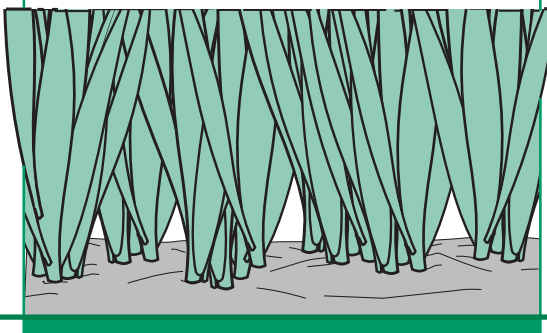


PLANTING A HOME LAWN

Turfgrass



Planting a permanent, healthy lawn requires planning, time and work. Allow adequate time for soil preparation. Make a checklist of things that need to be done. List supplies and equipment that will be needed. Measure the area to be planted, and convert to square feet. Plant at the right time. Use quality “certified” seed or sod for quality assurance. New grass will require extra care until it becomes established.

When to Plant

Cool-Season. Cool-season grasses—bluegrass, fescue and ryegrass—are best seeded in early September. Seeds germinate and grow rapidly in the warm soil with time to become

well established before winter. Warm, fall days and cool nights are ideal for seedling growth. Plus, there is less weed competition than in the spring. Early October seeding can be successful if fall temperatures remain mild, but chances of the seedlings becoming well established before winter are not as likely as in September, and winter weeds can become a problem. October 15 is generally considered the last day for planting a lawn in the fall.

Another option is dormant seeding during the winter. The seed does not germinate then but will the next spring when soil and weather become warm enough. Begin dormant seeding when soil temperatures average less than 40°F, normally mid to late November.

Planting Schedule for Bluegrass, Fescue, Ryegrass

July

Eradicate old grass and weeds
Take soil samples for soil testing

August

Grade and till soil
Incorporate amendments specified by soil test

September

Sow seed
Apply starter fertilizer or fertilizer specified by soil test
Keep soil moist until grass appears

October

Mow at 2 inches as soon as grass gets 3 inches tall
Water less frequently, but soak soil more deeply
Fertilize at half normal rate

November

Mow 2–2½ inches tall
Water, one deep soaking if rainfall not adequate
Fertilize at normal rate

March and April

Second choice for seeding time

Planting Schedule for Bermudagrass, Buffalograss, Zoysia

March

Take soil samples for soil testing

April

Grade and till soil
Incorporate lime or sulfur if specified by soil test

May

Early planting begins in mid-May

June

Best month for planting warm-season grasses
Apply starter fertilizer or fertilizer specified by soil test

July

Mow 1–2 inches tall, water as needed
Fertilize according to soil test

August

Mow 1–2 inches tall, water as needed
Water according to weather
Fertilize according to soil test

September

Mow slightly taller than normal 1½–2½ inches
Deep spaced watering during dry weather

Spring seeding, while not as reliable as seeding in the fall, often can be successful during March and early April if the weather is favorable. The success lies in planting early so seedlings can become well established before hot weather and weed competition begin. When planted late, the frequent watering required for young, immature grass plants during the summer encourages weeds and disease.

People who cannot get their lawn planted early in the spring, can use annual ryegrass as a temporary summer cover until the lawn can be seeded in the fall. If dust, mud, or erosion is not a problem, the soil may be left unplanted during the summer, allowing plenty of time to work the soil before fall seeding.

Warm-Season. Mid-May through July is the ideal time for planting warm-season buffalograss, bermudagrass and zoysiagrass. For buffalograss, when irrigation is available, summer planting in June and July is preferred. But when irrigation is not available, April and May planting is recommended to take advantage of spring rainfall for seed germination. Zoysia plugs and sprigs should be planted between late April and June, with May usually being the best time for planting. Bermudagrass can be planted anytime from mid-May through July. Later plantings of warm-season grasses may not completely establish before the end of the season, while earlier plantings are slow to establish and are often overrun by weeds.

