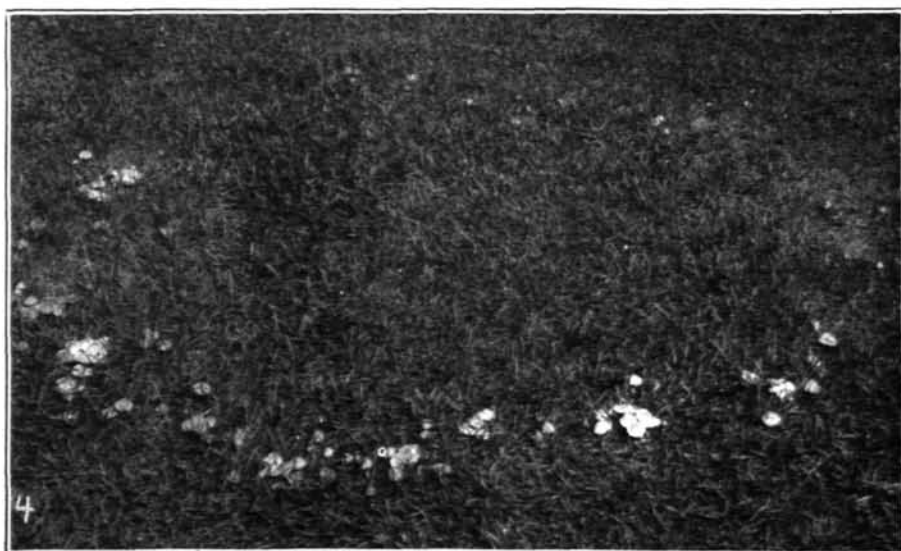


ments in this country and abroad have failed to support this theory. No laboratory process for the "bacterization" of peat has been discovered which materially improves it for fertilizer.

The use of some kinds of peat, like straw or other low-grade or surplus material, may often be desirable for stable litter or in composting; composting a suitable peat with stable manure increases the quantity without very materially lowering the manuring value for farm purposes. While peat is too bulky and too poor in available plant food to serve as a substitute for manure or mineral fertilizers, certain kinds of peat appear to be suitable for the growing of specialties or as a potting soil in greenhouse forcing.

### Fairy Rings

Fairy rings are caused by various species of mushrooms, toadstools and puffballs. The underground part of the fungus is composed of fine, white threads which permeate the soil. These spread from the center outward. Near the outer part of the circle the toadstools appear, and each year the circle increases in diameter. Our illustration is of the true fairy-ring fungus (*Marasmius oreades*)



Fairy ring fungus (*Marasmius oreades*). South lawn, Horticultural Building, University Farm, St. Anthony Park, Minn. Photograph taken August 4, 1924.

taken at St. Anthony Park, Minn. In the circle where the toadstools appear the grass often dies. This seems due to the fact that the underground threads weave a thick web, which prevents moisture from entering the soil. Loosening the soil to allow water to enter lessens the dying of the grass greatly.

This particular fairy-ring fungus is common at the Minikahda Club, Minneapolis. Of its behavior there, Mr. W. F. Brooks writes as follows:

"For several years the Minikahda golf course has suffered from a fungous growth commonly known as 'fairy rings.' This growth develops very rapidly in moist, warm and muggy weather. It makes

its appearance in the form of a small brown toadstool, the heads being about an inch in diameter. It spreads very rapidly, and through some unknown cause develops in the form of rings. These rings are from four to eight or ten inches wide and from three to eight or ten feet in diameter. The result of this growth is to kill the grass on the fairways where it appears; furthermore, it causes a complete change in the character and texture of the soil. Ground that originally was of a dark, rich loam variety changes to a fine, powdery, gray-colored texture, and this soil loses fertility, and it is almost impossible to reseed and grow grass where these rings have appeared. From our observations the fungous growth thrives as weeds do during periods of continued drought.

"The only effective remedy which we have discovered is to spade up the affected area where the rings have appeared, and as far as possible remove the soil and replace it with good soil, and then reseed. We have tried chemicals, and find that these will stop the progress of the growth but that they affect the soil deleteriously and that it is impossible to grow new grass.

"We now thoroughly water our entire fairway, and there is nothing of a beneficial nature which has been more apparent than this in the complete stoppage and elimination of this fungous growth. For the last two years during which we have watered the fairways, we have had absolutely no recurrence of this trouble. Where these rings had made their appearance in the past and where we had dug them up and replanted and fertilized to some extent, the growth is even more vigorous than on the surrounding area. In fact, on the fairway where this trouble was most acute, the area where these rings formerly developed now stands out plainly with a growth of vigorous new grass. One can see these dark-green circles throughout the fairways where formerly these rings had appeared. We therefore conclude that if they are dug out, reseeded, fertilized, and then watered, the trouble can be corrected."

The fungus can be killed by loosening the soil and soaking it with iron sulfate, using 1 pound to 1½ gallons of water. Bordeaux mixture is equally satisfactory, and to be preferred, as it does little or no injury to the grass.

An article on this same subject has previously appeared in the BULLETIN, Vol. II, 1922, pages 180 to 184.

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## Some U. S. Golf Association Decisions on the Rules of Golf

In a match play tournament one of the players drove from the tee outside of the disks. His opponent, on playing his ball between the disks, discovered that the other player had driven from outside, and called his attention to it. The opponent immediately drove another ball. The question arises as to what the penalty is for driving outside of the disks. No extra stroke was counted at the time, as it was in doubt. The match, however, hinges on this decision. We should also like to know what the penalty would be where a ball is driven ahead of the disks, but between them.

Decision.—Rule 2 of the Rules of Golf covers both points. A ball not played within the limits of a teeing ground (definition 4) is penalized as follows: In match play the opponent may, if he so desires, recall the stroke. In medal play, the player must play another stroke