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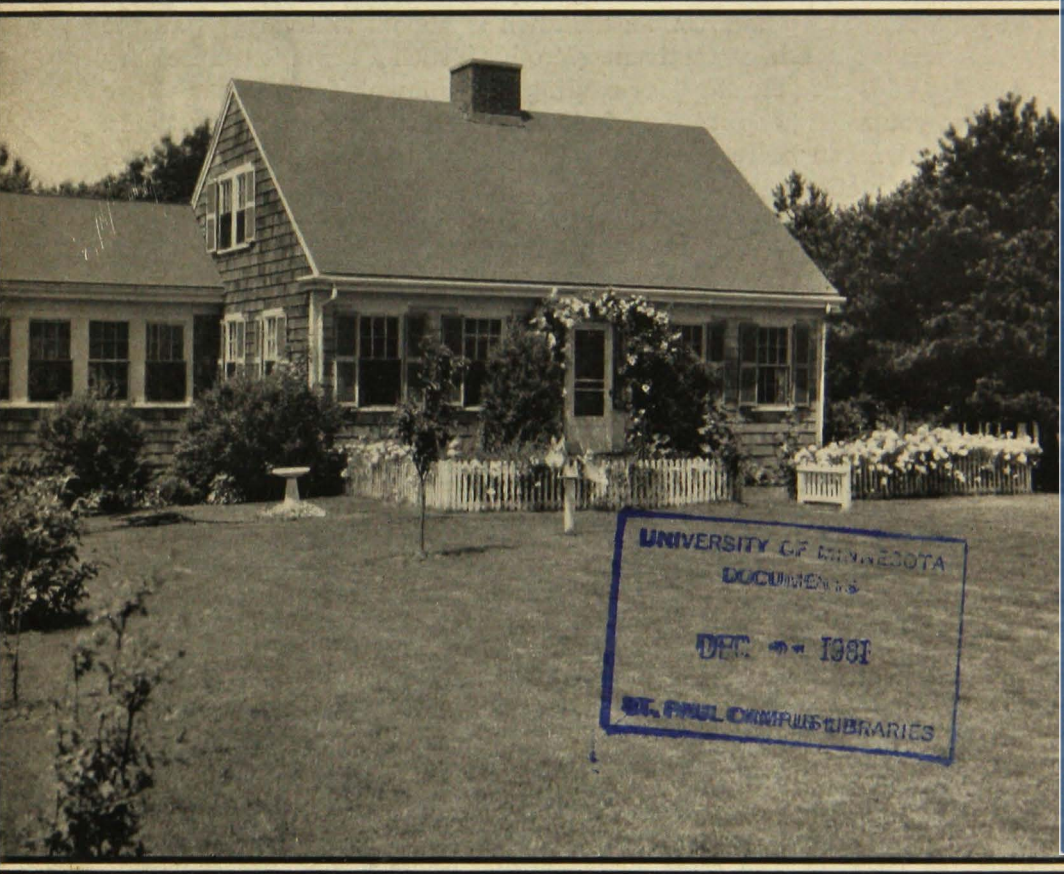
MAKING THE HOME LAWN



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MAKING THE HOME LAWN

EVERYONE WANTS a beautiful lawn, but only a few have one that measures up to their hopes and expectations. A good lawn makes the house appear more attractive. It is really the canvas on which the landscape picture is painted. Unless the lawn is smooth and velvety, all the other features lose in attractiveness. To have such a lawn, it is necessary to plan in advance the steps for making a new lawn. If you already have a lawn, you must keep it up by following correct maintenance methods. A poor lawn can be restored by using correct fertilizing and other rejuvenating methods.

Starting a New Lawn

Grading and Drainage

Grading, the first step in starting a lawn, means more than just adding a few inches of soil. For a good stand, remove the top soil, grade the area, and then spread the top soil back over the newly graded places.

Grade so as to carry surface water away from walks, driveways, and the house and into natural or artificial drainage outlets. Do not leave depressions where water can collect in either summer or winter.

In a few cases where there is a hardpan or clay or rock layer close to the surface, it may be necessary to tile-drain the lawn. In such cases, place lines of four-inch tile two feet below the surface and 20 feet apart. Seepage down a hillside can often be stopped by laying a line of tile on the hardpan or rock layer that is keeping the water from soaking down into the subsoil. Often a shallow ditch, grassed over along the upper edge of the lawn, helps turn surface water away from the lawn.

