



Home Lawn Establishment

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With the short growing season in the upper Midwest, homeowners' desire to have a decent-looking lawn is high. Whether you are establishing a lawn, or you're a frustrated homeowner wanting to improve what exists for turfgrass, the information in this publication will provide steps to a more attractive lawn.

Site Preparation

1. Weed Control

The major cause of poor-looking lawns is improper site preparation. Often, the lawn – either seeded or sodded – was established over a combination of stone, construction debris, and noxious perennial grasses and weeds, such as quackgrass and thistle. If the lawn is more than 50 percent infested with undesirable grasses and broadleaf weeds, you should apply a treatment with a nonselective herbicide, such as Roundup (glyphosate) to kill everything via systemic action.

To be successful at this stage, you usually need two applications of Roundup. Allow the vegetation to grow to the point of needing to be mowed, then apply the Roundup. Hiring a lawn care professional to do this is even better.

Depending on the weather, everything should be brown in about a week or two. If quackgrass or other deep rooted perennials were present, some regrowth likely will show up in another week or so. When it does, another application of Roundup is in order. Wait another seven days for the kill to be complete.

2. Tilling

Whether to till depends on the finished grade contours and soil condition. If the surface undulations are sharp and severe, and the soil is a hodgepodge of stones, subsoil, little topsoil and construction debris, then you need to till. This will result in the need for debris cleanup, regrading and finish grading with imported topsoil. If the problem was confined to undesirable weedy growth, then you don't need to till. Simply scalp mow the dead vegetation, collect the clippings and scarify the surface with a power rake for seedling establishment. The final result should be a firm surface without depressions or rough areas. If the soil was tilled, a rolling with a half-filled ballast roller likely will be a necessity.

Turfgrass Seed Selection

For most homeowners, a seed mixture of Kentucky bluegrass with perennial ryegrass, fine fescue or both is the best choice. Kentucky bluegrass is the most durable of these species, as it produces rhizomes (underground stems) that help the turf recover from injury or disease. It thrives best in full-sun locations. Perennial ryegrass is a quick-germinating, bunch-type grass that thickens when mowed by producing tillers. The fescues, sometimes referred to as fine fescue or creeping red fescue, produce short rhizomes, resulting in a turf canopy that blends well with Kentucky bluegrass.

Mixes of grass species will establish quickly and have the genetic variability to better withstand traffic, drought, and insect and disease problems than a single-species planting. Additionally, as tree plantings on the property mature and cast more shade, the fine-fescue species will be able to adapt to the shade, crowding out the weakened bluegrass.

Timing is critical for good lawn grass establishment, with early spring being the worst for ease of establishment. If homeowners are confronted with bare soil after the snow melts and sodding is not an option, then a temporary cover of perennial ryegrass will keep everything tidy and looking good until they can seed the permanent grass in late summer/early fall. This window of ideal time for seeding is between Aug. 15 and Sept. 15. This is such a good time because:

1. Soil temperature is warm, resulting in quick germination
2. Weed competition will be reduced
3. Cooler fall temperatures will result in less stress on seedling growth
4. Precipitation patterns generally are more dependable

Beyond the end of September, seeding should be held off until the end of October. This is considered dormant seeding, meaning that emergence will not take place until the following spring.

Some homeowners want a pure Kentucky bluegrass lawn. This is possible by purchasing Kentucky bluegrass blends, a combination of two or more cultivars of this species. These grasses will provide a nicely uniform appearance. They also generally require higher maintenance inputs than bluegrass mixes, and are for full-sun locations.

Improved cultivars of perennial ryegrass are available in their own blends or in mixes with bluegrass. The homeowner may find such mixes labeled "Play Mix" or "Athletic Field Mix," with the percentage of perennial ryegrass generally at 50 percent by weight, not by seed count. In reality, this works out to be about 20 percent to 25 percent perennial ryegrass seed, with the balance being bluegrass. Such a mixture will provide quick cover, be aesthetically pleasing, and under the usual cultural practices,

eventually result in the lawn becoming close to 100 percent bluegrass.

