

Improving Turf in the Fall

University of Nebraska-Lincoln Turfgrass Science Program | turf.unl.edu

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Even though most of us are growing weary of managing our cool-season lawn by the time August and September roll around, this is the most important season for turf maintenance of cool-season lawns like tall fescue or Kentucky bluegrass. Late summer and fall is also the best time to dramatically improve a lawn. The condition of the lawn will dictate the intensity of turf practices that should be undertaken.

Maintaining/improving lawns that are in good to moderately good shape with fertilization and weed control

1. Almost all cool-season lawns require fall fertilization as well as broadleaf weed control. Plus many slightly thinned lawns can be improved with proper fertilization and weed control. September is the most important time to fertilize cool-season turfgrasses in order to encourage rooting (next spring mostly) and increase density (yet this fall). Fertilize in mid-September at a rate of 1.0 pound of Nitrogen per 1000 ft² of lawn (1 lb N/1000 ft²). A fertilizer containing some slow release nitrogen would be preferable and these sources include sulfur- and/or polymer-coated urea, methylene ureas, isobutylidene diurea (IBDU) and natural organics (manure-based products). A soil test is recommended to determine the exact amount of phosphorus (P) and/or potassium (K) required, but a product with a nutrient ratio of N-P-K of approximately 4-0-2 or 4-1-2 could be used in lieu of a soil test. Examples of fertilizers with this ratio would be 24-6-12 or 20-0-10.

2. Make a second fertilizer application at or just after the last mowing of the year, but while the turfgrass is still green. A soluble nitrogen source, such as urea or ammonium sulfate, is very effective for late fall fertilization. The nitrogen should be applied at the rate of 1.0 - 1.25 lbs N/1000 ft². Though many "winterizer" fertilizers contain P and/or K, N is easily the most important nutrient to apply in a late fall fertilization.
3. Two fall applications of fertilizer should be adequate to maintain or even improve most lawns or athletic fields. A third application in mid-October could further improve a lawn if it was especially thin after summer. Apply 1 lb N/1000 ft² of soluble nitrogen. Be sure to reduce the rate of application of the November application to 0.75 to 1 lb N/1000 ft² you make an October application. The October application may encourage snow mold, so this application should be used only on very thin lawns or athletic fields where improved density is worth the risk of increased snow mold.
4. An application from mid-Sept to late-October of a broadleaf herbicide



This lawn is very thin, but has enough Kentucky bluegrass still alive that it will likely recover with aggressive fall fertilization.

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containing two or more active ingredients will control dandelions, plantain, wild violets, clover, and black medic among other perennial weeds. Read, understand and follow all directions on the herbicide label. Be careful when using these products because they may damage desired vegetation such as flowers, trees, shrubs, or vegetables. Apply this product preferably on a sunny day when no rain is forecast and temperatures are above 50°F. For more recommendations on specific weeds, refer to our “Herbicide Ratings” on our web page at <http://turf.unl.edu>.

Improving lawns with significant thin or damaged areas

The density of many lawns can be improved by introducing seed into the lawn and allowing these plants to germinate. The optimum time to seed cool-season turfgrasses in Nebraska is between Aug. 15 and Sept. 15, a week or two earlier as you move north to the Dakotas and a week or two later as you move south. Overseeding more current cultivars of Kentucky bluegrass into a lawn with old bluegrass cultivars may help change the composition of grasses in the lawn, but not to the same extent as completely renovation. Overseeding new cultivars of turf-type tall fescue into older thick bladed cultivars like K31 should not be attempted, but overseeding the new thinner-bladed cultivars of tall fescue into a previously existing Kentucky bluegrass lawn can be successful. Though this may not be successful in states where Kentucky

bluegrass maintains density all summer, Nebraska research indicates that late-summer overseeding of turf-type tall fescue can result in >50% tall fescue cover by the following year and ensuing overseedings increase the tall fescue cover even more. If poor drainage, bad grading, perennial grassy weeds like nimblewill or zoysia, seriously excessive thatch, and/or other underlying negative conditions exist, complete renovation would be recommended instead of overseeding.

1. Mow the area to 1 or 1.5 inches to reduce competition from established grasses.
2. Aerify the area, punching 20 to 40 holes/ ft² with the largest tines available. This will increase the seed-soil contact and improve germination and establishment rate. You can never over-aerify at this time, so make at least 2 to 3 passes over the lawn. A power raking at this time will also help to increase the seed-soil contact.
3. Apply a starter fertilizer (Percentage of P is two or more times that of N) over the entire lawn at 1.0 - 1.25 lbs P₂O₅/1000 ft².
4. Apply the seed to the lawn with either a



Though the Kentucky bluegrass in this lawn would likely recover with fall fertilization given enough time, overseeding would speed the process and is easily justified.

