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IDAHO LAWNS

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TABLE OF CONTENTS

Establishing a New Lawn	3
Lawn Grasses	5
Lawn Maintenance	7
Weed Control	9
Renovation of Old Lawns	10
Lawn Pests and Their Control	11

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Idaho Lawns

The lawn is an important feature of the home landscape. It should provide the setting for all the elements—flowers, trees, shrubs, and buildings—so that unity is apparent. The soft green carpet of a well-kept lawn provides an outdoor living room during the summer. It should be pleasing to the eye from early spring to late fall.

To have a beautiful lawn, it is necessary to plan the steps in establishing a new lawn; or if you already have a lawn, it is necessary to plan carefully how to make the most of it by regular fertilization, irrigation, pest control and clipping schedules.

ESTABLISHING A NEW LAWN

Success in establishing a new lawn depends on careful planning and proper preparation. Briefly, the steps are:

1. Grade and level the area, and provide a uniform layer of topsoil.
2. Add nitrogen fertilizer.
3. Prepare a good seedbed.
4. Spread the seed evenly and cover it lightly.
5. Seed in early fall or early spring.
6. Keep the soil surface moist for one month while the seeds are germinating and until the seedlings become established.

Grading and Leveling

A gently sloping surface allows for good surface drainage. The ideal situation is a lawn surface starting below the basement windows or 6 inches below the siding and sloping gradually away from the house. A desirable slope is a fall of 12 to 24 inches per 100 feet. The lawn should be at least one inch below the level of the sidewalk or driveway. Low areas should be filled because water or ice collecting in such areas may seriously injure the grass.

When a new home is planned be sure to save the topsoil separate from the subsoil in digging the basement or foundation. Any areas filled with subsoil should be covered with at least 4 to 6 inches of topsoil after the fill is graded. If much grading and leveling are required, the top 5 or 6 inches of topsoil should be scraped aside and saved for replacement.

A "rough grade" may be established by repeatedly filling and soaking all low and disturbed areas. This will cause the soil to settle to a uniform grade and prevent high and low spots in the finished lawn.

Adding organic matter to soils too heavy or too sandy is particularly helpful. Any weed-free source of organic matter such as peat moss, sawdust or finely-shredded straw is acceptable if thoroughly incorporated

into the upper 4 to 6 inches of the soil. If peat moss is used, three 100-pound bales per 1,000 square feet should be adequate. If large amounts of sawdust or shredded straw are used, 30 pounds of nitrogen should be added per ton.

Fertilize Before Seeding

A chemical soil test should be made before any fertilizer is added. Most soils in Idaho do not need the addition of phosphorus or potassium. Phosphate should not be added unless the test shows it is low. Phosphate should be worked into the surface 4 to 6 inches. Nitrogen is the only fertilizer needed for most grass production. A rotary tiller may be used to incorporate organic matter and phosphate into the topsoil.

A nitrogen fertilizer should then be applied at the rate of 2 pounds actual per 1,000 square feet. This means 10 pounds of ammonium sulfate or the equivalent nitrogen in another fertilizer. If a mixed fertilizer such as 10-10-0 is used, 20 pounds should be used. This may be raked in lightly before seeding.

Seedbed Preparation

The final preparation of the seedbed should start 2 to 3 weeks before seeding. The soil should be stirred or raked occasionally to destroy any weed seedlings present. The area should be rolled and raked to produce a fine, firm, level seedbed. The desired result may be obtained by dragging a heavy plank, metal mat or ladder back and forth. The soil should be irrigated to a depth of 8 inches before seeding to make sure the subsoil is wet. At seeding time there should be no clods or rocks on the surface larger than a grain of wheat. The seedbed should be rolled prior to seeding, re-leveled, seeded and rolled again. *Do not work or roll the seedbed when it is wet.*

Seeding the New Lawn

The best seeding method is split application. Divide the seed in half and spread half of it in one direction. Then spread the other half at right angles to the first seeding. The seed can be broadcast by hand or spread with a mechanical seeder. The organic mulch should then be applied. Do not cover the tiny grass seeds with more than 1/8 inch of soil or 1/4 inch of mulch.

