

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