

Revised April 1955

The Home Lawn

- RICHARD J. STADTHERR
- LEON C. SNYDER



UNIVERSITY OF MINNESOTA
Agricultural Extension Service
U. S. DEPARTMENT OF AGRICULTURE

Six Steps to **A New Home Lawn**

A GOOD LAWN is the most important single feature of any home landscape. It's like the canvas on which an artist paints his picture—a pleasant background for the flower and shrub border and the cool shade of the lawn trees. This folder should help you to grow a beautiful lawn.

▶ *Prepare the lawn area*

Best results will be obtained if you prepare the area thoroughly before planting.

When you build a new house, remove all of the topsoil to a depth of about 6 inches or more from the lawn area and put it into a pile. Unless the subsoil from the basement is needed to fill depressions or to give the lawn elevation, haul it away from the yard. Remove all construction debris such as bits of mortar and boards.

Carefully grade the subsoil, sloping it gradually. Be sure the surface is even before you replace the topsoil. Don't terrace unless necessary, a gradual slope is easier to maintain than a steep terrace. A decline of at least 3 inches per 100 feet in all directions from the house is recommended.

Where a fill is required around trees, protect the trees by building a well around the trunk. This will allow air to get down to the roots. Vertical tile placed in the filled soil at some distance from the trunk will provide additional avenues for air to reach the tree roots. Place these vertical tiles flush with the soil surface and fill with coarse gravel. Grass will grow over them so that they will not be noticeable.

Improve your subsoil by having your soil tested to determine the need for lime and the proper kind and rate of application of fertilizer. Based on the soil test, add the necessary fertilizer at the required rate. A phosphate-potash mixture (0-20-20 or 0-30-30) is recommended if no test is made. Apply at the rate of 20 to 30 pounds per 1,000 square feet. If the soil is

acid, ground limestone should be added at the rate of 50 to 75 pounds per 1,000 square feet. Work the limestone and the commercial fertilizer into the soil to a depth of 3 or 4 inches. Most lawn grasses do best at a pH around 6.5.

You are now ready to add the topsoil. Spread the topsoil evenly over the entire lawn surface. This topsoil should be at least 6 inches deep. If you do not have this amount, bring in additional topsoil. Three cubic yards of soil is needed to apply an inch of topdressing to 1,000 square feet of lawn area. Remember that 6 inches of loose soil will settle about an inch or more.

➡ *Prepare the seedbed carefully*

Improve your topsoil by adding organic matter and commercial fertilizer. Peat, well rotted manure, and compost are good forms of organic matter. The amount to add will depend on cost and availability. It is difficult to add too much organic matter at this time. Humus will enable a sandy soil to hold more moisture and plant food. It will permit a heavy clayey soil to drain better, allow better penetration of moisture, and provide better aeration to the roots. Add 1,000 to 2,000 pounds of organic matter per 1,000 square feet of lawn area. This would be about a bushel for a 25 square foot area. All organic matter should be worked in with the existing soil to a depth of 6 to 8 inches. For the very sandy soil, several inches of a heavy soil or clay and the organic matter will give better results than either material used alone. Likewise, if you have a heavy clay soil, sand should be mixed with the topsoil.

Test the topsoil to determine the kind of fertilizer required. Some common lawn fertilizers are 10-6-4, 8-8-6, and 10-10-10. A 10-6-4 fertilizer is composed of 10 per cent nitrogen, 6 per cent phosphoric acid, and 4 per cent potash. At least 10 pounds per 1,000 square feet of a 10 per cent nitrogen-carrying fertilizer should be applied. Nitrogen is a common essential element which is usually lacking in sufficient amounts in most of our Minnesota soils. Work the organic matter and fertilizer into the surface soil by spading, disking, or rototilling.