Most lawn grasses will produce a dense, vigorous stand if seeded at the rate of 2 to 3 pounds of seed for each 1,000 square feet of area.

Grass may be established on steep slopes by sodding. Sod should not be cut more than two inches thick in order to facilitate rapid permanent establishment. Newly sodded areas should be rolled or tamped thoroughly, then fertilized lightly and watered thoroughly.

Time of Seeding

A good time to seed a new lawn is the last half of August. The cool, moist autumn weather is ideal for good grass growth and allows the grass to become well established before winter. A lawn seeded early in the fall will start regrowth in early spring and be capable of withstanding summer heat and competing with summer weeds. Fall seeding in humid sections of the state has the disadvantage that the new lawn must be watered several times each day until the seedlings are thoroughly established. In the irrigated sections frequent, light, misty sprinklings are necessary to keep the soil moist.

Spring seeding should be done as soon as the soil is in workable condition. Early spring seeding takes advantage of the cool temperatures and spring rains in the humid areas. In the irrigated sections it is necessary to sprinkle to keep the soil moist. This insures that seedlings will be well established before the advent of warm weather and the germination of summer weeds.

Seeding lawns in summer is less desirable because more frequent watering is required and the grass seedlings grow slowly during hot weather. In addition, if summer-germinating weed seeds are present in the soil their seedlings may destroy the lawn before it can become established. A light (1/4 inch) surface mulch of any weed-free organic material (straw, peat, sawdust or bark conditioner) will aid in keeping the soil surface moist. Straw appears to be the best mulch, but is not always weed-free. Mulch is a wise investment for any new lawn seeding.

Care of the New Lawn

Seeds will sprout more rapidly and the grass stand will be more uniform if the new lawn is given plenty of moisture. A fine, mist-like spray of water should be used to reduce soil and seed movement.

The new lawn should be mowed as soon as the grass is 3 to 4 inches tall. Do not cut closer than 1 1/2 inches.

LAWN GRASSES

The two main types of lawn grasses—Kentucky bluegrass and red fescue—make excellent lawns under Idaho conditions.

Kentucky Bluegrass

Kentucky bluegrass is the most commonly used lawn grass in the northern United States. It has a pleasing dark green color and fills in bare spots quickly after it is established. It is somewhat slow to become established, and requires frequent watering until it is established.

Several improved varieties of Kentucky bluegrass are available.

Delta is an improved type similar to common Kentucky bluegrass.

Merion is superior to common Kentucky bluegrass if managed properly. *Merion* starts growth later in the spring, but produces a tighter, firmer turf that does not need mowing as often as common Kentucky bluegrass. *Merion* seed germinates slower and takes longer to become established than other lawn grasses. However, once established it will take more wear and spread faster into damaged areas than other Kentucky bluegrasses. *Merion* needs liberal fertilization to produce superior sod density. Stem and leaf rust may become severe diseases on *Merion*. A good fertilizer program plus prevention of overwatering will minimize rust damage. *Merion* performs best if seeded alone.

Newport is similar in growth habit to *Merion* but produces a more open turf. The seeds germinate faster than *Merion*. In cool, moist springs leaf rust may become severe.

Park is superior to *Merion* in seeding vigor, sod formation, color and rust resistance.

Cougar is a recent release with the ability to spread into damaged areas faster than *Merion*. It forms a dense, weed-resistant leafy turf. *Cougar* becomes established more rapidly and will tolerate closer clipping than *Merion* without serious loss in turf density. It starts growth quickly in the spring. *Cougar* resists mildew and is moderately resistant to leaf rust. Preliminary trials indicate that *Cougar* is equal to or superior to *Merion*.

Red Fescue

Red fescue is a fine-leaved grass widely used in Idaho lawns. It is not as good as bluegrass in the Boise Valley. It starts growth early in the spring and will tolerate more shade than Kentucky bluegrass. Red fescue is tougher to mow than Kentucky bluegrass. A sharp mower is required because a dull mower will shred the leaf tips so they turn light brown and become unsightly.

