

Establishing Lawns From Sod

Although most turfgrass areas are established by seeding, sod offers the visual appeal of an "instant lawn." Additional benefits of sod include the ability to use the lawn quickly, no soil tracking or erosion, and establishing a lawn during less-than-optimal seeding times. Like seeded lawns, sodded lawns need special attention before and after establishment. Using proper establishment procedures and post-establishment care can help to ensure a healthy lawn for years to come.

Timing of sodding

Turf areas can be sodded almost any time when soils are not frozen. Sodding in early spring or early fall is preferred since irrigation requirements are less than when sodding in summer. Sodding in winter can be done as long as winter irrigation is available to minimize winter desiccation on exposed sites.

Sodbed Preparation

Site preparation for sod is identical to that for seeding. On a new site, start with removing all construction debris, branches, rocks, etc. from the area. If there are weeds growing on the site, assess if there are any perennial grasses like nimblewill, quackgrass, bermudagrass, or windmill grass present. Multiple applications of glyphosate over multiple weeks will be required prior to starting soil preparation in order to control perennial grassy weeds. More information on perennial grassy weeds can be found in "Perennial Grassy Weed Control" at

<http://turf.unl.edu/pdfcaextpub/Properennialgrassyweedcontrol2012b.pdf>.

The next step is establishing the rough grade to ensure proper surface drainage away from buildings and eliminating low spots that could result in water accumulation. If significant grade changes are required, it may be necessary to stockpile the topsoil, grade the subsoil, rototill the subsoil to relieve compaction and spread the topsoil back out to a minimum depth of four inches.

Once the rough grade is achieved, a soil sample should be taken from the site. The test will determine fertilizer recommendations for the area. Correct any deficiencies in nutrients or pH by following the recommendations in "Soil Testing for Turf Areas" at

<http://turf.unl.edu/pdfcaextpub/SoilTesting2012g.pdf>.

Use a tiller or other cultivation equipment to work the soil to a depth of 4-6 inches, incorporating fertilizer or other soil amendments. To help improve a clay soil,



Figure 1. Sod will naturally shrink when it dries. Maintaining tight seams when laying will minimize future weed problems and rough mowing surfaces.

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till in one inch of good quality compost and then repeat with another inch of compost tilling, in a different direction. Do not attempt to amend a heavy soil by tilling in sand because it will become even more compacted in the future than if left unamended. Do not till wet soil because clodding will result, and avoid over-tilling any soil because it will destroy soil structure. Slightly compact the soil with a utility tractor or similar weight implement after grading or preferably allow the soil to settle after tilling. Heavy rains and/or irrigation will hasten settling. Allowing time for the soil to settle now will prevent undulations and difficult mowing in the future. Just prior to sodding, rake the area to the finish grade.

After the area is at finish grade, apply a "starter fertilizer" to enhance rooting. Starter fertilizer is high in phosphorus which is listed as the second number in the analysis on the fertilizer bag. For instance, a 16-22-8 fertilizer contains 22% P_2O_5 . Apply the fertilizer according to the label at 1.0 to 1.5 lb. P_2O_5 /1000 sq ft depending on your soil test results. Refer to Table 1 for the proper amount of starter fertilizer to apply.

Sod selection

In the northern Great Plains, Kentucky bluegrass or tall fescue are the only cool-season grasses available by sod while buffalograss is the only warm-season grass available by sod. Refer to "Choosing grasses and buying seed for lawns in Nebraska and Northern Great Plains" at <http://turf.unl.edu/pdfcaextpub/Grassesforlawns2012k.pdf> for grass selection. Some things to consider when purchasing sod include thickness, soil type, weed content, and freshness. Sod is generally cut to a depth of 0.25 to 0.5 inches, and properly harvested sod should contain surprisingly little soil. Thinner sod is easier to ship and handle and will also root faster. However, thin sod requires more frequent irrigation during establishment. Choose sod that

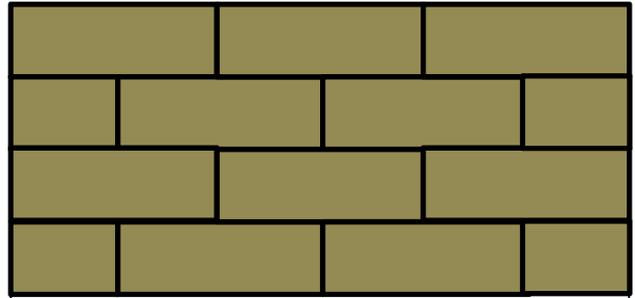


Figure 2. Lay sod in a brick pattern, alternating end seams and insuring all seams are tight.

contains soil similar to the soil found on the site. This will help avoid creating layers that could reduce rooting depth and water flow. Weed content is an obvious consideration. If possible, ask to see the area from where the sod will be harvested. This will also give some idea of the health of the sod. Finally, the sod should be fresh when it is delivered to the site and it should be laid within 24 hours after harvesting. It is important not to let the sod get too dry. If you cannot lay the sod immediately after delivery, you may need to lightly water as needed to keep the outer rolls moist.