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dropseeder or a power overseeder (also called a slit seeder or slicer-seeder) which is a machine that will drop seeds into small grooves that it cuts into the soil. Try to make 2 to 4 passes over the lawn in different directions with either the dropseeder or the power overseeder to insure a uniform seeding. Table 1 lists the suggested seeding rates.

5. Lightly water the newly-seeded area as needed (maybe as much as 3 to 4 times daily) in order to keep the soil surface moist. Light, frequent irrigation is the rule. Until the seedlings are rooted and then irrigation frequency can be reduced.
6. Mow frequently to limit the competition from the established turf. Mow at 1.5 inches until new seedlings have been cut at least two times, probably at least 4 to 6 weeks after seeding. After that, raise the mowing height in 1/2 inch intervals over the next three weeks until a normal mowing height of 3.0 to 3.5 inches is reached.
7. Four weeks after germination, apply the starter fertilizer again at 1.0-1.25 lbs P_2O_5 /1000 ft².
8. Depending on when this process was started, the November fertilizer application should be done as listed above and perhaps the October application also.
9. Most broadleaf herbicides should not be applied until after the second mowing of the seedlings, which may be 4 to 6 weeks after seeding. However, some broadleaf herbicides like carfentrazone (QuickSilver from FMC) can be used sooner after seeding, so purchase

products accordingly and be sure to follow the label instructions on your specific herbicide.

Improving the lawn through complete renovation

Some lawns may be in need of complete renovation and reseeding because it contains old or poor-performing species or cultivars; is grown on poor and/or compacted soils; is damaged from traffic, diseases, or other stresses; contains more than an inch of thatch; and/or contains many grassy perennial weeds such as nimblewill or quackgrass.

1. Apply a nonselective herbicide such as glyphosate (Roundup or Kleenup) to kill the undesirable grasses. Multiple applications two weeks apart may be needed for tough-to-control grasses such as quackgrass or zoysiagrass. Allow the herbicide to work for at least 3 days before taking the next step. However, allowing the existing dead grass to decompose for a month or more makes step 2 easier and allows for repeat applications of glyphosate to insure complete kill.



Major problems like excess thatch (pictured), perennial grassy weeds, compaction, or poor surface drainage are best handled through complete renovation.

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2. Depending on your lawn, you can use one of three methods to prepare the soil:
 - a. On acceptable, uncompacted soils with no thatch, an aerifier can be used to expose the soil. A power rake set to cut 1/8 to 1/4 inch into the soil works also will work well. Follow this with a power overseeder or drop seeding.
 - b. On lawns with acceptable soil, but significant thatch, a power rake should be used to loosen and remove as much thatch as possible. If the thatch is more than 1 inch thick, either use a sod cutter to remove the thatch or completely rotary till the soil turning under the thatch. Follow this with drop seeding or power overseeding.
 - c. On compacted soils, till the soil to 4 inches or more, rake smooth, allow it to settle for 1 to 2 weeks with irrigation or heavy rain and/or compact slightly with the wheels of a utility tractor or other implement. Finish by raking to smooth the soil surface and drop seed. If the lawn is on a heavy clay soil, consider tilling in compost. Apply an inch of compost, till, and then repeat in a different direction to insure uniform incorporation of up to two inches of compost. Additionally, allowing the soil to settle for a month or more and/or through irrigation or soaking rains will help create a smoother lawn.
3. Just before seeding, apply a starter fertilizer per the soil test recommendations preferably or at 1.0-1.25 lbs P₂O₅/1000 ft² if no soil test is available.
4. After seeding, lightly rake the soil to incorporate the seed in the top 1/4 inch and roll the lawn with a light roller to insure seed-soil contact. Water the newly-seeded area as needed (maybe as much as 3 to 4 times daily) in order to keep the soil surface moist. Light, frequent irrigation is the rule.
5. Mow at 1.5 inches until new seedlings have been cut at least two times. After that, raise the mowing height in 1/2 inch intervals over the next three weeks until a normal mowing height of 3.0 to 3.5 inches is reached.
6. Four weeks after germination, apply the starter fertilizer again at 1.0-1.25 lbs P₂O₅/1000 ft².
7. Depending on when this process was started, the November fertilizer application should be done as listed above and perhaps the October application also.
8. Do not apply herbicides for broadleaf weeds until after the second mowing of the seedlings, which may be 4 to 6 weeks after seeding. Follow the instructions on your specific herbicide label.

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Table 1. Recommended seeding rates for lawns in the North Central US.

Seed Blend or Mixture	Seeding rate	
	lbs./1000 sq ft	lbs./acre
100% Kentucky bluegrass	1.5-2.0	65-87
85-90% Kentucky bluegrass + 10-15% perennial rye	3.0-4.0	131-174
50-70% Kentucky bluegrass + 30-50% fine fescue	4.0-5.0	174-218
100% turf-type tall fescue	6.0-9.0	261-348