Excellent weed control has been reported by using calcium cyanamid at the rate of 40 to 80 pounds per

1,000 square feet before fall seeding. This chemical has been applied either before rototilling to a depth of 4 inches, after rototilling to the surface, or one-half application before and the other half after rototilling. Application should be made two to four weeks before fall sowing. Warm temperature and moist conditions are needed for this chemical to become active. Calcium cyanamid adds both nitrogen and lime to the soil. It can be mixed with 0-20-20 or other phosphate-potash carrying fertilizers, or separate applications can be made. Calcium cyanamid contains 20 per cent nitrogen. Follow manufacturers' recommendations in using this chemical.

Level the soil by raking. Remove any stones or other coarse debris. Be certain that the surface is smooth and without shallow depressions where water might stand. Roll the surface to establish a firm seed bed. Use a light weight roller having a weight of about 70 pounds per foot of width. Fill the roller about half full of water for ballast. You are now ready to seed or sod.

3 *Select the right seed*

Lawn grasses may be grouped into two classes—permanent and temporary. The permanent grasses include the bluegrasses, the fescues, and the bentgrasses. The best permanent grasses are the Kentucky bluegrasses, the red fescues, and the bentgrasses. The temporary grasses include redtop and ryegrasses. These are often added to a lawn mixture to give a quick lawn and to serve as nurse crops until the slower permanent grasses become better established.

Bluegrass

Kentucky bluegrasses are the best grasses for the average home lawn. The common Kentucky bluegrass produces a fine-textured lawn that has a bluish green color. During the midsummer heat and drouth this grass becomes somewhat dormant and may turn brown, if not watered. It turns green quickly with cooler weather and fall rains. Seed germination is slow; it takes about 15 days to 28 days for the seedlings to appear.

Merion, a new strain which looks very promising, has received highest ratings at recent turf trials. This new grass has darker green, broader leafblades. It tolerates more shade than common Kentucky bluegrass and closer mowing (down to an inch height).

This grass grows slower thus it takes longer to establish a good turf than with Kentucky bluegrass. Less mowing is required for Merion has a low, spreading growth habit which can become so dense that it will resist penetration of crabgrass and other weeds. Merion requires 3 to 4 pounds of actual nitrogen per 1,000 square feet of area. It is more resistant to drouth and diseases except rust.

Delta is a new selection of Kentucky bluegrass that is reported to be better adapted to cooler regions; however, it has not been adequately tested here. Its susceptibility to leaf spot is its greatest weakness.

Rough-stalked meadowgrass or Shade bluegrass (*Poa trivialis*) is a grass which resembles bluegrass very much; however, it will do better in moist, shady places. It should not be used in full sun or where there is much traffic.

Annual bluegrass (*Poa annua*) grows well in moist, cool, shady places. Germination is quick in warm weather and growth rapid. This grass has a tendency to self sow. It will not tolerate sunny, dry places.

Fescues

The **red fescue** resists drouth and tolerates shade better than Kentucky bluegrass. These grasses will grow on sandy soil and in shade where bluegrass does not thrive. These fescues have narrower, more pointed leaves and are inclined to be a little more wiry than bluegrass. Thus, they are more difficult to mow. Selected strains include Chewings, Penn State Chewings, Pennlawn, Illahee, and Rainier. The Chewings varieties do not spread like the others.

Alta and Kentucky 31 are new selections of **tall meadow fescue**. They are especially tolerant of heavy traffic but are rather coarse in texture and only moderately tolerant of disease. They are not recommended for the home lawn but have value in the athletic field or park.

Bentgrasses

Bentgrasses, although popular for golf greens, are not too good for the average home lawn. They make an excellent high quality turf but require constant attention such as frequent mowing, aerating, watering, and disease control. The bentgrasses grow well on poorly drained and wet soils. They do require more watering, generally twice a week during periods of drouth. A yearly topdressing of about one-half inch of organic matter in the spring and aeration will help

produce a good bent lawn. Because pure bentgrass lawns require more care and are more susceptible to disease than the Kentucky bluegrasses, they are not generally recommended for the home lawn. The Creeping bents and Colonial bents are the kinds most frequently used.

The Creeping bents include Washington, Metropolitan, Minnetonka, and Seaside. With exception of Seaside, these grasses must be propagated vegetatively.

