

end, and when placed in a drop of water germinate at the end segments only.

Since the causal organism of the dollar spot disease has not been found in association with the disease commonly called "dollar spot" in this area, it is highly desirable that this common name not be used in association with the disease unless the responsible pathogen is identified. The term, "Helminthosporium spots of ryegrass" is suggested for the common name of the Helminthosporium diseases on ryegrass greens. It is suggested that golf course superintendents and greenkeepers send fresh specimens of diseased ryegrass greens to the laboratory at the Georgia Coastal Plain Experiment Station, Tifton, Ga., for diagnosis. This will give golf clubs information on the disease with which they are confronted and give the laboratory much needed information on the distribution and damage caused by these pathogens.

Very little information from planned experiments is available on the control of Helminthosporium spots of ryegrass. Limited experiments and observations, however, indicate that the damage from these diseases can be significantly reduced. Observations on rates of seeding and rates of nitrogen fertilization experiments have shown that a medium rate of seeding (40 pounds of ryegrass per 1,000 square feet) coupled with a high rate of nitrogen (2 pounds actual N per thousand square

feet at the time of seeding) resulted in significantly less disease damage than a high rate of seeding (80 pounds ryegrass for 1,000 square feet) and a low rate of nitrogen (no additional nitrogen). In general the fungicides containing mercury have been very effective in controlling these diseases. Limited experiments have indicated that Acti-dione may also be effective. Cadminate, which is a very effective control for dollar spot, has not proven to be effective against the Helminthosporium spots of ryegrass and, consequently, should be used only on the true "dollar spot" disease. It may be desirable to practice a preventive spray schedule (application at the recommended rates at two-week intervals throughout the ryegrass season). Many clubs, however, may think that the disease is not sufficiently destructive to warrant spraying at two-week intervals throughout the winter months. These clubs should be on the look-out for disease build-up in early spring and start their spray schedule at that time. There are indications that golf clubs can maintain excellent ryegrass greens until late spring or until it is sufficiently warm to get a rapid conversion to bermuda greens by practicing a good fungicidal program. It is anticipated that more comprehensive fungicide investigations on ryegrass diseases will result in specific and reliable information on the control of Helminthosporium turf spots of ryegrass.

Now Is the Time

by **MARVIN H. FERGUSON**

Southwestern Director, USGA Green Section

LATE SUMMER AND early fall is the best time to do many jobs on the golf course. The weather in most of the United States will become more pleasant and will become much more favorable to plant growth. The early fall season is the time to build next year's turf.

Cool-Season Grasses

For cool-season grasses, late summer and early fall is the time for seeding new fair-

way or tee areas which are to be established in turf, and it is the time for fertilizing existing turf. The treatment that you give the turf now, for the next few months, will determine the quality of your turf next spring. If your turf is composed of cool-season grasses, late summer and early fall is the time for renovation.

1. Mow the existing turf as closely as possible.

2. Cultivate the turf area thoroughly, dragging a chain-link fence mat behind the cultivation tool to break up the plugs and scatter them over the surface of the soil.

3. Weed control should be accomplished by elimination of weedy grasses and broad-leaved plants. It probably will be better to use an herbicide which is of more or less general nature, rather than trying to choose a selective herbicide for this purpose. Sodium arsenite is still one of the best herbicides for this type of weed control. Of course, the final decision will depend upon the type of weeds present.

4. Lime or fertilizer should be applied as needed. Soil tests should be made to indicate whether you need to add large amounts of phosphorus and potash. At least 2 pounds of nitrogen per 1,000 square feet should be applied to the soil prior to the seeding or sprigging of the grass to be planted.

5. After the ground is thoroughly prepared, seed or sprigs should be planted. If seed are to be planted, they should be divided into two lots and one lot sowed in each direction, so that you avoid overlapping or skipping. If the ground is bare and there are any slopes which would allow free water runoff, the new seeding should be mulched. It is necessary that the mulch be a clean straw or bedding material, so that you do not introduce weed seeds into the new seeding.

6. Newly seeded areas should be watered rather frequently until the new grass is up to a good stand. The surface of the soil should be kept moist and not allowed to dry out because the germinating seedlings are readily subject to injury by becoming dry.

7. Don't wait too long to mow. As soon as the grass has come up and made enough growth that your mower will remove some of the clippings, it is time to start mowing. In mowing a new seeding, the mower should be extremely sharp so that it cuts off the tender, young seedlings without pulling them out of the ground. It is also necessary to see that the mower wheels

do not drag, thereby scarring the newly seeded area.

