

hydrangea clumps, tees laced with spirea, birdhouses mounted on high poles and paths outlined in nosegays. Artistry is stamped on the way in which he curls flagstone passageways through his beds. A June day at Glen Oak must be rarer than even the poet described it, but it's all in keeping with Gerber's outlook: "There's a lot of green in a golf course," says he. "It can become awfully monotonous, so I try a dash of different colors here and there to make the course more interesting."

Water Conservation Needed

John Singleton, irrigation specialist, predicted that in the near future, water system installations for courses and other large turf areas will be computerized. The result will be that a near ideal combination of pump capacities, pipe sizes, velocities, etc. for different soil and turf types will emerge. In his speech, Singleton emphasized that piecemeal installation of a sprinkling system invariably turns out to be extremely costly. He also suggested that clubs closely examine the expense of hiring a night water man at time and one-half wage rates and compare it on a long-time basis with the cost of putting in an automatic system. It may change some thinking.

Alluding to the overall water situation, Singleton said that it is not promising in the East or Midwest. "Conservation not only is needed but soon will be widely enforced in both these areas," he remarked. "Clubs would be wise to insure future water needs by going automatic, a sure method of conserving water. If they prepare for what is foreseen as the most adverse condition in their part of the country, they won't be too badly off when the pinch comes."

Fifth Session

Maybe It's Tougher in the Southwest

Mark S. Gerovac, supt. of Oro Valley, Tucson, introduced the speakers at this gathering. They included: Donald Hogan, irrigation engineer, Seattle; Roy L. Goss, agronomist, Western Washington experiment station; James L. Haines, Denver CC, Arthur A. Snyder, Paradise Valley, Scottsdale, Ariz., and Kenneth L. Putnam, Seattle GC, the supt. panelists; E. Ray Jensen, Southern Turf Nurseries, Tifton, Ga.; and Carlton E. Gipson, Club Camp-

Comes from Switzerland to Attend Convention

Donald Harradine, golf course architect and consultant, who lives in Caslano, near Lugano, Switzerland, travelled the longest distance of any of the visitors who came to San Diego to attend the GCSA conference. He estimated that he covered at least 7,000 miles in making the jaunt which included a pre-conference sidetrip to Mexico City.

Harradine, a native of England, has been in the golf business since before World War II. He has designed and constructed about 100 courses throughout Europe and, at present, serves as a turf consultant for 52 continental clubs. Some of his more recent projects have been for the American Army in Dijon, France, at Bad Pyrmont in Germany for the British Army, and a municipal course in Athens, Greece that he designed and built. Pennecross seed for the greens at the latter installation, as well as Bermuda and Merion for the fairways, were imported by Harradine from the U. S.

estre de la Ciudad de Mexico, Mexico City.

Describes Western Irrigation

Discussing the technicalities of automatic irrigation in the West, Don Hogan said that it has been only in the last seven or eight years that semi-automatic, and later, automatic equipment, have been used on a wide scale. The trend in both systems is to smaller coverage patterns, Hogan pointed out. As for types of installation, quick coupling, impact head are most common in semi-automatic, and hydraulically operated, diaphragm types that are electrically controlled are favored where automatic systems are used.

The Seattle irrigation specialist gave a quite detailed description of the materials used in both semi-automatic and automatic installations. He estimated that it costs around \$120,000 to put in the former on a multi-row, complete coverage basis for 18 holes; cost of the automatic runs around \$150,000. Hogan predicted that fertilizer application through the irrigation system soon will become commonplace. The secret of getting uniform distribution of fertilizers or, for that matter, any chemical, is to establish constant precipitation rates. This is something that is theoretically simple, but occasionally calls

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Year-Around Play Hurts

Roy Goss, who carries on his turf research work in that town with the slightly unbelievable but intriguing name of Puyallup, said that a Northwest supt. may be working at a disadvantage when his plight is compared with that of a Eastern turfmaster. Overall day light intensity is less in the coastal states than in other parts of the country, and this area is plagued with an overirrigation condition from September through May that badly upsets the whole drainage picture. If these things aren't bad enough, the fact that golf is played year around adds to the aggravation.