The Colonial bents are less creeping, therefore, do not crowd out other grasses. The Astoria, Highland, and Colonial varieties are the ones most commonly planted.

White Clover

White clover, although not a grass, is often added to lawn mixtures. This clover grows on a wide variety of soils and helps make an attractive lawn. It does not stand as much traffic as the turf grasses. The clover helps to aerate the soil because of its deep roots and helps to add nitrogen to the soil.

Temporary Grasses

Redtop germinates sooner than Kentucky bluegrass, generally in about a week after planting. It is a short-lived perennial which is generally crowded out by the bluegrass in two or three years. It provides a quick green cover and is recommended for the temporary lawn.

Common ryegrass is a rather coarse grass which germinates in three to seven days. It makes a quick ground cover. Lawns which have much of this grass will often show large voids the second year. It is useful in establishing a good lawn from seed.

Perennial ryegrass is similar to Common ryegrass in appearance. It becomes very tough and hard to mow during the dry weather in summer. It is used to obtain a quick lawn and is short-lived, generally dying after the first winter.

Others

Timothy, Canada bluegrass, Orchardgrass, Crested wheatgrass, and other fescues are not recommended for home lawns, for they are coarse, have sharp stubbles, and tend to be bunchy.

Bermuda and Zoysia are warm climate grasses which are not recommended for this area.

4 *Plant grass mixtures*

It is generally best to plant a grass mixture rather than a single variety of grass. The mixture should include the fast germinating temporary grasses such as redtop and ryegrass as well as the permanent lawn grasses adapted for your conditions. White clover is included in some mixtures, or it may be sown separately. A good mixture will contain from 50 to 70 per cent bluegrass and fine-leaved fescues.

Buy your seed from a dependable company, preferably one serving your area. Examine the label to be certain that the mixture contains enough good permanent lawn grasses. For shady or sandy lawns be sure the mixture contains some of the desirable fine-leaved fescues.

For those who prefer to make their own mixture, the following is suggested for an open lawn on good soil:

- 4 parts Kentucky bluegrass
- 3 parts Chewings and Creeping red fescue
- 2 parts redtop and ryegrass
- 1 part white clover

For a shady lawn or a sandy soil, use two parts of Kentucky bluegrass and five parts of the red fescues.

Although, lawn grasses can be seeded at any time during the growing season where proper attention is paid to watering, there are two seasons that are considered best for seeding. These are early spring, from April 15 to May 15 (to June 1 in northern Minnesota) and early fall from August 15 to September 1. Lawns seeded after September 1 might not become established before winter. Fall seeding is preferable because grass seed germinates better at warm temperatures and because moisture conditions and growth are usually better during the cooler fall period. During this period, weeds don't generally germinate and thus the seedling grass has less competition in becoming well established.

5 *Seed at the proper time*

Sow the grass seed on a still day when there is no wind blowing. When seeding by hand, mix the grass seed with an equal weight of sand to obtain better distribution of the seed. For every 1,000 square feet of area use about 3 to 4 pounds of a Kentucky bluegrass mixture, 1 to 2 pounds of Merion bluegrass,

about 6 pounds of the red fescues, or 1 to 2 pounds of bentgrass. Divide the seed into two equal parts. Seed first in one direction using one-half of the seed and then seed in the other direction using the other half.

With mechanical seeders, you use less seed and get excellent results. A whirlwind type field seeder is very good. Some of the lawn fertilizer spreaders can also be used for spreading the grass seed.

After seeding, rake the seedbed lightly, roll it again to firm it, and press the seeds into the soil. The seed should not be covered with more than an $\frac{1}{8}$ inch of soil.

On slopes where erosion and washing away of seeds may be a problem, cover with burlap, erosion net, or a light covering of straw. An application of a synthetic soil conditioner of 1 pound per 1,000 square feet added to the surface soil would help prevent soil erosion. A mulch of $\frac{1}{4}$ inch well rotted manure, leaf-mold, or compost might be used. One bail of straw will cover about 2,000 square feet of area. Be sure to use coarse straw that is free from weed seeds.

