

in 1956 because of exceedingly high and persistent humidity. It seems that every known disease was troublesome, even common diseases such as brownpatch and dollarspot.

Curvularia, pythium, and helminthosporium outbreaks were more numerous in 1956 than they had been in some years. Curvularia continued to be troublesome and a difficult disease to control. Various chemicals were tried with varying degrees of success and this led to supts. trying "shot-gun" mixtures of mercuries and Tersan, or mercuries, Tersan and cadmium.

Malachite green was used with success in checking spread of pythium. This dye product which has fungicidal qualities was recommended by Frank Howard of the University of Rhode Island for checking mycelial growth of pythium.

Results Called Inconclusive

The broad spectrum fungicides were used widely, but there are mixed feelings regarding results. Some supts. felt that excellent results were obtained with these new products; others felt results were disappointing. More practical work and observation of results are needed before we can say much about the use of this class of fungicides in the Northeast.

The urea formaldehyde fertilizer products received wide application throughout the Northeast. Many tested it on a limited scale. Here again, results were inconclusive.

There was a decided trend toward increasing the sand content of topsoil mixtures in building new greens. This trend is also evident in topdressing mixtures. Supts. are getting away from the old formula of 1/3 sand, 1/3 clay, and 1/3 organic matter in favor of a high percentage of sand. Research investigations of O. R. Lunt and Raymond Kunze, although conducted separately, generally agreed in findings. They have been widely read in the Northeast and many supts. have made adjustments in topsoil and topdressing practices as a result.

These are but a few of the highlights of recent developments in the Northeast. Results of research are slow in coming through educational institutions, sometimes painfully slow. Often after results of research are released, there is a further time lag before supts. get the opportunity to put these findings to work. However, research certainly is helping them make progress toward the goal of better turf for better golf.

Dogwood Tournament

Qualifying rounds for the annual Dogwood Invitational tournament to be held at Druid Hills GC in Atlanta, Ga., will be staged Apr. 7-10 with championship play starting on the 11th and extending through the 14th. An amateur event, the tournament will have A and B divisions of championship flights plus 12 other flights.

New Approach to Reducing Compaction in Putting Turf

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The study of soil compaction, its alleviation and relationship to turfgrass growth has received much attention from research workers in the past. More recently, a somewhat different approach has been undertaken, particularly in regard to the compaction of putting green soils. Efforts have been directed toward determining the mechanical composition of a soil mixture which resists compaction, yet supports desirable turfgrass growth. The work of two investigators, Raymond Kunze in Texas and O.R. Lunt in California, will serve to illustrate current status of developments in this field.

Raymond Kunze, studying under a fellowship grant by the USGA green section at Texas A. & M. College, completed a study during 1956 in which the primary objective was to synthesize a mixture of sand, soil and peat that would resist the effects of compaction, yet produce good turfgrass growth. Ratios of sand, soil and peat studied were 6-3-1, 7-2-1 and 8½-1-2-1 by volume. Percentages of sand (60, 70, 80 and 85) were made up of varying sizes. The soil used was a Houston black clay, which inherently contains 60 per cent clay, 10 per cent silt and 30 per cent sand. The peat content was constant in all mixtures — ten per cent by volume was used.

Kunze concluded from this study that: (1) A mixture containing (by volume) 80 to 85 per cent sand (all sizes), 5 to 10 per cent of a well aggregated clay soil (60 per cent clay) and 10 per cent peat met the requirements set forth as the primary objective. (2) Some compaction was beneficial when applied to mixtures containing 10 per cent or less of clay soil. Such mixtures, when compacted, produced the largest amount of top growth. (3) Differences in particle size of compacted soil mixtures produced significant differences in the amount of top growth. The smaller the particle size, the less top growth produced. (4) In compacted soil mixtures, root growth increased as particle size decreased. (5) Yields of root and top growth did not correlate.

O. R. Lunt of the Department of Irrigation and Soils at UCLA reported "A Method for Minimizing Compaction in Putting Greens" in the July, 1956 issue of "Southern California Turfgrass Culture." This work likewise was supported in part by a grant from the USGA green section. From tests, Lunt demonstrated that soil mixes containing as much as 80 per cent sand could be compacted so that percolation rates became low. When sand content of the mixture was as high as 90 per cent, compaction treatments