

several times before growth starts next spring. They should not be topdressed until a tight turf is obtained. After that, greens should be mowed every day, except one at the most. Greens on the best courses are cut at 3/16 inch. Mowers should never be set higher than 5/16 inch, and scalping rollers should be eliminated where possible, otherwise the comb should be used.

Bringing the Greens Through

There is a tendency to spike greens during the season. It is done every 7 to 14 days. Spiked greens take water better. Spiking helps prevent dry spots, but will not cure them. Holes are not sufficiently large or deep enough. A spiker should not be used on a hot day when grass is wilting. The grass around each spike hole will wither, turn brown and die. Then the green looks like dollarspot has been bad.

Greens that get little or no topdressing, or where manure compost is not a constituent of the mixture, need more potash than is contained in fertilizers with only 2 to 4 per cent potash. Programs which have provided adequate amounts of phosphoric acid and potash in spring and fall, with nitrogen as needed throughout the growing season have been very successful. The quantity of potash should be not less than 8 to 10 pounds of actual potash per 1,000 sq. ft. each year.

Chlorosis was severe on some greens. It was mistaken by some for disease and others blamed chemicals. At the start the grass is golden yellow in color (hence the name chlorosis — lack of color) and leaves are soft and tender. Normal color generally returns in a day or two. When it doesn't, the grass dies, turns brown, and the spot looks like scald or a burn from chemicals or fungicides.



Surface roots of nearby trees cause dry spot shown by dead area near edge of green.

Temporary iron deficiency is the cause. That is the reason for the golden yellow color. Iron is a constituent of chlorophyll, which is the green substance in plant leaves. Chlorosis is most common after heavy down-pouring rains which saturate the soil temporarily. Those who used ferrous sulphate stopped loss of grass. Best results were obtained by spraying $\frac{1}{2}$ to 1 pound of copperas, or ferrous sulphate on a green and not watering in. The iron was absorbed by the leaves and restored normal color in 12 to 24 hours. During a month of wet weather in Oklahoma it was necessary to spray once a week with the iron on several courses.



Frequent use of three-gang spiker on greens at Maple Lane CC, Detroit, keeps them in top shape with minimum of water.

Tree roots in greens and tees continue to cause trouble. It is impossible to keep grass green along the edges of some watered fairways because of them. Cottonwoods, willows, poplars, and elms are especially bad. Their roots are apt to clog tile lines also. Trouble occurs in hot weather. The tree roots rob the soil of its moisture. Surfaces become hard, and the soil underneath is compact and dry. Sometimes the offending trees can be dispensed with. Otherwise, trenching to sever the tree roots and facing the trench with sheet metal, or cutting the roots with a root pruner, such as the one made by Jim Haines of Denver CC, is the best thing to do.

Ants are always a nuisance on sandy greens. Chlordane has solved that vexing problem. It has done a good job on cut worms and sod webworms also. Rates have varied, but from $\frac{1}{2}$ to 1 pound of 40 to 50 per cent material on an average size green has given good results in the Midwest. Effects have lasted four to six weeks.

The results with 2, 4-D for weed control have been extremely good for broadleaf

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