This tough characteristic of red fescue permits its use in areas subject to more abuse and trampling than Kentucky bluegrass will tolerate. Many lawn owners prefer a mixture of half Kentucky bluegrass and half red fescue by weight because of its durability and shade tolerance. This mixture is commonly used for football turf in the northern United States. A number of improved varieties of red fescue are available.

Pennlawn creeping red fescue grows well, produces a high quality turf and is resistant to many lawn diseases.

Olds creeping red fescue produces a turf almost as good as *Pennlawn*.

Illahee and *Rainier* creeping red fescue produce fair quality turf but are better adapted to a cool, moist climate.

Other Lawn Species

Bentgrasses are best adapted for lawns in cool, moist climates. Creep-bentgrasses are used primarily for golf greens. They should not be used for home lawns because of their dense matting. This heavy dead thatch must be removed in early spring.

Colonial bentgrass is a tufted grass, only occasionally producing creeping stems. It is the type most commonly used for home lawns. *Astoria* and *Highland* are important varieties that are fine-textured and make a dense turf under close clipping. The bentgrasses require close clipping and only with reel-type mowers, top dressing at least once a year to stimulate the new stolons, frequent watering and more exact fertilization than Kentucky bluegrass or red fescue. In addition they have low tolerance to weed killers.

Sheep fescue and *hard fescue* are the most drought tolerant of the turf grasses, and are extremely difficult to mow. They are adapted to dry-land turf where close mowing is not essential. They are well suited for roadsides, golf course roughs and for holding steep clay banks.

Annual ryegrass and *perennial ryegrass* are short-lived. They should be used only where turf is desired for one or two years. The ryegrasses are characterized by rapid germination and seedling growth. They are frequently used in low-grade lawn mixtures where they provide a green cover quickly. However, they are considered undesirable as part of a mixture with other turf grasses because the seedlings grow so fast they reduce the stand of the other grasses.

White clover is a low growing legume that is included in some lawn mixtures to provide rapid green cover. However, white clover is generally considered undesirable since it is difficult to maintain a uniform stand and the unsightly patches are hard to eradicate. The leaves and stems are juicy and may stain clothing. Blossoms detract from the appearance of the lawn and attract bees. But if you want clover in your lawn, sow at the rate of one pound per 1,000 square feet. Applications of fertilizers containing phosphate encourage growth of clover.

LAWN MAINTENANCE

Fertilization

A good lawn must be well fertilized. Nitrogen is essential for a pleasing dark green color. Phosphorus and potassium may be needed and a soil test will indicate this, particularly when a lawn is established on clay

from a basement excavation. Ask your county agent about a soil test to aid in proper selection of fertilizers.

As a general rule, apply at least 2 pounds of nitrogen per 1,000 square feet of lawn each season. This should be divided into two applications of 1 pound each for best results. Make one application in March and one in early September. Don't apply nitrogen fertilizer in the summer. Uneven application of nitrogen will result in light green and dark green areas in the lawn.

Irrigation

Improper watering is a major cause of unsightly lawns. Light, frequent sprinklings encourage shallow grass roots. Water to 8 inches deep, letting sprinklers run until the soil is soaked to this depth.

Do not overwater. Daily watering saturates the soil and makes it soggy. In addition, overwatering results in leaching of plant nutrients, especially nitrogen, and fills the air space in the soil with water. Roots must have oxygen for growth.

Mowing

A sharp mower keeps a lawn neat. Dull mowers chew off grass leaves that die back and give the lawn an off-color appearance. The lawn should be mowed often enough that not more than 1/3 of the leaf is removed at any one mowing.

The mower should be adjusted to the right cutting height, depending on the kind of grass. For best results with Merion and Cougar Kentucky bluegrass, set the mower at a height of 3/4 to 1 inch. Other varieties of Kentucky bluegrass should be mowed 1 1/2 to 2 inches high. Creeping bentgrass is mowed 3/16 to 3/8 inches high. Red fescue should be mowed 1 1/2 inches high. Closer mowing will weaken red fescue turf.