After seeding, water frequently and thoroughly to keep the surface soil moist. Use a fine spray to prevent soil washing. Do not let the surface soil become dry until the new lawn is well established. It may be necessary to water every day and sometimes several times a day during dry, windy weather until the new grass is at least an inch long. Gradually reduce watering after lawn has become established.

First mowing of the newly planted lawn should be started when the grass gets $2\frac{1}{2}$ to 3 inches tall. Cut to the recommended height and mow regularly thereafter. Mow only when the lawn is dry.

6 *Sod on slopes*

Sod will give you a quick uniform covering, but it is generally more expensive than seeding. It is recommended only where seeding would be difficult such as a steep slope or where you want a lawn immediately. Prepare the soil as you would for seeding. Purchase sod about 1 to 2 inches thick that was cut from a good bluegrass pasture that was free from weeds and stones. Lay the strips snugly against each other with the ends tightly matching in successive rows like bricks in a wall. Lay the strips of sod horizontally to the slope. Put in wooden pegs on a steep slope to keep the sod from slipping.

Topdress the sod with about a $\frac{1}{2}$ -inch layer of

good topsoil and work into the sod with the back of a rake. Soak the sod with water using a lawn sprinkler. Roll the sod after the water has soaked in to insure good contact with the soil. Keep the newly sodded lawn well watered until the sod is firmly rooted. Sodding can be done at any time from early spring until late fall.

Give Good Care to **Your Old Lawn**

Spring Cleanup

In the early spring, as soon as the frost is out of the ground and the moisture has settled into the soil, clean the lawn thoroughly. Do not use a steel rake to pull out the dead grass. You will expose the grass roots and also tear out some of the good grass. Use a bamboo or broom-type lawn rake for fallen twigs, bits of paper, and fallen tree leaves. Leave the dead grass in place. It will soon rot and form valuable organic matter for the lawn. In a few weeks the new lawn will grow up and the dead grass will not be noticed.

Each spring is also a good time to roll the lawn to even out any rough surfaces. Do not use too heavy a roller or roll when the soil is wet and sticky as this will compact the soil too much.

Fertilizing the Lawn¹

The lawn will need to be fertilized annually. The best time to apply fertilizer is in the early spring and early August.

Well rotted barnyard manure is a good fertilizer. A light application of a bushel to 100 square feet applied in the early spring or in late fall should give good results. Spread the manure out evenly and break up all lumps. Rake off all coarse material.

Most city and many country home owners prefer to use commercial fertilizers because they are easy to apply and free from weed seeds. A complete lawn fertilizer is generally best. Most fertilizer companies put out a special lawn fertilizer. Apply these complete fertilizers at the rate recommended by the manufac-

¹ This section was prepared with the help of J. M. MacGregor, associate professor of soils.

turer. A safe rule to follow is to apply the fertilizer evenly so that each 1,000 square feet receives at least 1 pound of actual nitrogen.

Apply the commercial fertilizer when the ground is moist, but only when the blades of grass are dry. Use a lawn fertilizer spreader for even application, being careful not to miss or overlap areas. Watering immediately after applying fertilizer helps prevent burning the grass.

Liquid fertilizers are very easy to apply to get good coverage and they will give excellent results if applied at the recommended rate of a minimum of 1 pound of actual nitrogen per 1,000 square feet. There are many concentrated soluble complete fertilizers which are relatively expensive. Be sure to check cost and rate of application before you agree to have these fertilizers used on your lawn.

Sometimes high nitrogen fertilizers like ammonium sulfate and ammonium nitrate are used. These must be applied with extreme care since they may burn the grass when used in the dry form. They can be applied in the liquid form using about 5 ounces in 10 gallons of water. Use 5 pounds of ammonium sulfate or 3 pounds of ammonium nitrate per 1,000 square feet. Dry application of these chemicals can be made safely only early in the spring before the grass becomes green.