Preparing the Soil

A moderately heavy loam surface soil (at least six inches deep) is best for a lawn. Sandy or gravelly subsoils do not retain moisture, and lawns over them dry out quickly. We usually must use the soil that is available, but if it is too heavy or too light it can be improved.

To improve heavy clay or light sandy soils, add organic materials. A cubic yard of manure, peat, or other similar materials will be sufficient for 1,000 square feet of lawn. If manure is applied shortly before seeding, it should be well rotted. If it is applied several months before seeding, fresher manure may be used. Plow or spade the manure into the soil, for decaying organic matter worked into the soil increases its water-holding capacity and fertility.

Adding two or three inches of peat is desirable because of its great capacity to hold water. Peat may be substituted for part or even all of the manure. It is preferable to use some manure,

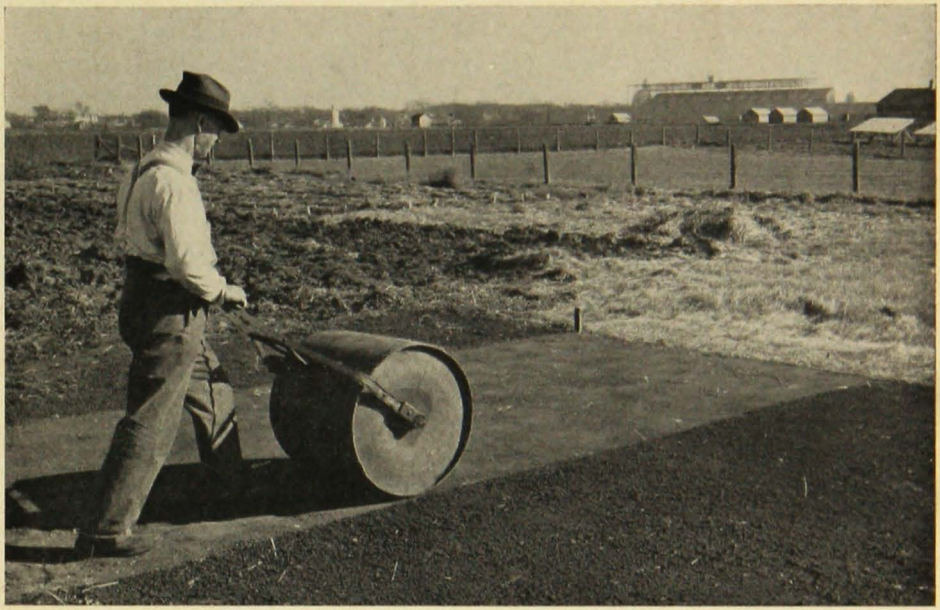

Fig. 1. Roll the lawn before seeding.

though the amount may be reduced to one-half or even one-fourth of that indicated above. Finely pulverize and thoroughly mix the peat with the upper six inches of soil. If the peat is dry when it is applied, thoroughly moisten the soil before seeding or the seeds will germinate poorly.

A poor top soil can also be improved by adding a layer of two inches or more of a rich, heavy, loam soil.

For a better lawn plow or spade the soil and cultivate it to keep out weeds for two or three months before seeding. It is possible to make a fairly good lawn by seeding almost immediately after spading or plowing, but weeds are more likely then to cause trouble.

In any case it is desirable to apply phosphorus in some form before seeding. Work about 25 pounds of 20 per cent superphosphate for each 1,000 square feet of lawn into the upper four inches of the soil. High nitrogen fertilizers can be readily added in the form of top dressing, but phosphorus does not readily wash down into the soil and should be added before sowing the seed.

Seeding the Lawn

The best time to seed a lawn depends on the kinds of grass used, the soil, and the weather. Experiments have indicated that in Minnesota the best time is from mid-August to September 10. Very early spring seeding from mid-April to mid-May usually resulted in good germination, but often the stand was greatly reduced by competition from weeds, especially when crab grass was present. Actually a lawn can be seeded any time during the summer, but particular care in watering is necessary during the hot dry weather to insure a good stand.

Do not seed after September 10, as the grass will not get a good start before cold weather sets in and winter-killing will result.