Serious compaction problems result from 12-month activity, Goss stated, especially where poa annua is involved. Desirable grass is stifled by winter traffic but poa, of which there are some 50 varieties, seems to escape unscathed. This is why it becomes dominant in the Northwest in late summer.

To compensate for winter play, Goss said that supts. in the coastal areas tend to overfertilize. This causes as much trouble as underfeeding since lushness undoubtedly increases disease activity and

probably results in vital potassium being reduced or neutralized. At present, the Washington experiment station is carrying on quite extensive compaction tests to determine what kind of soil mixes hold up best in the coastal area, but results aren't yet conclusive.

How to Handle Employees

Three old pros who have put in a total of about 120 years in the vicinity of the maintenance buildings, Jim Haines, Art Snyder and Ken Putnam, discussed some of the practical aspects of turfkeeping.

Haines spoke on crew operation and management. He said that the biggest failing in handling employees, whether it's in the golf business or some other one, is lack of communication. In most cases, the supervisor is at fault. In too many instances, the Denver CC supt. stated, notices of changes in working conditions or even jobs are withheld from the employee until the last minute. This has an unsettling effect and, in the final analysis, works to the disadvantage of the supervisor since the worker is slower than he would ordinarily be in adjusting to the new situation.

With the Denver CC since 1928, Haines has a handful of men who have been with him all those years. That gives added weight to the points he stressed in pro-



Speakers at the first forum of public course administrators, held in conjunction with the GCSA show, were (l to r): Guy Bellitt, Southern Cal. PGA; Charles Pinney, El Centro, Calif.; Bill Sherman, National Golf Fdn.; Gene Reid, Tucson, Ariz.; Don Makie, San Diego, and Dick Sincerbeau, Flint, Mich.

moting longevity among employees: Tell them what is expected of them; Don't withhold praise or a raise; Try to develop versatility among the men in your crew; and, Always be on the lookout for latent ability.

Matter of Adjustment

Art Snyder, a transplanted Pennsylvanian who moved to Arizona about eight years ago, said there is quite a difference in eastern and southwestern maintenance practices. When a fellow makes the move, said Art, he has to quickly learn how to adjust to 120 deg. temperatures, lack of rainfall and constant play or it won't be long before he is heading north again. The soil situation, too, can be puzzling because there is a great variety of it. None of it is promising because of its sticky, sandy or salty makeup.

Yet, said Art, fine and common Bermuda grasses can be grown in the desert country if a supt. sticks to the rules. Seaside and pennecross are proving themselves, although the latter produces no better than a fair root system and still is pretty much in the test stage. But bents, Art concluded, have no advantage over Bermuda: they aren't nearly as susceptible to disease.

Putnam's Sunken Garden

Ken Putnam described a wholesale re-sodding job that is now going on at his Seattle GC. More than 50 acres of fairways have been completed and there are nearly that many that remain to be worked over. The course was built on virgin timberland and the depressions left by removal of tree stumps never were proper-

ly compacted. In recent years the place had become one big sunken garden.

Using film, Putnam showed how a supt. tackles a project of this kind. Great quantities of rock had to be removed, topdressing hauled in and concentrated doses of lime and fertilizer applied. The sodding operation is carried out with the aid of a fork lift and large pallets on which 1 1/4 in. sod sheets are piled in 12-inch decks. It is possible to cover from one to one and one-half acres in a week. The original cost of the project was \$500 an acre, but as Putnam and his crew became a little more adept at the work, they reduced this to about \$450.

Stolon Planting Methods

Ray Jensen, who started the Southern Turf Nurseries about 12 years ago and has made important contributions to the development of Bermudagrass, used slides in illustrating planting methods. A stolon planter with a single roller and double-row cutting discs that his firm developed, is capable of sowing 8 to 10 acres a day with an eight man crew. The front disc is heavier than the back one to insure pressing the stolons deep into the soil, and when the soil is hard to penetrate, weights can be attached to the machine.