Merion and Cougar Kentucky bluegrass clippings should be removed from the lawn and it is desirable but not generally necessary to remove clippings from other grasses. If the grass is too long when mowed, removing clippings will prevent yellow spots where the clippings are dense enough to partially smother the grass.

The type of mower isn't as important as is the proper height adjustment and sharpness. Reel-type mowers give a smooth, even cut. A grass catcher may be added. Rotary-type power mowers are less expensive and are effective in rough areas and in tall grass and weeds. Rotary mowers do not cut as smoothly as reel mowers, even when sharp.

Soil Aeration

Aerifying will open the soil and allow better water and air penetration

in hard and compacted lawns. The surface can be spiked with a hollow-tined fork or a power aerifier that may be rented. This machine removes cores of soil 1/4 to 1 inch across and about 3 inches deep.

WEED CONTROL

Chemical weed control can be used to eliminate weedy competition. Suggested herbicides kill many weeds but don't harm grass at the suggested rates. Use only the amine form of 2,4-D and 2,4,5-T to avoid vapor damage from these chemicals. Apply with care. Spray on a calm day and direct the spray away from flowers and shrubs. Cover the weeds uniformly with spray but do not soak them. Don't water or mow the lawn for at least 24 hours after applying the herbicide.

To obtain the greatest value from 2,4-D apply it when the temperature is between 60° and 80° F., when the weeds are growing vigorously and when the soil contains plenty of moisture. Don't apply immediately before or after mowing. A good practice is to mow the lawn, irrigate it, let it grow for a day or two then spray it with 2,4-D, and wait 3 or 4 days before mowing. Newly-seeded lawns should not be sprayed with 2,4-D until the grass is at least 6-weeks old. With careful use of 2,4-D amine, excellent control of dandelions, plantains, and many other broadleaf weeds is possible.

Quackgrass is often one of the greatest problems. Digging it out so that the roots dry is one of the most effective ways to fight this problem weed. Chemical control is possible, but difficult. It takes repeated applications of chemicals such as dalapon or amitrole. These materials are not selective. Desirable lawn grass is killed much easier than the quackgrass.

If the situation is serious, fumigation may be a solution. There are several fumigants on the market that will kill quackgrass and other hard-to-kill plants. Two fumigants which will allow replanting of desirable grass, shrubbery or garden within a short time are methyl bromide (sold as MC2), and sodium methyl dithiocarbamate (sold as Vapam). Methyl bromide is a colorless, odorless material which boils at 41° F. and is therefore applied as a gas. It must be applied when the soil temperature is above 50° F. It must be applied under a sealed plastic cover. Because of the care with which this material must be applied, the job is usually done by experienced operators. Vapam is applied by sprinkling it on the area with a can. The treated area is then sprinkled, irrigated, or covered with plastic to seal the surface so that the fumigant can do the best job. Be sure to read label directions and precautions before using.

Once a weed-free lawn is acquired, good care, which means proper irrigation, fertilization, and mowing will help keep it vigorous and weed-free.

Table 1. Suggested Amounts of Herbicides to use for Various Lawn Weeds

Weed	Formulation	Amount per 1,000 sq. ft.
Dandelion, plantain, other broad-leaved weeds	2,4-D amine (4 pounds per gallon formulation)	2-3 Tablespoons in 2 gallons water
Veronica (speedwell)	50-50 mixture of 2,4-D amine and 2,4,5-T amine (4 pounds per gallon formulation)	2-3 Tablespoons in 2 gallons water
White clover, chickweed, buttercup, pearlwort, heal-all, black medic or yellow trefoil, yarrow, and English lawn daisy	Silvex (4 pounds per gallon formulation), or Dicamba (Banvel D)	1-2 Tablespoons in 2 gallons water 1/2-1 Tablespoon in 2 gallons water
Moss	Iron Sulfate Commercial Iron compounds	2 to 4 pounds in 20 gallons water Follow directions on the label
Crabgrass	Bandane, Dacthal, Glenbar, Tupersan or Zytron	Follow directions on the label

For information on the control of other weeds, contact your county agent.