Overseeding

If your goal is to improve an existing lawn or fill bare spots, overseeding is a better practice than starting over. Start by mowing the lawn short (1-1½ inches) to help move seed down through the canopy and allow light to reach it. A power rake or core aerator can be used to improve the soil. Seeder-slicer units are also available to cut through thatch and sow seed at the same time. Seed selection, sowing, watering and fertilization principles are the same as for new plantings. However, the seeding rate should be cut in half to account for existing turf. Too much new seed can create excess competition and weaken the lawn.

If only a few spots need to be reseeded, they can be prepared with a hand rake. Sow the seed uniformly by hand. Spread a thin layer of soil over the seed or work it in with the rake.

Soil Fertility and Testing

The first step in planting a lawn is to take a soil test to determine if any of the essential nutrients are deficient. Soil samples can be sent to the local K-State Research and Extension office or to a private soil testing lab. Take 10 to 12 random samples 3 inches deep and mix together. From this composite sample, take out 1 pint of soil for testing. If soil amendments are needed, incorporate them into the soil before planting at rates established by the soil test.

Grading

Grade the soil surface so it drains water away from the house and blends in with the surrounding terrain—do not leave low spots where water will stand. If possible, avoid terraces and steep slopes that make lawn establishment and maintenance difficult. Also, avoid adding or removing soil

around trees. If soil is dry, soak it several days before grading. Don't try to grade wet soil.

Preparing the Seedbed

Preparing the seedbed is the most important step in establishing a healthy lawn, but this requires time, hard work and expense. Lawn soil preparation and cultivation is a permanent, one-time operation. After the grass is planted, the soil cannot be tilled, loosened, or improved as with vegetable crops. Therefore, the seedbed must be in proper condition before planting.

A properly prepared seedbed is essential for rapid, uniform lawn establishment. A well-prepared soil allows grass to develop vigorous, deep roots for a healthy, easy-to-manage, problem-free lawn. Compacted soil severely limits root growth causing thin, weak turf that declines and is invaded by weeds. Chemicals, fertilizers, watering and reseeding will not make up for poor soil preparation.

Soil compacted by trucks and equipment during construction should be loosened to 6 inches in depth. This will require heavy equipment. To avoid layering, loosen the soil surface before adding topsoil, and then blend it with the base soil. Never work or drive heavy equipment over wet soil, because it compacts the soil and destroys its structure.

Soil preparation is the same whether using seed, sod, plugs or sprigs. At least 4 to 6 inches of nutrient-rich and properly aerated soil is needed to grow a healthy lawn, although 10 to 12 inches is preferred. Soils with a high clay or silt content compact and become hard, while sandy soils require frequent watering and fertilizing. The properties of both soil types can be improved through the addition of weed-free organic matter such as peat moss, compost, sewage sludge, or well rotted or dehydrated manure.

The soil should be prepared several weeks before it is time to plant. After grading, till the soil 10 to 12 inches deep, incorporating any recommended nutrients from the soil test. Sometimes soil conditions and/or equipment limitations make it difficult to till 10 to 12 inches deep. In these cases, till as deeply as possible—the deeper the better.

Use a plow, disc, rototiller or other suitable equipment. After tilling and incorporating nutrients, allow soil to settle for a couple of days. Then do a final grading. If adequate power equipment is unavailable to prepare and improve the soil, hiring a professional service or renting the equipment is an option.

Avoid overtilling the soil. A cloddy (1-inch diameter) soil is preferable to a powdery fine structure. With powdery soil, seed will stay on the ground's surface. Thus, the seed is unprotected and won't establish as well. If the footprints left by an adult walking across the seedbed are more than a half-inch deep, the soil is too fluffy. Also, overtilled soil will crust, creating a seal that air cannot get through. Overtilled soil needs to be firmed to avoid future settling, but never roll wet soil.