Jensen told how he once experimented with a tobacco planter in laying stolons, but it was so unwieldy that his crew could cover only two acres a day with it. He unwisely stayed with the machine in handling a stolonizing job for an entire course and is still writing off the loss. That was the last of experiments of this kind.

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For hand planting, the Southern Turf owner recommends spotting the stolons about 18 inches apart. Whenever a stolonizing job is undertaken, whether by hand or machine Jensen suggested that these things be kept in mind: The bed should be well cultivated; a generous application of quick-acting fertilizer should be made; a weed control program should be started immediately; and post-planting irrigation should be on the heavy side.

Maintenance in Mexico

One of the convention's prize speakers turned out to be Carlton Gipson, a one-time Texas soil scientist who, two years ago, moved south of the border to supervise the maintenance of a Mexico City course. Gipson said that the art of green-keeping is still in its infancy in Mexico. One of the drawbacks, paradoxically, is

Turf Dates

Mar. 12-14 — Turfgrass short course, Iowa State U., Ames.

Mar. 21-22 — Michigan Turfgrass Conference, Mich. State U., East Lansing.

Mar. 27-29 — Ontario Agricultural College, Guelph.

that a supt. has too many men to supervise. Courses may have as many as 40 to 85 grounds employees.

They constitute a formidable hand-weeding crew, but they don't understand the intricacies of machinery and find more ways to throwing it out of adjustment than an army of master mechanics could hope to correct.

Courses in and around Mexico City generally are good ones but the same can't be said of those in the outlying areas. Fifty per cent of the country, Gipson pointed out, is arid or semi-arid and there is also much alluvial clay. The various Bermudas are best adapted to the Mexican soil, although bents such as Seaside and Penn-cross could survive in the central part of the country. Poa, however, thrives and has a tendency to crowd out bentgrass, and for that reason it is intensely cultivated. Mexico's answer to crabgrass is elephant grass.

Gipson said that seed, much fertilizer, and replacement parts for machinery have to be imported. A fellow has to develop a sixth sense in ordering these things for enough ahead to have them on hand when they are really needed because it takes a

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GCSA Convention

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long time for them to clear through customs. Sulfate of ammonia is the most common fertilizer although the birds give a supt. a big lift by delivering plenty of guano for the greens.

Sixth Session

It's Supts' Day at the Meeting

Fred V. Grau, consulting agronomist for Hercules Powder Co., handled the introductions at the sixth all-supts. session. His list of speakers included Joe B. Williams, Santa Ana (Calif.) CC; John L. Kolb of Minikahada in Minneapolis; Clifford A. Wagoner of Del Rio G & CC, Modesto, Calif.; and Ted J. Rupel of Cherry Hills in Denver. Panelists for this gathering were Charles F. Shiley, North Hills, Milwaukee, Paul N. Voykin, Briarwood, Deerfield, Ill. and Robert V. Mitchell, Sunset CC, Sappington, Mo.

The first speaker on the "Course Man-

agement Aids" program, Joe Williams, may have been the busiest man at the GCSA conclave. He handled the stage props in the 750-seat convention hall, was a semi-official photographer, and as a member of the host Hi-Lo chapter, had a full week of shaking hands and greeting visitors. If the pressure took its toll of Joe it wasn't evident in his speech, one of the best of the conference.

Would Enlarge Training Plan

Williams encouraged supts. to break away completely from the still deeply entrenched and hidebound attitude that training an assistant may mean training a replacement for the greenmaster's job. "We have an obligation to ourselves and the club," said the Santa Ana turfman, "to have a No. 2 man on hand to take over in our absence. Sickness, emergencies and the need for taking occasional vacations are unavoidable. If nobody is capable of filling in for us when we're away, we'll find that we wish we had trained someone to backstop us. Looking at the situation from a larger viewpoint," Williams continued, "enough supts. are retiring each year to make us feel obligated to provide replacements for them from our own organization."

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