You may use tall fescue-Kentucky bluegrass mixtures in high-traffic or low-maintenance areas. Tall fescue is a bunch (lacking underground rhizomes) grass that, if not the predominant part of the mix (at least 90 percent), will result in an unsightly scattering of tall fescue.

Don't get names confused. Kentucky 31 is not a bluegrass, but is termed a "roadside" fescue, which is very tough and lacks sufficient aesthetic qualities for home lawns.

Seeding Rate

The finer the seed, the lower the rate of application. Kentucky bluegrass has an average of 2 million seeds per pound; perennial ryegrass has an average of 225,000 seeds per pound; and fine fescue will have about 500,000 seeds in a pound. When considering which package of seed to purchase, go by quality – or PLS (Pure Live Seed). Look at the percentage of purity and germination to make this determination. For example, 95 percent purity x 85 percent germination = 81 percent PLS. The difference, 19 percent, could be inert matter and weed seed. The goal is to get about 15 to 20 seeds applied per square inch. Seeding bluegrass blends at a rate of 1 to 2 pounds per 1,000 square feet, mixes at 2 to 3 pounds per 1,000 square feet and straight tall-fescue cultivars or a mix of tall fescue at 6 to 8 pounds per 1,000 square feet will come close to achieving that objective.

Spread the seed evenly with a drop spreader, twice, going in directions perpendicular to each other. Lightly drag the surface with a leaf rake to get the seed in good contact with the soil. Do not bury

the seed more than ½ inch with vigorous raking. Finish the job with either a light covering of straw mulch or virgin wood fiber, depending on the size of the area seeded. Firm everything in with a half-filled ballast roller. If the area was not tilled and simply seeded, then no mulch or rolling is necessary.

Irrigation is necessary to get a more uniform emergence of seedlings. The area should be irrigated lightly and frequently three to four times a day until seedlings establish. If such a schedule is not possible because you don't have an automatic irrigation system, or you are at work during the day, then you should irrigate early in the morning and again in the evening when you return home. Once the lawn is established, back off on the frequency and increase the duration of watering to encourage deep root growth.

Post-establishment Care

Mow the lawn when the grass reaches a height of 3 inches, with the mower set at 2 or 2.5 inches, and allow the clippings to remain. To accelerate establishment, do a light fertilization after the third mowing and follow up with an irrigation cycle.

Assuming a 25- pound bag of 29-3-4 fertilizer is intended to cover 5,000 square feet of lawn and your lawn actually is that size, applying it at half the rate would be putting down about ¾ pound of nitrogen per 1,000 square feet. (29 percent x 25 pounds = 7.25 pounds of nitrogen (N) on the 5,000 square feet of lawn, or about 1.45 pounds N/1,000 square feet.

Weeds will be a reality, but like grass seedlings, they, too, will be in the seedling and most vulnerable stage of their life cycle. After mowing at least three to five times, you can use herbicides at the lowest recommended rate. If you are at

all uncertain about application rates and techniques, you should commission a competent lawn care operator to make the application. Once under control and the lawn properly maintained with timely fertilization, mowing and irrigation, weed problems should be of no major concern.

Disease and insects should not be a major problem under good cultural practices, and you can control them easily with timely application of the appropriate pesticide (see "Other Resources").

Sodded Lawns

All the steps you need for proper seeding are the same for sodding, with one exception: The surface of the soil should be 1 inch below the level of the surrounding paved surface. This is to keep the edge of the sod from drying and allow rooting to establish much better. You should lay the first strip of sod along a straight edge, and for better establishment, stagger each piece of sod like a bricklayer would lay bricks in building a wall. If the sod comes in 30- to 50-foot rolls, the same tactic applies. Be sure to push each piece of sod snugly against the others. When completed, you should roll the sod to assure good contact with the soil.

Other Resources

The following publications are available online:

H-1009... Weed Control in North Dakota Lawns

H-1170.... Turfgrass Establishment and Maintenance for Home Lawns and Athletic Fields (pdf 74KB)

For more information on this and other topics, see www.ag.ndsu.edu

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