— Soil Fertility Note 6 —

Establishing a New Lawn

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NCDA&CS Agronomic Division **www.ncagr.gov/agronomi** **Phone: 919-733-2655**
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Establishing a new lawn is a labor-intensive, and often expensive, process. Following the correct procedure increases the likelihood that it will be a success. North Carolina has a variety of grasses and soils that can be planted. Some basic principles are the same over the entire state.

All lawn plantings should be preceded by a soil test. It is impossible to tell what the existing fertility level of a soil is by looking at it. Having the proper fertility level is very important to the success of any planting. Residents of North Carolina are fortunate to have a free service such as provided by the NCDA&CS Agronomic Division. Some other states now charge a fee for soil fertility testing yet provide less information than North Carolina's lab. Soil sampling information and supplies are available in each county Cooperative Extension Service office.

We will now assume that you have taken a soil sample and received the test report back in the mail. For lawns, gardens and ornamentals, the recommended lime and fertilizer rates will be given in lb/1000 ft^2. Multiply the width of the area to be treated times the length of the area to determine the square footage.

The grade of fertilizer suggested may be unfamiliar to some people. Oftentimes it is easier to find specific grades of fertilizer at businesses that deal with farmers. Discount stores often will not have the types of fertilizer suggested on the soil report.

The most common fertility problem found in lawns across the state is low soil pH. The only solution for low pH or acidic soils is to apply agricultural grade limestone. Lime can be applied at any time of the year and will not harm the grass. Soil pH should be maintained between 6.0 and 6.5 for most lawns and ornamentals. Low soil pH can result in excess aluminum, which is toxic to plant roots, and in nutrients being bound up in unavailable forms. Having the proper soil pH is just as important as applying fertilizer.

Best results will be achieved if the lime or fertilizer recommended is mixed thoroughly into the soil. Soils in the piedmont and mountain regions of the state are generally low in phosphorus. Having an adequate phosphorus level in the rooting zone is critical to the survival of grasses in North Carolina. Neither lime nor phosphorus move readily through the soil. Surface application of these two elements will result in very slow movement through the soil profile. For routine maintenance situations, surface application of lime and fertilizer is adequate. However, for establishment of new seedlings or sod under low pH or low fertility conditions, till the suggested treatments into the soil.

Warm-season grasses are planted vegetatively and by seed. Seeding rates vary from 0.25–2.0 lb/1000 ft^2. Cool-season grasses are usually sown at a rate of 6 lb/1000 ft^2. Mixed plantings of cool-season grasses have the best survival rates under variable growing conditions. To ensure even distribution, apply half the seed in one direction and then turn at a right angle and apply the remaining seed over the same area. The planting area should be smooth and at the final desired level.

Cool-season grasses are best seeded from mid-August through mid-October. Spring-seeded grass is hard to establish successfully and may have to be

reseeded in the fall. Warm-season grasses can be planted vegetatively from March through July and by seed from March through September. Regardless of the method, roots must have adequate time to become established before the dormant period begins. Lightly cover the seed by raking. Mulch the area with one or two bales of straw to help conserve moisture. After seeds germinate, do not attempt to remove the straw.

Until the seeds germinate and emerge, it is necessary to keep the top half inch of the soil moist. This may require watering every day. After emergence reduce the watering but maintain adequate moisture in the top six inches of soil. Begin mowing the grass as soon as it is high enough to be mowed, and do not remove more than one-third of the top growth in a single cutting. Do not cut cool-season grasses lower than three inches.

J. Kent Messick

Questions or comments should be directed to the Soil Testing Section of the NCDA&CS Agronomic Division. Information on field services, nematode assay and plant/waste/solution/media analyses is also available from the division.

Steve Troxler, Commissioner of Agriculture