Sod installation

Lightly moisten the soil where the sod is to be laid, but avoid over-watering the work area. Begin laying the sod in a brick-like pattern so that the ends are staggered (Figure 2). This will reduce the number of long seams. The edges of the sod should be fit tightly with each other to prevent exposed edges from drying out. It is also important to avoid stretching or overlapping the sod. A piece of sod that has been stretched is likely to shrink later forming gaps and exposed edges. If there is a slope, start at the bottom and run the sod perpendicular to the slope. A steep slope (10% or more) may require pegging or stapling the sod in place. Wooden pegs can be pulled out later after the sod is rooted down, but biodegradable sod staples do not have to be removed. The final steps in sod installation are to lightly roll and then thoroughly water the sod. Rolling is not

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meant to remove underlying irregularities in the soil, but to insure good sod-soil contact and remove any air pockets without compacting the soil. Thoroughly water the sod immediately after rolling. Keep traffic off the sod until it is well-established.

Post-Installation Care

Watering after installation is a priority. During the first two weeks sod requires daily watering. During warm weather, sod may need to be lightly watered during mid- and late afternoon hours when water use and evaporation is greatest. After 7 to 10 days, check for root development by firmly grasping the grass blades with both hands and lifting vertically. When the sod resists being lifted, usually within 10 to 14 days during optimum weather conditions, the frequency of irrigation should be reduced but the amount of water applied during each irrigation cycle should be increased. A lawn sodded in the spring or summer will not survive droughty conditions well the first year (Fig. 3). It is important to provide proper irrigation until the turfgrass can develop an extensive root system. Schedule irrigation to allow the turf to become firm enough to mow between waterings.

Sod is usually delivered at heights lower than your eventual mowing height. The recommended height for Kentucky bluegrass or buffalograss is 3.0 inches or higher, and 3.5 inches or higher for tall fescue. Most wait too long to mow after sodding (Fig. 4), Begin mowing the area at 3.0 to 3.5 inches as soon as top growth develops, but keep traffic level as low as possible. Even on large areas, use a walking mower for the first three to five mowings. For

best results, mow often enough so that no more than 1/3 of the grass blade is removed at each mowing.

Regular fertilization will also help the plant develop a healthy root system. Apply the same starter fertilizer used prior to sodding at 1.0 lbs P_2O_5 /1000 sq ft at four to six weeks after sod laying and again eight to ten weeks after sod laying to limit nitrogen deficiency, which usually manifests itself as thinning and older leaves turning yellow. If sodding in late summer and soils have adequate phosphorus levels, forego starter fertilizer in favor of traditional high N fertilizers. In mid-September and at least



Figure 3 (top): Frequent watering immediately after sod installation is essential. Since sod may take months to root adequately, monitor for soil moisture and drought stress in the plants.

Figure 4 (bottom): Mowing should begin as soon as sod resumes growth after laying.



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four weeks after installing the sod, apply 1.0 lb. N/1000 sq ft. An application of 1.0 lb. N/1000 sq ft should be made in early October and again in mid-November to encourage rooting.

In addition to following sound irrigation, mowing, and fertilization practices, regular aerification can significantly improve turfgrass rooting. Aerification reduces soil compaction and provides channels for the roots to better penetrate the soil. This practice will also help alleviate problems due to layering caused by differences between the soil on site and the soil on which the sod was grown. Many professional lawn companies offer an aerification service, or an aerifier can be rented from a local rental agency. Newly laid sod should not be aerified until the sod is firmly rooted into the soil (1-2 months). Aerify in the spring and fall when temperatures are moderate and the grass is growing well. Use the largest diameter tines available and punch 20-40 holes per square foot (this may require three to four passes across the lawn).

Weeds are usually not a problem in sod, and most herbicides are not labeled for application to sod until it is well established. If annual grasses, such as

crabgrass, become problematic shortly after sodding, it is better to tolerate the problem until the next spring when a preemergence herbicide can be used. Dandelion and other broadleaf weeds can be controlled with a broadleaf herbicide application in late October.

Table 1. Amount of starter fertilizer needed to apply 1.0 lb P₂O₅/1000 sq ft given the % P₂O₅ in the analysis.

% phosphorus in fertilizer	lbs fertilizer needed per 1000 sq ft to deliver 1.0 lb P ₂ O ₅	lbs fertilizer needed per Acre
10	10.0	436
12	8.3	363
14	7.1	311
15	6.7	290
20	5.0	218
22	4.5	198
24	4.2	182
26	3.8	168
28	3.6	156
30	3.3	145
32	3.1	136
34	2.9	128
36	2.8	121
46	2.2	95
60	1.7	73

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