. Once the soil is prepared, care should be taken not to disturb it.

Lime. Turfgrasses do not perform well in acidic soils, and most soils in Virginia are acidic – below pH 6.2, the ideal pH for lawns. Lime recommendations to raise the soil pH to 6.2 will be made from the soil test. The lime should be tilled into the soil to a depth of 4 to 6 inches. If soil tests indicate low available magnesium levels, dolomitic limestone should be used.

Fertilizer. When applying the fertilizer recommended in the soil test, it is beneficial to till in two thirds of the amount to a depth of 4 to 6 inches. The remaining one third should be applied to the surface just prior to seeding, then lightly raked into the soil.

Planting, Sodding, and Seeding

Planting and Sprigging. Zoysiagrass and bermudagrass can be vegetatively established, using either plugs or sprigs. The plugs should be fitted tightly into pre-cut holes on 6 to 12 inch centers and tamped into place. Sprigs can be broadcast and lightly disced or pressed into shallow rows on 6 to 12 inch centers and covered with soil. Sprigging rates for bermudagrass and zoysiagrass range from 7 to 10 bushels per 1000 square feet.

Sodding. Soil preparation is similar to that described for seeding; a smooth, firm surface is needed. On hot days, moisten the soil to cool it before laying sod. Premium quality, certified sod is easier to transport and install than inferior grades. Good sod is light; does not tear easily; and quickly puts a root system into prepared, well-watered soil. Install sod as soon as you get it; it is perishable and should not remain in a stack longer than 36 hours.

Establish a straight line lengthwise through the lawn area; lay the sod on either side of the line with the ends staggered as when laying bricks. A sharp masonry trowel is very handy for cutting, forcing the sod tight, and leveling small depressions. Roll and water the new lawn immediately; irrigate to moisten the soil below the sod until it is well-rooted into the soil.

Seed versus Sod. Successful, weed-free establishment is more difficult with seed than with sod. Also, because of the time required for germination and root growth of seed, the area is exposed to erosion. Sodding practically eliminates such problems, an especially important factor on steep slopes.