Organic fertilizers containing nitrogen can be used with complete safety. These include cotton and soybean meal, sewage sludge, dried manures, and tankage. Use about 20 pounds of one of these per 1,000 square feet or enough to add 1 pound of actual nitrogen. Such organic fertilizers are not recommended for early spring application for they do not decompose when temperatures are low, thus the nutrients are not available for the grasses. When temperatures are warm, these fertilizers are valuable in providing a constant supply of available nitrogen over a long period of time.

Mowing the Lawn

The frequency and height of mowing are important. The height will be determined by the kind of lawn grass. The lawn mower should be set about 1½ inches high for Kentucky bluegrass and the fescues, ½ inch high for the bentgrasses, and about 1 inch high for Merion bluegrass. The frequency of mowing depends on rate of growth, however, generally mow when the grass has grown an inch higher than the height recommended at which the particular type should be cut. If mowed when the grass is longer

than 1 inch, remove the clippings; otherwise, they can be left. Mowing may be twice a week in the early spring. Be certain that your lawn mower is sharp and properly adjusted. During June and July, it is recommended to cut your lawn at a 2-inch height. This tends to reduce the amount of crabgrass in your lawn.

Correct Watering

Faulty watering can injure a good lawn. Water during dry weather when the grass is actually suffering from the lack of water. When you water, do a thorough job. Soak the soil down to the depth of the grass roots.

Generally about 2 inches of water applied per week during periods of drouth will supply the necessary amount of water. To measure the amount of water your sprinkler is delivering, place a can out one-half of the distance between the sprinkler and the spread of water. When you can measure 2 inches of water in this can, the area has usually obtained sufficient water on a sandy loam soil. The water should be applied evenly to obtain maximum penetration with no runoff.

Frequent shallow watering actually can be harmful since it encourages shallow, surface roots. Deep roots that penetrate the soil for moisture and minerals are necessary for a permanent lawn.

Deep Shade

Lawns won't grow well in deep shade. Sometimes this failure is due to root competition from the trees. Deep soil feeding of the trees and heavy surface applications of fertilizer accompanied by heavy watering may help. Thinning out the trees, however, offers the only permanent solution. If the shade is too deep, use some type of ground cover other than grass.

Weed Control

Weeds in the lawn always present a problem. These include crabgrass and such broadleaved weeds as dandelion, plantain, knotweed, and chickweed.

One of the best ways to fight weeds is to take good care of your lawn, encouraging vigorous growth of the grass. When broadleaved weeds become established, they can be killed with 2,4-D. Use the amine form of 2,4-D or a product recommended for lawns since the ester form, often used for field weeds, is highly volatile and will injure nearby flowers and shrubs.

Apply on a still day when the temperature is above 60° F. and when the weeds are actually growing. Be careful not to let the spray drift onto flowers or nearby shrubs. Use the spray according to the manufacturer's directions.

Weeds that are difficult to kill, such as chickweed, may require two or more applications for a complete kill. Potassium cyanate, recommended for crabgrass, will also be effective in controlling chickweed. Unless you use your sprayer for 2,4-D alone, be sure to rinse out the sprayer and nozzle with a solution of ammonia or soapsuds.

Crabgrass remains the most difficult lawn weed to control. One of the organic mercury compounds, PMAS, has given good control in our experiments; however, it has been reported to be injurious to Merion bluegrass. Potassium cyanate also has given effective control. Use other products according to the manufacturer's directions. Start applying early when the crabgrass first starts to germinate and repeat at 10-day intervals. Two or three applications should kill the crabgrass.

Do not use chemical weed killers on a newly planted lawn. Frequent mowing will control many of these annual weeds that appear the first year.

Insects and Earthworms²

Ants and earthworms are often objectionable in lawns, not because they feed on grass, but because they damage the lawn surface. White grubs may cause considerable damage by eating the grass roots. Wireworms, cutworms, and other soil insects may also injure the lawn. Slugs in cool, wet seasons, especially in the shady areas, may become a problem.

