



CHEMICAL BULLETIN



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SUPERINTENDENT AT K. C.

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a project of IMC's chairman, noted mining engineer, Louis Ware. Prints won't be generally available for some time although the film will be shown to a few major garden organizations and their guests.

Tree Care Is Studied

Michael J. O'Grady, superintendent, CC of New Bedford, Mass., presided over the conference on tree care which has taken on prime importance since Dutch elm disease killed so many trees on golf courses. Unwise clearing of the rough during construction destroyed invaluable trees. The aesthetic value of golf course trees must be accented.

Dr. Dale Norris, Jr., University of Wisconsin, held forth hope for checking of tree disease. He told how oak wilt can be halted by a thorough program of rootgraft breakage between adjacent oaks and injection of a soil sterilizing chemical such as Vapam to prevent fungus spread. Dutch elm disease spread by

rootgraft spread and elm bark beetles may be stopped in the foreseeable future if a "tree doctor profession becomes a reality," Norris forecast. He urged periodical and informed inspection of trees to prevent tree diseases. You've got to study the available books on tree diseases, consult your local extension specialists in horticulture and apply what you've learned on a continuing basis, Norris told superintendents.

Dr. Leon C. Snyder, head of the University of Minnesota department of horticulture also supplied considerable useful information relating to the increasingly important tree item in the maintenance budget. Snyder said in selecting trees you must consider hardiness, longevity, mature size, adaptability to the site, freedom from insects and diseases and variations of a species. He cited the resistance to diseases and insects of certain trees. He said "pruning, so necessary to good tree care, is a lost art." He advocated removing a few branches at a time over several years rather than to

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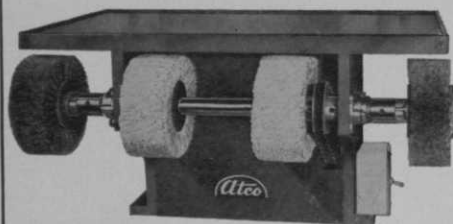
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remove an excessive amount of wood at one time. Fertilizing, Snyder commented, frequently is neglected. He said a complete fertilizer, such as a 10-8-6 for evergreens and a 10-10-10 for deciduous trees, is best and advised using from two to four pounds of the fertilizer for each inch in diameter breast-height of the tree. He recommended the punch bar method of application in late fall or early spring.

Dr. Ray Keen, professor of ornamental horticulture, Kansas State University, commenting on the turf-tree relationship gave about the same useful talk he presented at the USGA Green Section meeting in 1965. He showed how the size and shape of various trees fitted in the golf course picture as landscape, as golf scenery, as windbreaks, and as maintenance factors.

Water Problems Considered

Clifford A. Wagoner, superintendent, Del Rio CC, Modesto, Calif., in conducting the symposium of watering led off with Prof. John H. Madison, Jr., Department of landscape horticulture, University of Southern California, Davis, who explained how the electrical polarity of water accounts for its performance in dissolving fertilizer so minerals can be transported to and through a plant. Then he outlined the participation of water in the chemistry of the plant. He referred to the rates and methods of water application and use by grass and in his primer on watering declared that while we are getting into an era of automation in irrigation we haven't solved the problem of applying water to greens at low enough rates and high enough efficiency.

Sherwood Moore, superintendent, Winged Foot GC, Mamaroneck, N. Y. told about golf courses' problems with water rationing during last summer's drought in the New York metropolitan area and advised that clubs where water shortage may occur have a collective plan ready for use in such emergency.

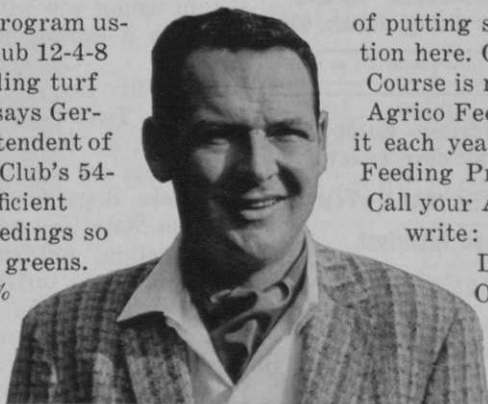
Ed Shoemaker of Rainy Sprinkler Sales outlined the development of golf course watering systems, showing how one stage led into the next and pointing to the time when weather, irrigation and

Continued on page 146



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grass growth will be automated in coordination.

Elmer Reynolds of Rain-O-Mat Sprinklers, talking about friction loss, showed how to calculate flow loss so pump delivery and sprinkler delivery can be correctly coordinated. Reynolds said there were 70,900 ways to sprinkle the typical residence lawn so it isn't surprising that a sprinkling job as big as a golf course may have design flaws in it. Hence the superintendent had better get himself basic training qualifying him to check up on irrigation system design.

Dan Lynch, assistant park director, City of Houston, Tex., said that six plans were required for an automatic watering system; the site plan, water line plan with sprinkler locations, hot wire plan, ground wire plan, control board plan and a pumping plan if pumps are necessary. He related details of installing a system according to the plans. He said that 99 per cent of the pitfalls in installing an automatic watering system can be avoided and one per cent corrected.

