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Starting a Lawn



Cooperative Extension Service
South Dakota State University
U.S. Department of Agriculture



Starting a Lawn

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The carpenters have left, and your brand new house is shining and fresh. It is going to be the dream home you always wanted.

What about the yard? Is it a dream or a nightmare? Are there piles of lumber about, ruts from heavy machinery, rocks?

How attractive your lawn will be throughout its entire life depends in great part on what you do now. So move carefully. For some steps, such as conditioning the soil and sloping the lawn, you have a "once only" opportunity. Right now is the time.

Start with good soil

The first step is to remove stones, tree roots, and the lumber and trash left from construction. Remove pockets of clay that may have been used to fill low spots and the leftover subsoil from the basement excavation.

You need 8-10 inches of good soil for best turfgrass development and performance; 12 inches is even better. Don't rush past this step; if you need more depth, buy good soil, not out of the basement of another construction site.

It is a good idea to get a laboratory soil test which will determine soil characteristics and potential problems or needed treatments. One of the things it tells you is how much organic matter the soil contains.

Five to 10% organic matter by volume is about what you want. Fibrous horticultural peat; well rotted, weed seed-free animal

manure; and aged compost are excellent sources of organic matter. These materials increase the water holding capacity, improve the structure and influence good aeration and internal drainage.

Horticultural peat breaks down very slowly and gives long lasting benefits. About five bales are needed to cover 1,000 sq ft to a one-inch depth. Work the peat into the top 6-8 inches of soil.

Organic matter and coarse sand improve clay soils for growing lawn grasses.

Preparing the seedbed

Do a thorough job in preparing the seedbed, just as careful a job as preparing your home vegetable garden soil. Work the soil to a depth of at least 8 inches.

Work fertilizer into the soil 1-2 days before seeding the grass. Use 8 lb of 8-32-16 per 1,000 sq ft. If a fertilizer of a different analysis is used, adjust the rate according to the nitrogen. The soil test, which your county extension agent can help you obtain, will determine the fertility and nature of the soil.

Grade or shape the seedbed properly to provide surface drainage and the desired contour. The final grade should have a 1-2% slope away from the house in all directions. Firm the soil with a light packer-roller (about 250 lb of pressure per square inch). The type of roller that is filled with water can be used; it is often available at most rent-all stores.

Allow for some settling of the soil before seeding. A 1-2 inch watering or rainfall on the seedbed will speed up settling.

You should always eliminate undesirable, coarse, perennial grasses such as brome grass and quackgrass or other perennial weeds before preparing the seedbed and seeding or sodding your desirable turfgrasses. If quackgrass or brome grass might be a problem, encourage their growth by watering and then spray with a recommended herbicide to kill. Seek the advice of weed control and turf authorities on current eradication methods and see FS 419, "Weed control in lawns and other turf."

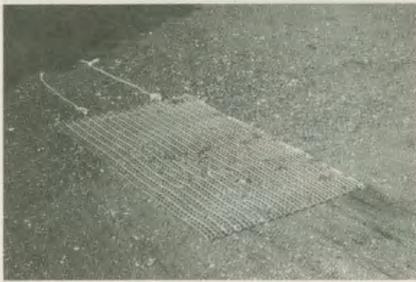
Selecting seed

Tables 1 and 2 list the grasses, in alphabetical order, which are considered to be adapted for lawn use in South Dakota. Check them for growth habit, usage, and seeding rate. The seeding rate is given in pounds per 1,000 sq. ft.

There are about six different situations that could affect the kind of lawn that is best for you.

1. A **highly prized lawn** is a solid stand of Kentucky bluegrass. For such a lawn a blend of two or three varieties of Kentucky bluegrass is often recommended, with a minimum of 25% of each variety (Table 3).

If you want this kind of lawn you need the right conditions such as a good sandy loam soil, adequate sunlight, and good quality water for watering. Most



After sowing the seed, you need to drag (or rake) lightly to just cover the seed with soil.

of the newer varieties of Kentucky bluegrass require a high level of management and care for maximum performance.

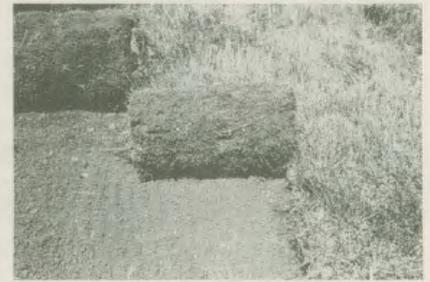
2. For a **sunny general purpose lawn** on good to fair soil, moderate rainfall, and/or good quality water, seed with a mixture of 1.5-2 lb Kentucky bluegrass and 1-1.5 lb creeping

red fescue. For spring seedings also sow 2-3 lb annual ryegrass as a nurse crop for each 1,000 sq ft of area.