Hand raking is usually necessary for the final phase of soil preparation before seeding. This is an important element in the appearance and ease of mowing an established lawn.

Methods of Establishment

	Seed	Sod	Plugs	Sprigs
Bermudagrass	X*	X	X	X
Buffalograss	X	X	X	
Bluegrass	X	X		
Ryegrass	X			
Tall Fescue	X	X		
Zoysiagrass		X	X	X

*Sod, plugs or sprigs of improved varieties are preferred.

Sod. Sodding a lawn, requires the same procedure for preparing the soil for seed because sod must also develop healthy roots in the soil. Sod should not be used to cover up poor soil. Sod gradually declines on poorly prepared soil, and the additional expense is wasted. As with seeding, frequent watering is needed until the sod roots into the soil. Approximately 111 square yards of sod are required for 1,000 square feet of lawn area.

Plugs. Sod can be cut into 2 × 2-inch squares or 2-inch diameter round sections called plugs to make it go farther. A yard of sod will make 324 2 × 2-inch square plugs. Ask your supplier to cut them, because it is a difficult task. Plugs planted 12 inches apart will grow together in one season unless they are planted late. Three and one-third square yards of sod will provide enough 2-inch plugs spaced one foot apart to plant 1,000 square feet of lawn area. Weeds will likely grow in the bare soil between the plugs until a dense turf is formed, but the weeds can be controlled either by hand removal, or herbicides. Mow the grass to encourage faster spreading so the plugs will fill in.

Sprigs. Sprigging is a method of planting stems from shredded turf in shallow furrows. This method is less commonly used because of the amount of work involved in planting. Stolonizing is an alternative method where the sprigs are scattered on the soil surface and covered with topdressing.

The approximate amount of plant material needed for each of these methods is listed below:

Sod: 111 square yards per 1,000 square feet

Sprigs: 5 to 15 bushels per 1,000 square feet

Plugs: 1,000 plugs per 1,000 square feet (planted 12 inches apart)

Seed. The following seeding rates are based on the assumption that the lawnmaker will use quality seed, prepare the soil well, seed uniformly at the right time and manage the lawn properly after planting.

Seeding Rates and Depth of Planting

Bermudagrass	1.5–3 lb.*	1/8 inch
Kentucky Bluegrass	2–3 lb.	1/8 inch
Buffalograss	1–2 lb.	1/4–1/2 inch
Tall fescue	6–8 lb.**	1/8–1/4 inch
Perennial ryegrass	6–8 lb.	1/8–1/4 inch

*per 1,000 square feet

**3 lb. if overseeding

Sow the seed evenly at the recommended rate. Seeding rates depend on the kind of grass. A gravity-flow spreader that drops the seed between the wheels is the most accurate method of seed sowing, but a rotary spreader is faster. It is a smart idea to check the spreader calibration by measuring the area covered by a few pounds of seed before proceeding

to seed the entire lawn. Sowing half the total amount of seed in one direction and the other half in a direction at a right angle to the first is often advisable, although the seed may be carefully applied in one direction with a well-calibrated spreader. Choose a calm day to avoid wind blowing the seed during application.

After broadcasting, the seed will need to be blended into the upper 1/8 to 1/4 inch of the soil surface. To cover the seed, use a piece of 3/4 inch plywood about three feet square, with large nails (10 to 16 penny) driven through it 4 inches on center. An advantage of this device is that it does not drag seed around the lawn depositing it in low spots, footprints or wheel tracks. Pull this “miniature harrow” across the lawn three or four times. Some seed will remain on the soil surface, but this is normal.

With all methods of planting, it will be necessary to keep the soil moist until the grass is established. Keep weeds under control and begin mowing as soon as the grass becomes tall enough to mow.

Mulching

Mulching helps conserve soil moisture, prevent erosion, and keeps the soil from crusting. Aged straw or hay free of weed seed makes a good mulch. One small square bale per 1,000 square feet is about right. Too much mulch will smother new grass. Apply a thin layer of mulch uniformly over the soil surface to protect the seed and keep the soil from drying out. Keep the soil moist until grass emerges. Removing mulch after the grass has germinated is optional.