Herman Johnson, superintendent, Quail Creek G&CC, Oklahoma City, Okla., took the superintendent's viewpoint in telling about converting to an automatic watering system. This very satisfactory job done by Johnson was described by him at the Milwaukee Sewerage Commission's watering symposium last year. He advised that no expense be spared in getting thorough and expert plans. He made his listeners aware that "whatever's put in wrong you will have to repair or live with it expensively."

Grass Is the Payoff

With Donald D. Parcel, superintendent, Twin Hills G&CC, Oklahoma City, Okla., as director, the sixth educational session got onto grass with Dr. Paul E. Rieke, department of soil science, Michigan State University telling of the plant, watering, soil and temperature factors involved in turfgrass wilt.

Dr. Jesse L. Fults, department of botany and plant pathology, Colorado State University took another swing at dat ol' debbil crabgrass. He remarked that despite all that's been done and written about crabgrass the past ten

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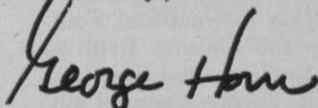
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Velde and Wybrand de Geest, including the famous "Golfing Lady" and a real bargain in a Henry Callender at \$25. Many of the prints go for only \$5 and they look as though they were worth much more.

There were more than 100 individual pieces of golf art at The Crossroads of Sport, and they ran the gamut from the standard and moderately priced old prints to original and contemporary oils. On display here is the work of present-day artist Arthur Weaver, who has set himself to the task of painting the world's most-famous golf holes. Already achieved are the seventh at the Augusta National, the 18th at Pebble Beach and the 18th at St. Andrews, and we were informed that Weaver is hard at work on others. You can buy either reproductions or originals at The Crossroads. An original runs \$200.

Among the standard scenes, one of the best we came across was "The Sabbath Breakers," a painting executed in 1896. It depicts an actual occurrence in Great Britain back in 1592, the discovery by clergymen of two golfers swinging on the Sabbath. The inscription reads: "In 1592 John Henrie and Pat Rogie were prosecuted for playing Gowfff on the Links of Leath on Sabbath during the time of the sermones."

Others in the collection include a good print showing the first amateur golf championship played in this country, at St. Andrews in Yonkers, N. Y., in 1894, from an original drawing by Everett Henry (\$30); the "First International Foursome," played on the Links of Leith in 1682 between England and Scotland (\$24); some A. B. Frost's, a second edition of a Currier & Ives original of Jones winning the British Open at St. Andrews in 1927 (\$30); some rare English golf scenes (\$85 for a set of three); a Henry Callender at \$95 and "The Blackheath Golfer" at \$52.

Over at Abercrombie & Fitch, the collection is quite limited but what there is merits attention. Weaver reproductions of the famous golf holes are priced at \$52 framed (\$35 unframed); there are a few A. B. Frost's, and there is a

wonderful set of three by artist Douglas Adams titled, "The Drive," "Putting," and "Bunker Play."

One of the best sources for would-be collectors remains Jack Level, who has created some form of art by the manner in which he gathers golf memorabilia. His supply of golf prints is phenomenal. Examples: "The Sabbath Breakers" can be obtained for \$25 and \$10, "The Golfers" at \$28, \$15 and \$5, there are Frost's at \$15 each, "The Blackheath Golfer" at \$18 and \$15, prints of Bob Jones winning at St. Andrews in 1927 and 1930 at \$20 and \$15, "The First International Foursome" at \$20 and \$15 and the famed old "Apple Tree Gang" at \$20. And his collection goes on and on. As with each of the other galleries, you can write to Level for further information regarding his collection. He distributes an excellent brochure describing it. ●

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years the problem still is "very real." Between 1961 and 1965, a partial survey showed that 44 researchers, mostly in the midwestern and northeastern states, published 32 different papers on crabgrass. He stressed that crabgrass herbicides are management tools to be intelligently used and are not ends in themselves.

Fults said the summer droughts (1962 to 1965) had a great effect in the spread and increasing severity of crabgrass. At Colorado State during 1955, 1956 and 1957 results on 120 plots indicated that direct seeded Seaside and Astoria bents (as lawn, not green) turf and annual bluegrass were highly resistant to invasion by crabgrass. Merion blue and common Kentucky are less resistant.

R. E. Schmidt, department of agronomy, Virginia Polytechnic Institute, Blacksburg, after describing how light and temperature influence warm and cool season grasses by affecting photosynthesis, growth regulatory processes and food reserves, pointed out that the best management program for bent develops a high carbohydrate reserve during the fall and conserves this during spring and summer. Bentgrass top growth should be controlled and never excessively stimulated. Stimulating bermudagrass top growth during hot weather will not deplete food reserves if night temperatures are not excessive. Vertical mowing and aerification of bent should be done prior to the summer stress and of bermuda during the summer when photosynthesis is manufacturing energy greater than it is being utilized.

Alex Radko, eastern director of the USGA Green Section, one of the top practical experts, declared that mulching of critical areas (greens, tees and slopes subject to erosion) is highly advisable but not too often done. He gave five reasons for mulch being beneficial to soil germination. He described eight mulches: salt hay, straw, bales of hay with seed in shock for mulch seeding, thinned asphalt preparations, burlap, jute, cheesecloth and tobacco netting, hydro-mulching (slurry) with a fibrous material that holds water, and polyethylene tarps.