Fig. 2. Seeding the lawn.

After the preparatory work is done, rake the ground to a final grade. Then use a roller lengthwise across the lawn. Next, rake the surface to fill the depressions made by the roller; then roll in the opposite direction and rake again. Repeat these operations until the surface is perfectly smooth.

Divide the necessary seed into two equal parts. Broadcast one part, either by hand or with a grass seeder, sowing strips in one direction. When the whole area has been covered, broadcast the other half of the seed at right angles to the first sowing. Cover the whole surface this way, strip by strip. This will insure a more even seeding than sowing in only one direction. Some of the small lawn fertilizer distributors are very satisfactory for use in sowing lawn grass seed.

After sowing, lightly rake the lawn to cover the seed; then roll it to bring the seed into firm contact with the soil. Water immediately with a fine spray. Watering is extremely important from then on. Daily, light sprinkling is absolutely necessary to keep the seed bed moist so that the seed will germinate. The lawn must always be moist to keep the young grass alive and growing. At first this may mean watering more than once a day, especially during dry or hot weather.

Types of Lawn Grasses

Kentucky bluegrass is the best grass for the permanent lawn in Minnesota. It will do well on a wide variety of soils and conditions with a minimum of care. However, it is not well adapted to light and dry soils. It has a slightly bluish-green appearance, and the leaf has a boat-shaped tip.

With average conditions and care, bluegrass will make a better lawn than some of the various bent grasses or fescues. However, for certain special cases some of the other grasses are desirable. With extreme care it is possible to have a better lawn with creeping bent than with bluegrass.

Red fescue, better known by its variety name, "Chewings fescue," is

well adapted to light, sandy soils and will do better in shady places than Kentucky bluegrass. It has a bristle-like leaf and a wiry stalk, making it difficult to cut.

Bent grass is also adaptable to the lighter, more acid soils. It has taper-pointed leaves and is of two types, one strongly creeping and the other less so.

Creeping bent and velvet bent are the greatest creepers and make the best turf. They form long stolons, or above-the-ground stems, which make a dense mat. To prevent the stems from showing above the grass blades, it is necesary to top-dress with compost or soil. The top-dressing causes the stolons to root and stay close to the ground.

These types of bent require frequent cutting.

Other strains of creeping bent, such as Washington and Metropolitan, which have given such good results on golf greens, may be used for lawns if they are properly cared for after planting. They must be top-dressed, fertilized, and cut frequently (at least every two or three days). Otherwise, the lawn will become ragged and brownish. Another strain, still better for lawn purposes, is Minnetonka bent.

Colonial bent is not strongly creeping and is a valuable grass. It includes Rhode Island, Prince Edward Island, New Zealand, Astoria, and Seaside bents. These make a very fine-textured lawn, not as velvety as the creeping varieties but good for a home lawn. They may be more subject to winter injury, but during the last few years they have wintered well in the Twin Cities.

Mixtures and Rates of Seeding

The reason for mixtures is twofold:

1. Most lawns vary in places, either in soil or in the amount of shade. One variety of grass may thrive in the shade but suffer on a certain type of soil. For example, Kentucky bluegrass does well under many conditions but not where it is shady or where there is light, dry soil. Chewings fescue will endure shade and also light soils. Rhode Island bent and other bents do fairly well in the shade. Varied conditions make a mixture of several grasses desirable.

2. For quick results, it is often best to have a grass or clover that will cover the ground quickly and serve as a nurse crop for the permanent grasses. Perennial rye grass and redtop are often used for this purpose. These grasses grow quickly, producing a lawn the first year, but die or are crowded out by the second year. White clover is also valuable as a nurse crop.

For a bluegrass lawn, a mixture of 6 parts Kentucky bluegrass, 2 parts redtop, 1 part perennial rye grass, and 1 part white clover is advisable. Use 3 to 4 pounds for 1,000 square feet. You may omit the clover.

If you want a red fescue lawn, substitute Chewings fescue for the bluegrass in the above mixture and sow 4 to 5 pounds for 1,000 square feet.

A mixture suitable for shady places is 3 parts Kentucky bluegrass, 2 parts redtop, 3 parts Chewings fescue, 1 part white clover, and 1 part perennial rye grass. Sow about 4 pounds for 1,000 square feet of lawn.

