

Turf Specialists Focus on Water Needs, Practices, At 36th Int'l Turf-Grass Conference in Cleveland

How water affects turfgrass health and soil conditions, and how it should be applied, was a prevailing theme of the educational sessions during the 36th International Turf-Grass Conference and Show February 7-10 at the Sheraton-Cleveland Hotel, Cleveland, Ohio.

Technical lectures on turfgrass science were interspersed with talks on general golf course management, and "free" periods allowed delegates to view the annual trade exhibition, termed "The Greatest Show on Turf." This year saw a record number of exhibitors present, and conference officials, at presstime, expected the final tally of registrants to surpass last year's 2700 attendance in Philadelphia.

"What watering techniques produce the best turf?" Harry J. McSloy, Superintendent of Wilmington Country Club, Wilmington, Del., asked as a springboard to the answers which were the meat of his talk.

"Constant wetness of turf is not the reason for watering grass," McSloy explained. "Alternate wetting and drying is beneficial because it promotes less compaction, roots penetrate more deeply for available water, denser turf is produced, and fewer weeds have a chance to sprout. Such healthy dense turf will bounce back quickly after a bout with disease.

"Change your watering schedule only in the spring" McSloy advised. "Let the turf dry almost to the wilting point, then water it deeply with a nozzle which will prevent puddling and runoff.

"Water to a depth of 6 inches, and test this depth periodically with a soil probe," the Superintendent continued. "Water should be applied slowly to prevent crusting.

"Then hold off watering until the turf loses resilience, or appears just about to wilt," McSloy went on. "Grasses vary in their water requirements; some bermudagrasses will do well if watered only once every 7 days."

The experiences of this superintendent were expanded and substantiated later by Dr. Ralph



Host member, Malcolm McLaren (left), vice-president of the Northern Ohio GCSA greeted visiting superintendent James Haynes, Denver (Colo.) Country Club. McLaren is a former GCSAA president.

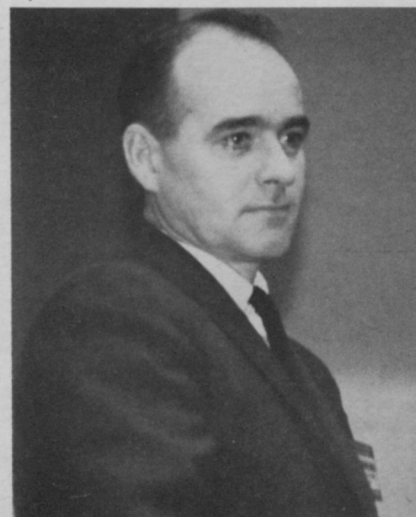
Engel, Agronomist, Rutgers University, New Brunswick, N. J., who presented some research results from academic studies.

"A good program of watering will include the following points: (1) apply water only when needed; (2) apply it slowly; (3) make certain application is uniform; (4) use fine droplets; (5) apply the proper amounts to avoid runoff, (6) and time application according to weather and rainfall," the turf expert enumerated.

Know Grass Water Needs

Dr. Engel advised superintendents to be familiar with individual grasses and the water requirements of each. "Bentgrass has a high water need, whereas bluegrass and the fescues are not favored by generous

"Winter injury can be worse than vandalism," Dr. C. Richard Skogley, Univ. of Rhode Island agronomist told the educational assembly at 36th Int'l. Turf-Grass Conference.



watering," he said. This knowledge is important because watering can regulate species balance or dominance. Dr. Engel showed a slide of a bluegrass plot which was receiving too much water and sustained an invasion of bentgrass.

"Thatch prevents proper water penetration, and often comes about because turf has been given too much light watering which increases the amount of shallow surface rooting," Dr. Engel asserted. Other factors which can prevent proper water penetration are algae and slime, and compaction of soil particles.

Guard Against Winter Injury

A second agronomist followed on the GCSAA program to explain winter injury, damage related to water problems, and how to prevent it. The agronomist, Dr. C. Richard Skogley, University of Rhode Island, Kingston, said that many times winter injury in its various forms can be worse for the golf course superintendent than vandalism.

"Winter and spring are critical times for grasses," Dr. Skogley said. "Summer for cultivated turf is no problem, if it can survive winter.

"Winter injury is a complex subject," he continued. "There are two basic types: mechanical, caused by man, and physiological, caused by diseases and other maladies which kill grass."

The Rhode Island expert told how mechanical injury can result from walking over frosted grass and bruising the grass plants. Beneath the turf the soil water may freeze and heave; if disturbed by traffic while heaved, permanent ruts may result.

On the physiological side, winter injury may be manifest in winterkill, disease, scald, suffocation, or desiccation.

"Actually frost action on soil can be an advantage, because it relieves compaction and will improve play on greens in season," Dr. Skogley said.

He indicated that the two most dangerous times for prize turf are late fall and early spring (late fall because of possible

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PROSTRATE SPURGE

(*Euphorbia supina*)



Prostrate spurge (6) is an annual which reproduces by seed only. It is sometimes called milk purslane and spotted spurge. Common throughout the eastern and middle western states, it is found less frequently along the Pacific Coast.

Growth of prostrate spurge in lawns, gardens, fields, and waste places causes the plant to form dense mats of branches radiating from the central taproot. One plant can cover a square foot.

Stems are succulent, slightly reddish, and somewhat hairy. Stems have a milky sap. This sap causes a rash reaction if brought in contact with skin of sensitive persons.

Leaves are opposite on the stem, simple, and oblique (each leaf margin is not the same length). There is usually a reddish-brown spot on the leaf surface.

Small inconspicuous flowers (7) borne in the leaf axils produce many tiny black seeds (8).

The root is a taproot and can be pulled up easily when the soil is wet.

Prostrate spurge will grow well under trampling where foot traffic has destroyed other grasses. As long as there is healthy vigorous turf, prostrate spurge will not have a chance to invade.

Disodium monomethyl arsonate (DMA) and silvex applied to turf 2 to 3 times when spurge is actively growing will control it.

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mechanical damage to frosted turf; early spring because of melted water trapped on the surface by frozen soil layers beneath). "Frosted turf can be corrected by light irrigation before play, but when frost is bad and danger is great in fall, or when soil is waterlogged in spring, the grounds should be closed off," Dr. Skogley suggested.

A panel of superintendents who had had experience with automatic irrigation systems offered some words of advice to others who wished to develop systems of their own. Donald Wright, Camargo Club, Cincinnati, Ohio, feels irrigation equipment is a luxury for a golf course, but moneysaving in the long run.

Measure More Than Greens

"Measure the area you want watered, not just the green surface, and be certain the irrigation heads are positioned in the center of fairways," Wright advised.

"Poor distribution has been a problem in the West," Walter Boysen, Sequoyah Country Club, Oakland, Calif., offered, "because too many sprinkler heads are attached to too few control valves. Also, we've had complaints that there were too few quick-coupler hose attachments around greens for hand watering."

"It's very important to make certain the contractor for digging the trenches is on the job when the pipe is ready to be laid," Thomas Topp, Bellevue Country Club, Syracuse, N. Y. advised. He indicated that those who let the bids should feel assured that the company which gets the contract to dig trenches is adequately equipped to fulfill the job.

"Put soil back on top of the pipe and tamp it in," Wright suggested. "It will make a bed for the electrical wire and make certain that the ground will not sink."

"We found that we interrupt some natural drainage channels underground when we dig trenches for piping," Boysen revealed, "and we've gotten some water pockets which we can't explain any other way."