LAWN DISEASES

The USDA Home and Garden Bulletin No. 61, "Lawn Diseases—How to Control Them," provides excellent pictures and controls for most common lawn diseases. This bulletin can be obtained from your county agent.

RENOVATION OF OLD LAWNS

The procedure in renovating poor, run-down, weedy or otherwise unsatisfactory lawns will depend upon the condition of the turf and the cause of the poor turf.

If the lawn is very weedy or there are structural faults such as poor drainage or the soil is too heavy or too light in texture, it will be necessary to reconstruct the lawn. Tear up the lawn with a plow or a spade and establish a new one as previously outlined.

Faults that can usually be corrected by renovating an existing lawn include low fertility, surface compaction, too much shade, too many undesirable grasses and general neglect.

Early fall is the best time to renovate a lawn. If more than 50 per cent of the lawn consists of desirable grasses, it is usually possible to re-plant without preparing a new seedbed. Mow closely, rake to remove

clippings, leaves and other debris, and then apply chemical weed killers to eliminate undesirable species. Rake the lawn vigorously or cultivate it in such a manner that the surface of the soil is loosened to form a rough seedbed for planting. Fertilize and plant as if it were a new lawn.

Be sure to determine the cause of lawn deterioration, and then conduct a corrective program, or the lawn will require renovation again within a few years. Compaction from constant hard use can be remedied by using an aerifier. Paved walks where foot traffic is heaviest will help protect the lawn. Severe pruning of trees with low branches causing heavy shade is desirable.

LAWN PESTS AND THEIR CONTROL

Lawn pests are found in the soil, at the soil surface, and in the grass. During heavy spring and fall rains, earthworms and nightcrawlers construct earthen mounds in the turf. With these mounds scattered through the turf, it is impossible to mow the lawn smoothly. At times the grass will be found to be eaten off at the soil surface. This is the feeding damage of the sod webworms, the garden webworm or the larvae of the bluegrass billbug. Leafhoppers are often a nuisance in the summer. These tiny insects fly up as one walks over the lawn.

Either 1/2 pound of actual chlordane or 1/4 pound of actual dieldrin or heptachlor applied evenly to a 20 by 50 foot area will effectively control these lawn pests. Prepare the lawn for treatment by cutting the grass short and removing all the clippings. An even dust or spray application over the entire lawn will control leafhoppers and prevent their return for several weeks. Only one thorough application is needed on the webworm or billbug feeding areas. Earthworm and nightcrawler control is most effective when spring or fall rains have driven the pests to the surface. After applying the chemical, wash it off the grass to the surface where the worms will be contacted. Worms developing from eggs that hatch after the treatment will not be killed. Mid-summer worm control is seldom successful.

Chemical Residues—The foregoing recommendations are based on the best information currently available for each chemical listed. Follow recommendations carefully with respect to dosage levels, intervals and number of applications. Residues should not exceed established tolerances.

The grower is responsible for residue on his crops as well as for problems caused by drift from his property to other properties or crops.

THESE BULLETINS MAY HELP YOU

Other horticultural publications available at your county extension agent's office:

Pruning Ornamental Trees, Shrubs, and Fruit Trees—Extension Bul. 372

Raspberry Growing in Idaho—Extension Bul. 419

Strawberry Growing in Idaho—Extension Bul. 440

Idaho Fruit Varieties—Extension Bul. 300

Frost Prevention in Idaho Orchards—Extension Bul. 458

Training and Pruning Italian Prune Trees—Experiment Station Bul. 387

Vegetable Varieties for Idaho Gardens—Extension Bul. 232

Payette, a new curly top resistant tomato variety.—Experiment Sta. Bul. 387

The Owyhee Tomato—Experiment Station Bul. 298

How to Exhibit Fruit and Vegetables—Extension Bul. 406

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