For a creeping bent grass lawn from seed, a mixture of 2 parts bent grass seed, 4 parts redtop, and 1 part white clover may be used. Sow 3 pounds for 1,000 square feet.

A good bent lawn can be made by seeding pure bent seed rather than a mixture, or at least by omitting the redtop from the mixture. If pure bent seed is used, sow 1 pound for 1,000 square feet.

Use of Bent Grass Stolons

With strongly creeping bents, stolons rather than seed are usually used. Stolens are the creeping grass stems growing out in all directions from the

Fig. 3. Spreading the top soil.

parent plant. These stolons have numerous joints (nodes). When cut into pieces one to two inches long, each piece will produce new roots and a new plant if given proper growing conditions.

For sowing stolons prepare the soil the same as for seed. Do not try to plant the whole area in one operation as the stolons may dry out before being covered. Mark the lawn off into areas approximately 10 feet square, fully planting each area before starting the next. Broadcast the stolon pieces evenly over the area. Sow the stolons thick enough so that the pieces touch each other. A square foot of bent grass sod, torn up, should cover 8 to 10 square feet of lawn.

If possible, roll the stolons before covering them. Then cover with well sifted compost to a depth of not more than half an inch. Roll again and water well to prevent drying out.

If dry weather follows, water the lawn lightly twice a day for a week or two. If the weather is not bright and dry, once a day will be sufficient. Within a week the lawn will begin to show green and in three weeks will be well covered.

A bluegrass lawn can be changed to a bent lawn by plugging, which does not require spading or destroying the bluegrass. Insert plugs of bent grass sod two or three inches in diameter about a foot apart in the bluegrass lawn. After a year or two the bent will spread so much that the bluegrass will be nearly crowded out, and an almost pure bent lawn results.

A bent lawn requires much more mowing, watering, and fertilizing than a bluegrass lawn. For good results it

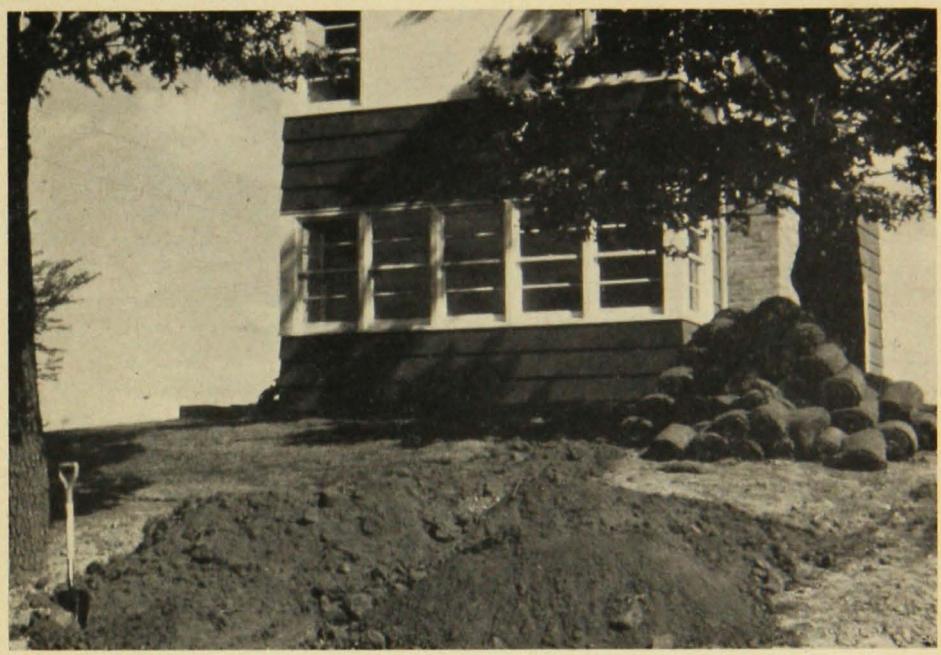

Fig. 4. Sod is sometimes essential on slopes.

needs top-dressing with compost or soil at least twice a year. Three or more times a year is better. Apply about one cubic yard of compost for 5,000 square feet of lawn. Scatter the compost as evenly as possible with a shovel and then rake it evenly over the whole surface. Finally, remember that the very successful lawn weed killer 2,4-D will injure bent grass.

Seed or Sod?