Ants are readily controlled by dusting 3-10 per cent chlordane around the ant hills. For white grubs and other soil insects, use 1 cup of 4-pound chlordane emulsion concentrate in 10 gallons of water per 1,000 square feet, or dust about ½ to 1 pound of 40 per cent wettable chlordane over each 1,000 square feet of lawn surface, or 5 pounds of 5 per cent chlordane dust may be used over 1,000 square feet of lawn. Regardless of what material is used, water well after application of insecticide. One pound of aldrin mixed with 100 pounds of complete fertilizer, used at the recommended rates per lawn surface, will serve a double purpose.

For earthworms, use 1 cup of 2-pound concentrate of dieldrin emulsion, highly diluted in water, or 1½

² This section was prepared by A. A. Granovsky, professor of entomology and economic zoology.

pounds of 40 per cent wettable chlordane per 1,000 square feet. Slugs are best controlled with liberal application of metaldehyde bait.

Diseases³

There are several diseases that may disfigure lawns under certain conditions and these may call for special preventive measures.

Bluegrass leaf spot is favored by cool wet weather in May or June. It causes brown spots on the leaves and may attack the crowns causing the leaf blades to turn brown. It may thin out the grass or partially kill out large areas. It is most destructive on closely clipped lawns. Mowers should be set to cut 1½ to 2 inches high during spring. Fertilizer application in fall or spring will stimulate more rapid recovery.

Melting out occurs in midsummer. This disease caused by *Helminthosporium* results in irregular thinned out patches without definite margins. The grass blades first develop a bluish cast later darkening and withering away. Only the leaves are killed but new growth develops slowly. Excessive use of nitrogen fertilizers and excess watering should be avoided. Air drainage by careful pruning of surrounding trees and shrubbery should help.

Slime mold often occurs on spots over a lawn after a period of wet weather. The blue-gray, slimy patches of mold are unsightly, but later they appear as a mass of brown powder. The mold does not injure the grass unless a heavy growth smothers the grass. The mold can be removed by raking, sweeping, or washing with a stream of water from a hose. Application of sulfur dust or any good fungicide to the areas should stop development.

Brown patch—Brown patch is a disease of grass that is caused by the fungus, *Rhizoctonia solani*. The fungus lives perennially in the soil and during hot humid periods it invades the stems and leaves of the grasses and kills them. Brown patch usually appears in definitely limited patches that may be several inches to three feet or more in diameter. In this case all of the grass becomes gray brown and hence the name "brown patch." However, sometimes the fungus grows more sparsely through a lawn and then individual plants are killed, giving the appearance of more gradual thinning of the lawn.

Brown patch is controlled best with mercury chlorides (calomel corrosive sublimate mixtures).

³ This section was prepared by R. C. Rose, extension plant pathologist, and M. F. Kernkamp, associate professor of plant pathology.

Calo-clor at the rate of 2 to 3 ounces per 1,000 square feet is recommended. Apply when symptoms appear.

Snow mold—Snow mold is a disease that is caused by several fungi, and it appears very early in the spring before all of the snow is melted. Frequently the grayish dirty appearance of snow mold is visible at the edges of melting snow banks or ice sheets. The fungi that cause snow mold can grow at temperatures at or near 32° F. and cause injury in the early spring. A heavy matting of mold may smother the grass roots. Thorough raking to break up the crustlike mats should prevent injury and speed recovery.

To control snow mold, use mercury chlorides (calomel corrosive sublimate mixtures). Apply Calo-clor at 3 to 4 ounces per 1,000 square feet of lawn in the fall just before snowfall. If necessary, make a similar application as soon as or even before all of the snow is off the lawn in the spring.

Renovating an Old Lawn

When a lawn becomes poor and thin, either in spots or over its entire surface, it needs renovating. Before renovating, find what is causing the poor lawn and take steps to remedy it.

If the subsoil is poor and there is insufficient topsoil, add enough topsoil to support a good lawn and proceed as you would in starting a new lawn.

