

Turfmen Must Be Treemen, Too, Delegates Shown At 37th Int'l Turfgrass Conference in Kansas City

The increasing complexity of golf course greens management means superintendents must not only be knowledgeable in all phases of turf care and weed control, but be experts in tree maintenance as well. This was especially evident last month at the 37th International Turfgrass Conference and Show staged by the Golf Course Superintendents of America Association in Kansas City, Mo. The Feb. 13-18 affair drew more than 2,000 greenskeepers, golf and country club superintendents, and others interested in cultivated turf from throughout the United States and Canada. Delegates also could shop among the more than 115 booths manned by suppliers showing everything from golf tees to massive earth moving equipment.

Which Tree Is Best?

"Tree care starts with the selection of the tree for a given site and purpose," according to Dr. Leon C. Snyder, head of the Department of Horticulture at the University of Minnesota. One must consider hardiness, longevity, mature size, adaptability to the site, freedom from insects and diseases, and clonal variations that exist within cultivars (cultivated varieties) of a given species, he counseled.

"As a rule," Dr. Snyder continued, "slower growing species are longer lived and structurally stronger than fast-growing species. Bolleana Poplar, *Populus alba* 'Bolleana,' Lombardy Poplar, and *Populus italica nigra*, Silver Maple, *Acer saccharinum* and Robusta Poplar, and *Populus x robusta*, are recognized as being fast growing, but relatively short lived. The Silver Maple," he admitted, "is actually not short lived but its usefulness as an ornamental tree is certainly limited. As this species reaches maturity, it is subject to breakage by winds and ice storms."

The more hardy, slower grow-



Better than 2,200 turfmen swarmed into Kansas City's Municipal auditorium for the '66 show.

ing, and more desirable trees listed by the Minnesota horticulturist are oaks, hard maples and ash.

Tree Plagues

Dr. Dale M. Norris, Jr., from the University of Wisconsin, told the group of cures he's found for some of the diseases which plague trees.

Oak wilt, caused by the fungus, *Ceratocystis fagacearum*, can be "stopped in its tracks," according to Dr. Norris, by a thorough program of rootgraft breakage between adjacent oaks. "This prevents the spread of the lethal fungus from tree to tree down the fairway through interconnected roots.

"You may simply trench a few-inch wide ditch down about 30 inches in the soil along a line midway between oaks that are 50 ft. or less apart. You can also inject a soil-sterilizing chemical, such as Vapam, into holes drilled in a similar line between the trees and thus prevent fungus spread," he said.

Elm phloem necrosis is a second tree killer in many central and more southern states, such

as Ohio, Indiana, Illinois, Iowa, Nebraska, etc.

"This lethal virus disease," the Wisconsin horticulturist explained, "has never been adequately studied, but we do know that it spreads readily from elm to elm through root connections. Thus, rootgraft breakage is a must in any control program. In addition, a sucking insect, a leafhopper, extracts the virus from leaves of diseased elms and effectively inoculates it into the foliage of healthy elms. This insect flies, or is carried by the wind, for miles. Spraying with insecticides, such as DDT, on the foliage of healthy elms in the late spring is our only control measure against leafhopper spread of the virus," Norris suggested. Diseased trees must be quickly removed and destroyed, he said.

Effect of Light and Heat on Turf

Every physiological process occurring in plants is affected by temperature, and only light can supply the energy used by green plants, so turfmen must understand the varying interrelations between these two important

(Continued on page 34)

Turfmen Must Be Treemen, Too

(from page 22)

elements to provide the best environment for their grasses. This was the reason for having Professor R. E. Schmidt, from the Department of Agronomy at Virginia Polytechnic Institute, address another GCSAA educational session.

There are turfgrasses which grow best under high temperatures (so-called warm season grasses) and those which grow best at lower temperatures (cool season grasses).

"It has been known for some time that grasses adapted to the cool region have a lower minimum and optimum growth temperature than those adapted to the warm region. For the most part, optimum temperature for root growth is lower than for herbage growth of both warm and cool season grasses," Schmidt revealed.

"Natural grass adaptation is based on the extremes of the environment," he continued. "With proper management these extremes may be minimized so that grass will tolerate, at least for a time, unadapted conditions. For example, raising the bentgrass clipping height during the summer will provide more insulation and thereby lower the soil temperature to improve turf quality."

Crabgrass Controls

Most turfmen are vitally interested in crabgrass control, so delegates were especially attentive when Dr. Jess L. Fults, chief botanist at the Colorado Agricultural Experiment Station in Ft. Collins, listed some of the controls he has found effective.

Among the pre-emergence crabgrass killers, he mentioned chlordane, lead arsenate and other inorganic arsenic compounds, calcium cyanimid, allyl alcohol, Dowfume, and Vapam.

"It has been generally assumed that when pre-emergence crabgrass herbicides are applied at 'reasonable herbicide rates', either to established turf or to a prepared seedbed prior to seeding perennial grasses, there is no significant long-lasting residue,"



New GCSAA executive team for the coming year are all smiles over success of conference and show last month in Kansas City. These top three officers stopped for the camera just after their election. In the middle is GCSAA president Edward Roberts, Jr., of Chatham, N.J. On his left is the new vice president, Walter R. Boysen, Oakland, Calif., and at the right is John J. Spodnik from LeRoy, Ohio, who was reelected secretary-treasurer.

Dr. Fults explained. "The general assumption seems to be that the 'microbial activity' in the soil has the capacity to break down almost any applied chemical into 'inactive' products, as far as their effects on the growth of perennial turfgrass is concerned. Our long time observations and measurements in the case of two commonly used pre-emergence crabgrass herbicides (chlordane and certain inorganic type arsenicals) would indicate that this assumption is open to serious question."

Actidione for Rust

Dr. M. P. Britton, of the University of Illinois in Urbana, told a group of 31 sod growers during their own divisional meeting that his experiments have shown Actidione RZ to be the most effective chemical tool to combat rust fungus. It usually takes two to three applications, at seven-day intervals, to wipe out the disease which attacks the base of Merion bluegrass, he said.

Companion speaker on the commercial cultivated turf seminar was Dr. Ray Keen of Kansas State University, Manhattan, who spoke on grasses for the crabgrass belt. The area in which this nuisance grass predominates stretches from Wichita to Washington and is from 300 to 500 miles wide, he said. In desperation, he admitted, most growers regularly switch between blue-

grass and bermudagrass on a routine basis, jumping back and forth from one to the other when climatic and temperature conditions "wear out" the species that's in at the time. Keen admitted none of the 46 test plots in his seven-acre experimental turf area has provided the satisfactory, hardy grass turfmen and their customers are looking for in the "crabgrass belt."

Next year's satellite sod section is also to be held in conjunction with the golf superintendents' show, but there is a possibility the group may rotate future meetings to join with other associations. Dr. Britton reported some growers felt they should associate with such groups as those centering on agronomy, landscape architecture, and highway beautification, to acquaint these fields more effectively with what the cultivated sod industry has to offer.

Dr. Henry W. Indyk, at Rutgers University in New Brunswick, is heading up program arrangements for the sod group's meeting in Washington next February during the GCSAA conference.

Convention site for '67 is the Washington Hilton Hotel in Washington, D. C. with the dates set at Feb. 5-10. In 1968, the association will meet in San Francisco for its mammoth trade show and educational conference.