Bent Greens

Now is the time to build the root system on your bentgrass putting greens. Throughout the summer water management has been of paramount importance in your maintenance program. Water management has been the key to whether or not you have kept good turf on your putting greens. It may have been necessary for you to syringe your greens in the middle of the day in order to keep them from wilting. As the weather turns cooler, you will not be faced with this difficulty, but water management will still be extremely important. If the soil profile is kept moist to the full depth of your putting green soil but not too wet in any portion of that profile, you will have good conditions for deep rooting. You should begin to let your soils become a little drier than they have been. Temperatures will be lower and the grass will not be using so much water, wilting will be less apt to occur and it will help the root system to expand if the soils are not too wet. Grass will continue to grow vigorously if the soil is reasonably moist. This is also the time to cultivate the soil in your putting greens. Cultivation can be accomplished with relative safety at this time because the grass will begin to grow rather vigorously and will readily heal the scars that are caused by the cultivating operation.

In regions where cool-season grasses are grown, now is the time for plans to control broad-leaf weeds. 2,4-D applied for the control of broad-leaved plants appears to do a better job when applied in late fall, because the grass is usually growing well at that time and will fill in the areas that are rendered bare from the control treatment. Herbicidal action is slower and weeds disappear slowly, allowing the grass to occupy the area as the weeds go out. If one waits until spring, he is likely to find weedy grasses, such as crabgrass, coming in to take up the space left when the weeds were removed. No weed-control program should be undertaken, however,

Turf Management

The book "Turf Management," sponsored by the United States Golf Association and edited by Prof. H. B. Musser, is a complete and authoritative guide in the practical development of golf-course turfs.

This 354-page volume is available through the USGA, 40 East 38th Street, New York 16, N. Y., the USGA Green Section Regional Offices, the McGraw-Hill Book Co., 350 West 42nd Street, New York 36, N. Y., or local bookstores. The cost is \$7.

until your fertility level is sufficiently high to insure vigorous and rapid growth by the permanent grasses that are left in your turf.

Warm-Season Grasses

Over much of the South where warm-season grasses are grown the turf will continue to make good growth until the first killing frost. Not much treatment is necessary on warm-season grasses at this time of year except to see that they have enough fertilizer available to them to keep them growing vigorously until the onset of cold weather. Warm-season grasses should not go into the winter in a lush condition, but they should go into the winter in a vigorous condition. The roots and rhizomes of the grasses store reserve food materials as the grass goes into dormancy and a plentiful supply of the necessary plant food will insure that the grass will make vigorous growth when the weather becomes warm enough for it to begin growing in the spring.

Putting greens in the South should be treated during this season with a view to overseeding with a winter grass. Bermuda-grass should approach the overseeding season in a vigorous condition. It should not be lush but, as stated in the foregoing paragraph, it is important that the bermuda approach this season in a vigorous condition because a great deal of the top growth will be removed in connection with

preparing a seedbed for the winter grass. It is necessary that the underground portions of the plant which store reserve food materials have a good supply of reserve food, so that the plant will make good growth next spring. Transition from winter grass back to bermuda will be much more satisfactory if the bermuda is capable of making vigorous growth as soon as warm weather comes on in the spring. Thus, it may be seen that now is the time to act to insure a satisfactory transition next spring.

In connection with the overseeding of ryegrass or bentgrass for the winter months, it is not too early to begin to plan for this overseeding operation. You will need a good supply of topdressing material. This material should have been sterilized with methyl bromide or with calcium cyanamid. Either one of these materials will kill weed seeds and will eliminate many of the disease organisms that might be introduced with topdressing used in connection with the overseeding. Inasmuch as young seedlings of ryegrass and bent are extremely susceptible to disease attacks during the fall season, it is quite important to have the soil used for topdressing as free from plant diseases and weed seeds as it is possible to have it. It is important at this season to have putting green mowers extremely sharp and well-adjusted, because the young seedlings are easily pulled from the ground.

In all areas, whether cool-season grass areas or warm-season grass areas, the superintendent should look forward at this time to his winter work. He should begin to make plans to do every job possible during the light season so that he may take advantage of the letup in regular golf course maintenance work and so that he may keep his crew together and not allow them to become scattered before the turf-growing season of the coming year.

As stated in the beginning, now is the time to build your turf for next year. The operations that you carry on now will have a great deal to do with how difficult or how easy your job will be in 1955.