3. For **fairly shaded sites** use 1.5-2 lb creeping red fescue and 1-1.5 lb Kentucky bluegrass. A nurse crop of annual ryegrass at the rate of 2-3 lb per 1,000 sq ft is advisable with spring seedings. It is usually not needed for fall seedings when the soil is warmer and germination of the permanent grasses is faster than in the spring.

4. For **heavily shaded sites**, consider Chewings fescue or a shade tolerant variety of Kentucky bluegrass (such as Ben Sun, Glade, or Nugget), or rough bluegrass. Chewings fescue is a bunchgrass, but when seeded thickly it forms a solid turf and does better in heavy shade than most other grasses.

Rough bluegrass is a



Good sod does not make up for poor soil preparation. Wet down the smooth soil surface, and make tight seams between the rolls.

perennial, shade-tolerant, sod forming grass. It has a pale green color, which may be objectionable.

5. If you live in a **drier area** or have **heavy gumbo soil**, try the Fairway strain of crested wheatgrass. This is a bunchgrass, but it will develop a fair turf if seeded heavily. It has a light green color. Overseeding weak stands is necessary to fill in open spaces.

6. In **extremely dry areas** with poor soil, consider buffalograss. It has a light green color. Buffalograss seedburs are treated by seed companies to enhance germination.

See Table 4 for the approximate number of seeds per pound for various grasses.

Uniform seeding is important

You can't mix different sized seeds and get uniform seed distribution. Bluegrass varieties can be mixed and seeded together as can creeping red fescue varieties. They are often already mixed when you buy packaged seed.

Grass species having seeds of different sizes should be sown separately. Seeds of nurse crop grasses, for example, are larger than permanent grass seeds and should be sown separately.

It is a good idea to divide the required amount of seed into two equal parts. Sow half in a north-south direction and the other half in an east-west direction. The drop-type spreader-seeder gives uniform seed distribution.

Table 1. Fine-leaved lawn grasses for favored sites.¹

Common name	Botanical name	Growth habit	Usage	Usual seeding rate for 100% stand lb/1,000 sq ft
Annual ryegrass	<i>Lolium multiflorum</i>	Bunchgrass	Nurse grass Temporary lawn	2-3 7-9
Chewings fescue	<i>Festuca rubra commutata</i>	Bunchgrass	Shade tolerant. Use in heavily shaded areas.	3-5
Creeping red fescue	<i>Festuca rubra (genuina)</i>	Sod forming	Lawns, fairways, athletic fields. Semi shade tolerant	3-5
Kentucky bluegrass	<i>Poa pratensis</i>	Sod forming	The major turf-grass in the northern U.S. (many varieties available)	1-2
Fine-leaved perennial ryegrass varieties	<i>Lolium perenne</i>	Bunchgrass	Heavy use areas. Rapid establishment	7-9
Rough bluegrass	<i>Poa trivialis</i>	Sod forming	Shade tolerant. For use in heavily shaded areas. Light green.	1-2

¹Favored sites are those having the environmental characteristics of the natural habitat of the grass.

Table 2. Fine-leaved lawn grasses for less-favored sites.¹

Common name	Botanical name	Growth habit	Usage	Usual seeding rate, lb/1,000sq ft
Blue gramagrass	<i>Bouteloua gracilis</i>	Sod forming	Low rainfall Heavy soils.	1.5-2.5
Buffalograss*	<i>Buchloe dactyloides</i>	Sod forming	Low rainfall. Heavy soils.	3-6
Crested wheatgrass	<i>Agropyron cristatum</i>	Bunchgrass	Fairway strain is useful in low rainfall and heavy soil areas.	1-2

*Seed should be pre-treated to enhance germination.

¹Less favored sites do not have all the characteristics of the natural habitat for more highly desired grasses.

Table 3. Some Kentucky bluegrass varieties and their description.

Variety (cultivar)	Description
Adelphi	Dark green, medium texture, low growing.
Baron	Dark green, medium coarse texture, low growing.
Delta	Medium green, medium fine texture, erect growing.
Fylking	Dark green, medium fine texture, low growing.
Glade	Dark green, medium fine texture, low growing, shade tolerant.
Nugget	Dark green, medium texture, low growing, shade tolerant.
Parade	Medium green, medium texture, low growing.
Park*	Medium dark green, medium texture, erect growing.
South Dakota Certified*	Medium green, medium texture, adapted to SD conditions.
Sydsport	Dark green, medium texture, low growing.
Touchdown	Medium dark green, medium texture, low growing, shade tolerant.
Victa	Dark green, medium coarse texture, low growing.