Lawns may be started from either seed or sod. Both require the same soil preparation, effort, and subsequent care. Sod costs more but seed takes longer to be established. On slopes, however, where the soil may wash away before grass becomes established from seed, sodding is necessary.

Sodding is also valuable where heavy wear prevents the establishment of turf from seed. A sodded lawn may be used almost immediately after it is laid, but a lawn from seed may not be walked upon freely for at least eight weeks.

Another advantage of sodding is that it can be done over a much longer season, from early spring until late fall. The main disadvantage of sodding, of course, is the much higher cost.

Steps in Sodding

1. Select a good quality Kentucky bluegrass turf, free from weeds, stones, and debris. Cut or select sod of a uniform thickness of about one inch, in sections one foot wide and nine feet long. One of these sections will equal one square yard of sod.

2. Lay these sections of sod snugly against each other with the ends overlapping like bricks in a wall.

3. Top-dress the sod with about a half-inch layer of fine-particled top soil, compost, or pulverized peat. Then drag the back of a steel-tined rake across the surface to work the top soil into the turf and joints. Some professional lawn builders also recommend scattering Kentucky bluegrass seed over the sod at the rate of about one pound for 1,000 square feet.

4. Thoroughly soak the top-dressed sod with a standard lawn sprinkler.

5. The following day roll the sod to insure a good contact with the soil.

6. Soak the sod well every two or three days for two or three weeks. By that time, the sod should be well rooted. Sod laid during prolonged hot, dry weather may have to be watered every day.

Sod that is laid on steep slopes should be pegged every three feet with narrow strips of wood about a foot long. Lath or two-inch strips of shingles make good pegs. Of course, these pegs should be driven through the sod, leaving the top of the peg flush with the surface of the ground.

Lawn Maintenance

Renovating an Old Lawn

When a lawn becomes poor and thin, either in spots or over its entire surface, it often must have special treatment. Sometimes, especially when the grass has been crowded out by weeds, it is best to spade the lawn, pick out the weeds, add manure, top soil, and fertilizer, and then reseed it, treating it as a new lawn.

When the lawn is smooth and has considerable grass, it is often possible to renew it by starting a program of fertilizing and continuing it for several years. In the beginning, after an initial application of fertilizer, sow some grass seed all over the lawn or at least wherever the grass is thin.

If the surface is rather rough or full of pockets, it may be necessary to begin by adding soil or compost to fill the depressions. After adding this soil, roll the surface, if possible, to compact the soil in the pockets, then rake it smooth and roll it again. Repeat this until the soil in the pockets is firm. Then apply sulfate of ammonia or a complete fertilizer and follow by watering.

After a few days, sow with grass seed as you would a new lawn. When grass has made a good start, apply commercial fertilizer regularly as recommended.

On lawns where the grass has been starved because of impoverished soil, often indicated by a heavy growth of moss, using a high nitrogen or a complete fertilizer should bring it back to a healthy condition in one season. Continued annual applications of compost and fertilizer, or commercial fertilizer alone, will build up a fine turf. See discussion of fertilizer on pages 9 and 10.

Remove Leaves and Dead Grass

It is necessary to rake and remove leaves on the lawn in the fall. Use a lawn broom rather than a steel rake and sweep up the leaves.

In the spring remove any twigs or leaves that may have fallen after the fall cleanup. Again use a lawn broom. It is neither necessary nor desirable to remove all of the dead grass from the turf as this will soon decay and help fertilize the lawn.

Fertilizing the Lawn

Fertilizers for lawn use are barnyard manure, commercial fertilizers, and organic fertilizers other than barnyard manure. Each has special values depending on conditions.

Barnyard Manure

Because it is cheap, barnyard manure is probably the best fertilizer for the farm lawn. But it requires more labor to apply than do commercial fertilizers and tends to make a more weedy lawn.

Manure should be well rotted before it is applied. It is better to apply only a light coating at a time, 5 to 8 bushels for 1,000 square feet in the early spring and again in late August. Spread evenly and rake over to break up the lumps. A heavy application put on in late fall and allowed to remain over winter is objectionable. Its appearance is poor and masses of manure may smother patches of grass. If it is finely divided and evenly spread, however, a late fall application is advisable.

Commercial Fertilizers

The time for applying commercial fertilizers differs, depending on certain conditions.