Weed Control

Weeds can easily invade the lawn while it is becoming established and being watered frequently. However, many chemical weed control products will damage or kill young grass seedlings. Do not use chemical weed control from one month before planting until the new grass has been mowed three times. An exception is siduron (Tupersan), a preemergence herbicide. It can be used on cool-season grasses at planting time. Roundup can be used until five days before planting.

The best way to prevent weeds during lawn establishment is to plant the grass at the recommended time. Grass will germinate and grow most rapidly during this time and weed competition is less likely to be a problem. Close attention to mowing, watering and fertilizing will help the grass establish more quickly and form a weed-resistant sod.

Mowing

A common mistake is to wait too long before mowing new grass. As soon as cool-season grasses reach a height of 3 inches, mow with a sharp mower blade set at a height of 2 inches. New grass is succulent, so it is best to mow on a warm afternoon when the grass and soil are drier. Continue mowing at a height of 2 inches through the last mowing of the season. Warm-season grasses should be mowed one to 2 inches tall during establishment. Regular mowing stimulates grass to spread rather than grow upright. Cool-season grasses are winter hardy and do not need to be left long for winter protection. Warm-season grasses should be mowed 1/2 to 1 inch taller at the end of the season. Taller mowing will help protect sensitive growing points during winter months.

Watering

Moisture is the most vital element for seed germination. After planting seed, thoroughly soak the seedbed to a depth of several inches. Use a gentle watering so seed is not disturbed or washed away. Keep the seedbed continually moist with frequent light sprinkling. Once the seeds have begun to germinate they must not dry out or they will die. During warm weather, the seedbed may have to be watered several times a day.

The approximate germination time for fall-sown grass seed is as follows: Ryegrass, four to five days; tall fescue, five to seven days; bluegrass, 10 to 14 days. Spring growth takes longer because of colder temperatures.

As the roots develop and grow deeper into the soil, water less frequently but soak more thoroughly until a normal watering schedule is established.

Fertilizing

It is important to apply the right kind and right amount of fertilizer for new grass while it becomes established. A soil test is the most accurate way to determine what kind of fertilizer should be used. If a soil test is not performed, a lawn starter fertilizer can be applied according to package directions.

While fertilizer is necessary for healthy, green growth, too much can burn the tender new grass. Make sure not to overfertilize when planting new turf.

Rapid growth is desirable while new grass is becoming established. Use lower rates of fertilizer, 0.5 lb. N/1000 square feet, but make more frequent applications than for established grass.

Planting a permanent lawn takes serious commitment. Timing is critical and everything should not be attempted in one weekend. A lawn can be planted in a short period of time, but the results will be less than satisfactory. If time or equipment is an issue, it may be easier to hire a professional to plant the lawn. A successful new lawn requires careful planning and frequent attention until established, but the results should be well worth the effort.

Planting Record

Soil test results:

pH _____ nitrogen _____ phosphorus _____

potassium _____ Other _____

Date planted _____

Amount of area planted _____ sq. ft.

Grass seed:

Kind _____ Variety _____

Amount of seed _____ sod _____ plugs _____

Fertilizer:

Kind _____ Amount _____

Soil amendments used _____

Date grass emerged _____

Date of first mowing _____

Other notes _____

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Matthew J. Fagerness
Turfgrass Specialist

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available on the World Wide Web at: <http://www.oznet.ksu.edu>

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Matthew J. Fagerness, *Planting a Home Lawn*, Kansas State University, January 2002.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-1126

January 2002

It is the policy of Kansas State University Agricultural Experiment Station and Cooperative Extension Service that all persons shall have equal opportunity and access to its educational programs, services, activities, and materials without regard to race, color, religion, national origin, sex, age or disability. Kansas State University is an equal opportunity organization. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Marc A. Johnson, Director.