If the lawn is thin merely in spots and the soil is not too bad, it may be possible through application of fertilizer and reseeding the bare spots to re-establish a satisfactory lawn. Always loosen the soil in the bare spots before planting grass seed. Keep it watered well until the grass is established.

Where the soil is uneven, it may be possible to roll down some of the high spots in early spring and fill in some of the depressions. A good stand of grass will push up through a light covering of soil in the depressions. If you repeat the process for several seasons, you can even your lawn. If the depressions are deep, it may be better to fill in so that the soil is level and reseed where necessary.

The soil may need aeration where it is heavy or where traffic packs the soil such as in pathways, boulevards, and play areas. To loosen the soil, use a hollow-tine spiking fork, a special aerating tool, or an aerating machine. Holes should be about 3 inches deep and 4 to 6 inches apart. Be sure to soak the soil several days before aerating.

Home Lawn Calendar

EARLY SPRING (mid-April to late May)

1. Remove all trash using a lawn-broom to remove excessive leaves.

2. Fertilize as early as you can. Be sure to apply nitrogen so that each 1,000 square feet of lawn area receives 1 pound of actual nitrogen.

3. Prepare the seedbed thoroughly before seeding. Select a good seed mixture that contains at least 50 to 70 per cent good permanent lawn grasses.

4. Correct thin and bare areas by determining what is causing poor growth. For thin areas, a thorough raking which loosens the topsoil is a good practice before seeding. For the bare areas, rework the spots by spading or rototilling. Straight Kentucky bluegrass seed is recommended for such areas.

5. Roll the lawn when the soil will not pack. Fill in depressions.

SUMMER

1. Mow regularly to the recommended height. For the new lawn, begin mowing when grass is about 3 inches long. Leave clippings where they fall.

2. Water during periods of drouth when grass suffers from lack of water. Water thoroughly once a week during such periods.

3. Check diseases, insects, and weeds with proper chemicals (see pages 11, 12, 13). Begin crabgrass control early before new plants appear. Repeat application of weedicide every ten day or two weeks until mid-July.

4. Aerate areas that have become compacted.

5. Do not seed during the summer unless you want a temporary lawn composed of ryegrass and redtop to prevent erosion and keep mud out of the new home.

LATE SUMMER (August) THROUGH FALL

1. Make second fertilizer application in early August.

2. Mow regularly, and control insects, diseases, and weeds.

3. Remove leaves which have a tendency to congregate in certain areas, especially those from soft-wood trees.

4. Prepare the seedbed and plant your fall seeds early—preferably before September 1.

See Your County Agent

A FAMILIAR EXPRESSION heard on Minnesota farms is "see your county agent." Every county in Minnesota has a county agricultural agent. Many counties also have home and 4-H Club agents. Where there are no home or 4-H agents, the county agents conduct their programs.

THE COUNTY AGENT is part of a four-way partnership among the United States Department of Agriculture, the University of Minnesota, the county government, and farm people.

IT IS THE JOB of the county extension staff to bring to farmers and homemakers the latest information on farming and homemaking methods and to conduct 4-H Club work in the county.

LOCAL COMMITTEES, cooperating with the Director of the Minnesota Agricultural Extension Service, hire these agents and map out their programs.

MOST COUNTY AGENTS have their headquarters in the county courthouse. They are available to answer your questions and help solve your farming and homemaking problems.

THIS FOLDER is one of many published by the University of Minnesota Agricultural Extension Service as an additional service to bring up-to-date information to your attention. These Extension Service bulletins are distributed through your county agent or through the Bulletin Room, University of Minnesota, Institute of Agriculture, St. Paul 1, Minnesota.

UNIVERSITY OF MINNESOTA, INSTITUTE OF
AGRICULTURE, ST. PAUL 1, MINNESOTA

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Service and United States Department of Agriculture Cooperating, Skuli Rutford, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914. 10M-3-55

UNIVERSITY OF MINNESOTA



3 1951 D04 088384 Z