Usually, when no crab grass is present, best results are obtained with three applications, one in early spring as soon as the lawn is firm enough to walk on, the second in late June, and the third about August 20.

If crab grass is present the late June application should be omitted and the other two made somewhat heavier. The reason for this lies in the different growth habits of crab grass and bluegrass. Crab grass is an annual grass and the seed does not germinate until late May or early June. By that time the heavily fertilized bluegrass will have covered the ground, thus slowing up the crab grass. About that time bluegrass naturally slows down in its growth, and fertilizer applied in June only aids the crab grass without helping the lawn grass. By late August the crab grass stops growing, so fertilizer applied then greatly helps the bluegrass which is ready to grow strongly again as cooler weather comes.

Sulfate of ammonia and ammonium nitrate are among the best fertilizers for lawns. They furnish nitrogen only, but as most of our soils apparently have enough phosphorus and potash for the growth of lawn grasses, these fertilizers may be used alone, at least for a time. The continued use of these nitrogen fertilizers for several years will help free the lawn of weeds because they stimulate the bluegrass and bring about a heavier growth of the desirable grasses.

When these fertilizers are used, be sure that they are well soaked into the soil with water immediately after applying. This will prevent them from burning the grass. You may apply them during a rain.

Apply sulfate of ammonia at 3 pounds for 1,000 square feet, and ammonium nitrate at 2 pounds for 1,000 square feet. To apply evenly, use a lawn fertilizer spreader.

Mixed Fertilizers

Most of the experimental work with lawn fertilizers at the Minnesota Experiment Station does not indicate the need of much potash and phosphoric acid. For this reason, a mixed fertilizer should be high in nitrogen.

A good fertilizer is one having a formula of approximately 10-8-6; that is, 10 per cent nitrogen, 8 per cent phosphoric acid, and 6 per cent potash. A formula of 8-8-6 is also good. Apply these 6 to 8 pounds for 1,000 square

feet of surface once a year. A second and possibly a third application may be sulfate of ammonia or ammonium nitrate at 3 and 2 pounds for 1,000 square feet, respectively.

Several brands of commercial fertilizer have a formula of about 4-12-4 or 5-15-5. These can be used at the rate of 15 pounds for 1,000 square feet, though a fertilizer relatively higher in nitrogen is preferable.

Lime is seldom needed as most soils have sufficient lime. Actually, adding lime is often a detriment as it tends to encourage the growth of weeds and white clover. Unless a soil is exceptionally acid, it is usually unwise to apply lime.

When using any kind of commercial fertilizer, always water heavily immediately after application to prevent burning. Water even if the grass is wet when fertilizer is applied or if the material is dissolved in water. Always use commercial lawn fertilizers according to the recommendations of the manufacturer.

Organic Fertilizers

Sewage sludge is a form of organic fertilizer made from concentrated, dried sewage. There are several brands on the market, and they contain about 6 per cent nitrogen and 2 per cent phosphoric acid. They are slow acting but safe to apply. In general they are good lawn fertilizers. Use 15 pounds for 1,000 square feet of lawn.

Soybean meal and cottonseed meal used at the same rate as sewage sludge are effective and safe.

Pulverized sheep manure is a well-balanced, slow-acting fertilizer. The nitrogen in this fertilizer will cost much more per unit than that of sulfate of ammonia though. Apply at the rate of 25 to 35 pounds for 1,000 square feet of surface.

Pulverized poultry manure is similar to sheep manure but contains more nitrogen. Use at the rate of 25 pounds for 1,000 square feet of surface. Heavier applications are likely to cause burning.

Control Weeds and Other Pests

Weeds can be greatly discouraged by using high nitrogen fertilizers to promote a heavy growth of the grass. Heavy grass growth helps to crowd out most of the temporary weeds that appear in a new seeding and these weeds disappear after the lawn has been mowed a few times. A few weeds, especially dandelions, plantain, yarrow, and crab grass, often persist as troublesome pests. Pull these weeds by hand to help control them.

Keep crab grass pulled while in the seedling stage in June and July to prevent it from maturing and forming a dense mat that will smother the permanent grasses. If it has been allowed to mature, use an iron-toothed rake to pull up the creeping branches so the mower will cut them. Be sure to use a grass catcher on the mower to catch all the seed stalks. Then rake and cut in the opposite direction. Pull out by hand what is left. Sow extra grass seed in the bare patches in late August and early spring.