*Does not respond favorably to a high level of management as most of the other cultivars do.

Table 4. Approximate number of grass seeds per pound and seeds per square foot if seeded at the rate of 1 lb/1,000 sq ft.

Common name	Botanical name	Approx. no of seeds/lb	Seeds per sq ft if sown at the 1 lb/1,000 sq ft rate*
Annual ryegrass	<i>Lolium multiflorum</i>	275,000	275
Blue gramagrass	<i>Bouteloua gracilis</i>	5-800,000	5-800
Buffalograss	<i>Buchloe dactyloides</i>	50,000	50
Chewings fescue	<i>Festuca rubra var. commutata</i>	600,000	600
Creeping red fescue	<i>Festuca rubra</i>	600,000	600
Crested wheatgrass	<i>Agropyron cristatum</i>	325,000	325
Kentucky bluegrass	<i>Poa pratensis</i>	2,250,000	2,250
Perennial ryegrass	<i>Lolium perenne</i>	275,000	275

*Considering germination, purity, and field survival, about 30-40% plants can be expected under normal conditions.

You can mix one part seed to nine parts moist sand or fine, dry vermiculite before putting it in the seeder. This helps to insure even distribution of the seed.

After the seed has been sown, a light raking or dragging operation is necessary to place a thin layer of soil over the seed.

The new seedlings need a continuous supply of water until they are well established. Several light, gentle applications of water are necessary each day for the first 2-3 weeks after seeding. Then slowly reduce the number and frequency of waterings.

The germination period varies with the species, soil temperature, and moisture. Early fall seeding is usually suggested because the soil is warmer and seeds germinate faster than in the spring.

A light organic matter mulch such as weed seed-free straw or hay applied at about 80-100 lb per 1,000 sq ft (one or two bales) helps to reduce the evaporation rate up to 60%. Do not remove the straw or hay. It will decompose later.

Some hydroseeding is being done on home lawns. This involves a mixture of grass seed, mulch, fertilizer, and water which is sprayed over the seedbed in one application. It is generally done by a commercial operator because of the equipment needed.

When seeding a lawn in the fall, you should allow at least 6 weeks between the date of seeding and the usual date of the first killing frost. In the southern part of the state, the latest date to seed is about September 1, while in the northern part it is about August 1.

Sodding

When you add up all cost input factors, you may find the cost of sodding over seeding might not be a great as you expected.

Sodding provides immediate results. In some cases, such as

steep slopes, it is probably more practical than seeding.

Soil preparation for sodding is the same as for seeding. An application of fertilizer high in phosphorus prior to sodding encourages new root growth. Apply 8-10 lb of 8-32-16 fertilizer per 1,000 sq ft.

Good sod cannot make up for poor soil and other poor growing conditions or neglect.

Undesirable perennial grasses growing on the site should be eradicated before sodding.

In some localities it is possible to have sod laid by commercial operators. You can also purchase cut sod and lay it as a "do-it-yourself" project. For best results, turf for sodding lawns should be a desirable species and variety, should have had good cultural care, have a dense growth, and be free of weed seeds and weeds, including coarse perennial grasses.

Buy Kentucky bluegrass sod with straight sides and ends with a uniform ½-inch to ¾-inch thickness. Wet down the soil before the sod is laid. Stagger the ends of the sod rolls as if you were laying bricks. Put a mixture of sand and soil into the joints for a better fit and appearance. Water well.

Sod should develop into a good looking, established turf in 2-3 weeks.



Overwatering or using too forceful a sprinkler would have created some washing problems on a slope like this. Whatever the slope, a new lawn needs

several light, gentle waterings every day for two or three weeks after seeding.

For a lawn to be proud of

1. Kill any tough perennial plants like quackgrass or bromegrass growing on the site.
2. Provide the best possible soil. Sandy loam with a high (5%-10%) organic matter content is best.
3. Prepare a suitable seedbed.
4. Select the best seed mixture of species or blend of varieties that is adapted to your site or suitable for your purpose.
5. Plant in the fall or spring.
6. Use correct amount of seed.
7. Select good quality sod that contains the adapted species and varieties of grass preferred.

8. Handle sod carefully.

Don't leave it rolled up more than a day or two or let it dry out after being laid.

9. Water thoroughly until the seedlings are well established or the sod resumes growth.

10. Consider specific grasses for specific purposes.

Older lawns

In case your old lawn needs renovating you can follow most of the suggestions as given for establishing a new lawn.

Established lawns also need and deserve good care. See FS 715, "Lawn care," for older lawn maintenance.

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