

How to Establish a Lawn

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Learn how to successfully establish an attractive lawn through proper selection of grass and quality seeds, soil preparation, planting procedures, and an effective maintenance program.

The need

Since homeowners value attractive lawns, they often spend a considerable amount of resources establishing and maintaining them. The success or failure of a lawn depends greatly on:

- the selection of the right grass for the lawn conditions,
- the use of quality seed or sod,
- careful preparation of the soil,
- proper planting procedures, and
- a well-executed maintenance program.

Careful attention to these critical factors will minimize many lawn problems. In contrast, lawns established hastily without taking the proper considerations and preparations into account may require significantly more resources in the form of fertilizer, water, pesticides, and the time and expense of their application.



A well kept lawn is an attractive feature of any home.

Selecting the proper grass

Since architects and developers typically consider the proportion and scale of the lawn during a home's design phase to ensure that the lawn will complement the residence, the next important decision is the species and variety of grass to be planted. (Refer also to WVU Extension Service publication "Maintaining Turfgrass in Shady Areas")

Perennial ryegrass and tall fescue establish faster than Kentucky bluegrass and are more tolerant to wear. Kentucky bluegrass prefers full sun and provides darker color and better mowing quality than ryegrass or tall fescue. Fine fescues perform well under shade and have finer leaf textures compared to other turf species. Fescues are also more tolerant of drought and higher mowing heights. Also, the fertility requirements of Kentucky bluegrass are higher than those of fescues.

Using quality seed or sod

Always try to obtain grass seed from reputable dealers. If you plant or sow only one species, be sure to purchase certified seed. If you use a mixture, its quality can be determined by the analysis printed on the container. Some mixtures may contain a "nurse grass" such as ryegrass that will encourage swift lawn establishment but later transition to the dominant grass species in the lawn.

Factors affecting seed quality include percent purity and percent viability, which are expressed as a percentage on the label. When these two factors are multiplied,

their product indicates the percent live seed (PLS), and for good turf cover and quality, the higher the better. Contamination of seed with weeds or other crops is an important concern which is also addressed on the label.

Do not be misled by flashy advertisements and bargain prices. The cost of seed is relatively minor when compared to the total cost of lawn construction. Cheap mixtures generally contain a high percentage of undesirable grasses or the percent of germination is very low due to poor quality seed. Read the label carefully when purchasing ready-prepared mixtures. The law requires that all mixtures be labeled accurately.

Sods provide immediate cover and require less care to become established. Obtain fresh sod from a reputable source nearby. Sods transported across long distances may require more time for establishment. Good quality sod should have a healthy root system that has been harvested along with a fine layer of soil to help the sod withstand transportation shock. It should also be free of pests, such as insect larvae, diseases, and weeds.

Preparing soil

A good lawn starts with a well-conditioned subsoil. Before construction of the home begins, apply a non-selective systemic herbicide to the entire area to kill any perennial weeds present. Under optimal growing conditions, three to four weeks may be required for the herbicide to completely kill the weed propagules. Then, the topsoil (the layer rich in organic matter) should be removed and stockpiled. If the home has already been built, remove all debris before stockpiling the topsoil.

Once the topsoil is removed, the area should be roughly graded. Try to allow for a 2% slope to favor water flow away from the house. Next, install drainage and irrigation systems if necessary. Have the subsoil tested by the WVU Soil Testing Lab using the instructions and the mailer available from your county WVU Extension Service office. Based on the results, add lime and basic fertilizers (potash and phosphorus) if needed, and cultivate these into the soil. Finally, replace the topsoil, lightly till nitrogen fertilizer into the topsoil, and complete the final grading.

Seeding

Most cool- and warm-season turfgrasses can be propagated by seed. Although such grasses can be seeded almost any time of the year, the optimal time is early- to mid-September for cool-season grasses and late spring or early summer and for warm-season grasses.

Temperature and moisture conditions that favor rapid germination result in better establishment. In general, the desired range of percent live seed is 1,000 to 2,000/sq. ft. to provide good turf cover. To facilitate this, 1 to 2 lb. of Kentucky bluegrass is required per 1,000 sq. ft., and 4 to 8 lbs. of tall fescue or perennial ryegrass is needed for the same area. Thin fescues may be seeded at 3 to 5 lb./1,000 sq. ft. A well calibrated drop spreader may be used to seed the lawn, ideally by making two passes at right angles to each other, calibrated to apply half the seeding rate during each pass. A light, even raking or harrowing, followed by rolling, ensures proper soil-to-seed contact.



Grass seedlings emerging from the soil.

Mulching

Always keep the seedbed moist from the time of planting until the roots are established. Mulching newly-seeded lawns with straw helps to retain moisture and check erosion. On the other hand, mulching may delay germination of some seeds and can make conditions favorable for fungus growth. Therefore, apply mulching material sparsely for optimal success.

Watering

Watering guidelines for new lawns differ from those of older lawns. Keep the new lawn damp and do not allow it to become completely dry, especially once the seed has begun to germinate. Because seedling roots are restricted to the immediate vicinity of the soil surface, shallow, frequent irrigation cycles are more efficient than deep, infrequent cycles. Also, refrain from watering lawns in the evening to reduce the incidence of disease.



Water requirements for new lawns differ from established lawns.

Mowing

Do not mow young seedlings until they have reached a height of 4 inches. The grass should then be mowed to a height of 3 inches, and when it has grown to 4 inches again, it should be mowed again. A sharp mower will give an even cut and not pull young seedlings from the soil. After five or six mowing cycles, the mowing height may be lowered to 2.5 inches for Kentucky bluegrass. In general, a mowing height of 3 inches is best maintained for cool-season grasses to promote root development. Lawns which have been sodded, however, may be mowed to the desired height as soon as adequate fresh growth is obtained. The newly-seeded lawn will not require additional fertilizer for one year. Once sodded lawns begin to grow actively, they may be considered as established lawns and fertilized accordingly.

Controlling pests

In newly-seeded cool-season grasses, two pre-emergence herbicides are labeled to selectively control certain weeds prior to germination. They are siduron (TUPERSAN®) and mesotrione (TENACITY®). Refer to the label for timing, rate of application, and spectrum of weed control provided. Certain insecticides and fungicides may also be applied during lawn preparation. Contact your county WVU Extension Service agent for the latest recommendations on pest control.

For more information

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