Above all, fertilize the grass heavily with sulfate of ammonia or other nitrogenous fertilizer. Use only two applications, one in early spring and one in late August. The early fertilizing encourages the bluegrass, and the omission of the application in late June tends to starve the crab grass, which does not germinate till June.

There are some new chemical crab grass killers containing mercury on the market. These contain the active in-

gredient PMAS. Reports regarding the success of these new weed killers have been varied and contradictory. Experiments are being conducted to determine their use and value. As yet none of these can be recommended without reservation. If you use them, follow directions of the manufacturer.

The well-known weed killer, 2,4-D, has proved to be very satisfactory in killing broad-leaved weeds without harming the good lawn grasses. The following lawn weeds can be controlled: dandelion, broad-leaved and narrow-leaved plantain, ground ivy, prunella (self-heal or heal-all), common chickweed, mouse-ear chickweed, and a number of less common weeds. The spray is absorbed through the leaves into the stems, and finally into the roots. Thus it destroys the whole plant. It may take from one to several weeks before the weed finally dies. Three or four weeks after an application of these sprays, sow more grass seed to replace the weeds that are killed.

These sprays can be purchased under various trade names. Do not use the ester form. Apply in the spring when the temperature reaches 70 degrees, probably about the middle of May. To cover the leaves of the weeds thoroughly requires about 5 gallons of spray for 1,000 square feet. Spray in the morning on a calm clear day. Be careful not to allow any spray to fall on the leaves of trees, shrubs, or flowers. A second application in late June or early July should complete the killing of most weeds and will help to control crab grass. Good results can be obtained from spraying at any time when the weeds are actively growing.

Do **not** use 2,4-D on young grass or newly seeded areas since the spray will kill sprouting seeds and young grass seedlings. Allow at least 6 to 8 weeks from seeding to spraying time.

It is possible that two or three sprayings at two-week intervals beginning about June 1 will aid in the control of crab grass while it is sprouting. This spray does not injure maturing and mature crab grass.

Be sure to wash out the sprayer carefully with strong soapsuds or ammonia-water after using 2,4-D. Better yet, reserve a sprayer for 2,4-D spraying only, as it is almost impossible to remove all of this chemical from the sprayer.

Night crawlers and grubs (larvae of beetles) can be controlled by using lead arsenate, 5 pounds to 1,000 square feet, applied with a lawn fertilizer distributor and watering it into the sod.

Ants often damage a lawn. The latest and most effective ant killer is 5 per cent chlordane dust. Dust the ant hills.

Diseases

Brown patch is the disease most likely to cause trouble. There are two types of this disease. One is indicated by a large brown patch, the infected area being from 4 to 18 inches in diameter; the other type causes a small brown patch the size of a silver dollar or smaller.

This disease kills the foliage, turning it brown in patches, but does not kill the roots. It affects creeping bent, redtop, and fescue grasses, but not Kentucky bluegrass.

Any of the various mercury compounds sold at seed stores may be used to control brown patch. Apply according to manufacturers' recommendations.

Watering

Lawn grasses require a large amount of water. In fact, if drainage conditions are correct, it is practically impossible to overwater a lawn. Lawns that do not get enough water soon become poor and weedy. Very few people water a lawn correctly. Frequent light sprinklings, which are too common, are of little or no value. Light waterings are not only insufficient but also harmful

because they cause shallow rooting of the grass Correct watering consists of a thorough soaking that penetrates the soil several inches To do this set a lawn sprinkler in one place for from 1 to 2 hours A watering of this sort will take care of a lawn for nearly a week during dry weather It will also encourage deep-rooting of the grass You can water this way at any time of the day regardless of the temperature or whether or not the sun is shining

MOWING

Mowing is another important maintenance matter which is too often incorrectly done Most people cut their lawns too short They also mow during extremely hot weather Cut your grass to two inches when the grass is about three inches long Generally, mowing is a weekly job During extremely hot weather it is better to delay mowing until there is a break in the heat wave

Unless crab grass is present or the grass has been allowed to grow too long, grass clippings should be allowed to remain on the lawn It is also good practice to allow the grass to go into winter with some length at least three inches

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