

those measured, probably in the system of management being followed.

Kentucky Bluegrass

The evidence that reduced fertility of the lower horizons restricts root development is again found on Kentucky bluegrass plots, both when cut at fairway length and when uncut. Even with this grass the evidence is not strong enough to warrant the conclusion that all of the important factors controlling root development have been included. Soil aeration must still be considered, even though these are well drained soils with fairly good structure.

In conclusion, it may be said that the studies here reported do not pretend to solve completely the important problem of root behavior. However, they do serve to emphasize the importance of roots in growing turf, and show certain of the relations existing between root occupation and soil conditions. It is hoped that further investigation will indicate treatments that may be adopted to improve root development, both for soils before grass is planted, and on turf that is established. An additional extremely important point to consider is the range of soil conditions that will facilitate the development of root hairs on roots that are present, and the absorption of water and nutrients.

LOOK BEFORE LEAPING

Test Other Fellow's Idea Before Adopting It

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AT THE MEETING of the greenkeepers of Podunk County the other day, Joe Grumpus of the Spongy Fairway C. C. told the boys that Greely's Great Grass Grower for Golf Greens was the best fertilizer on the market and that he had had excellent results on his course. Well, Joe's course is built on an old farm in the valley that was worked by a thrifty old Dutch farmer who believed that when you took something out of the ground you had to return something. Consequently, when they built the course, they had an ideal soil. What grass they grew! Most any kind of fertilizer would show results and even an application of sawdust would have pepped up the grass.

All the boys knew that Joe's place

looked darned good and took his word for it that his fertilizer was the berries, and every one was hurt in the rush to place their orders for the famous fertilizer for fastidious fairways.

Results: Bill Binks got results in the low spots where the soil was pretty good. Jimmy Jones said he could see no improvement in his grass. Benny Brown got a good crop of weeds and the others preferred not to talk about it.

Moral: Try it on the dog first. In other words, they should have tried a couple of hundred pounds before they tried a couple of carloads. What is sauce for the goose may not be sauce for the gander. If they got results from the couple of hundred pounds, then it was time enough to order the carload. The poor greenkeepers thought they were doing the right thing, but they jumped at conclusions too soon. Try out new products on a small scale first and if they produce, you have found something.

Some courses have been fertilized spring and fall for many years. Others have seen fertilizer only the time they were seeded and then very sparingly. The course that had lots of fertilizer was living off past feeding in lots of cases. Most anything would show some signs of fertilization. On the starved course, the grass was so hungry that 400 pounds per acre just gave each grass plant a taste and whetted the appetite all the more.

Does It Fit You?

All these points must be taken into consideration when you adopt the other fellow's idea. Will it pay you to do the same and use the same as he does. Think it over before you jump.

The same goes for the other fellow's methods and practices. The tractor and mowers he is using may give him wonderful results but would not give you the same. The one you are using may work fine for your purposes but would be a big flop on his course. Bent greens may be what his members want but your members would not care for them. He might like his power mowers for his greens but if you were to use them you might be dissatisfied. Its up to you to figure out your best methods and equipment and practices. You are the one who is responsible for your course and if there is trouble you are the one to blame.

Very recently, I heard a noted greenkeeper who has had some good jobs in this

country tell that the way to compact soil on a newly constructed putting green was to use the old fashioned method of treading: Line up eight or ten men in a row and start them treading the soil to compact it and give it the desired degree of texture that is wanted. This practice went out of date with bustles. How much easier it is to run a roller over it a few times to get the same results.

Violent forking is another old fashioned method of loosening up a hide-bound green. I once saw a green being forked; after the forking process was over, the green could not have been used for anything but a pasture, it was so rough. To correct the roughness, they immediately rolled the green with a 600 pound roller and the green was back to where they started. Where is there any economy or results to be obtained by that method? A good spike roller to open up the surface and then a top-dressing of good sharp sand and compost with a lot of organic matter in it would have been lots better.

And after all, it takes a good freeze to really loosen up a hide bound turf. In the springtime, don't use too heavy a roller. Several light rollings are better than a heavy one. Introduce a good quantity of sand and heavy organic compost into the turf and that will do more than all the rolling and forking you can give a green.

Heavy watering will compact the soil as quick as anything. When the soil becomes water-logged and then dries out, it bakes as hard as concrete. Light watering and more often is the better method. Grass roots do not take up water in great quantities at any one time. They absorb it slowly. Nothing is gained by flooding a green, expecting the grass plants to assimilate all the water. They take it only as they need it and want it. And again you destroy the natural rise and fall of the natural moisture in the ground known as the capillary action. Heavy watering is often demanded by the players who think a ball should hold the green even if it is a topped shot.

Maybe a national champion did criticize your greens but after all, **WILL THE OTHER FELLOW'S IDEA PAY YOU IF YOU ADOPT IT?**

Chicago, Ill.—Armour Fertilizer Works has new booklet "Turf Maintenance" giving details of a turf program employing Armour's Special Turf fertilizer. Booklet is free on request.

Iowa's Greens Short Course at Ames, March 7

IOWA STATE college, at Ames, will have its first greenkeeping short course on March 7, 1932. An attendance of about 60 greenkeepers is expected. Details of the program may be obtained from C. G. Yarn, owner of the Woodside G. & C. C., Route 4, Des Moines, Ia.

Long Island City, N. Y.—Schavolite Golf Corp. has appointed T. A. Rector of International Pharmaceutical Co., Wichita, Kan., representative for Kansas and northern Oklahoma.

RESEARCH RESULTS IN NEW SOIL STERILIZATION METHOD

Morristown, N. J.—Suresults Products Co. has conducted exhaustive research work on soil sterilization chiefly for the benefit of golf and country clubs. Every greenkeeper knows of the importance of eliminating weed seed, fungus and insect pests from top-soil or compost before applying it to the green, but were without economical or efficient method of sterilization. The Suresults company has developed a method enabling golf clubs to not only sterilize their top-dressing, but kill all wild and undesirable growths on their fairways by sterilizing without any digging or cultivating. More can be accomplished by this method in 3 minutes' time than can possibly be accomplished in several seasons by any other method, the Suresults organization claims.

PEERLESS MOWER SHARPENER IN NEW MODEL

Plymouth, O.—New model D Peerless mower sharpener, made by Fate-Root-Heath Co., grinds all makes and types of power-driven, fairway, putting green and hand mowers without removing mower wheels or reel knives. It grinds the blades with speed and accuracy, with the proper clearance behind the cutting edge, makes the mower run easily and lengthens the life of the mower, state its makers.

The bed or frame is a one-piece box section heavy casting, mounted on three heavy cast iron legs and two steel supporting posts.

The carriage has a travel of 42-in. and, rolling on steel balls, requires only a slight pressure for feeding the work along the grinding wheel, eliminating all feed mechanism.

The grinding head carries a 6-in. grinding wheel driven by a ¼ h.p. motor, a smooth, quiet and compact drive.

A reconditioner attachment can be furnished, at an additional price, for "lapping in" mowers with emery paste.