

in which weight is better distributed, he said. It also has slowed down acceleration and smoothed out the braking system. "I haven't any doubt that we can look for continued improvement," Wilson stated.

Cooperate with Manager, Accountant

Warren Bidwell spoke on the relationship between the supt. and club mgr. He said that it should be recognized and accepted that all activity revolves around the clubhouse and, therefore, it is important that the mgr. be kept informed of all happenings around the club in which the members may have more than just casual interest. "If," said Bidwell, "you're undertaking a fairly important rebuilding job somewhere out on the course and the mgr. doesn't even know it is going on, you can imagine how embarrassing it can be for him to be confronted by members' questions about it without having the least idea of why it is being carried out. Yet, this goes on practically every day. What we don't stop to realize," the Olympia Fields greenmaster continued, "is that this makes the maintenance dept. look just as inadequate, if not more so, than the club mgr. Members begin wondering if we are pulling together or deliberately working against one another."

Bidwell also pointed out that the supt. probably could do a lot more to improve his relationship with the club accounting dept. by keeping records and accounts in a more businesslike fashion. "Many of us," he declared "are sloppy bookkeepers. We fill out requisitions, purchase orders and payrolls literally on the insides of chewing gum wrappers and expect the accountant to okay purchases and prepare pay checks on the basis of these requests. Then, if they are held up because the accounting dept. can't decipher our entries, we become terribly perturbed."

Paul Confounds Quizmaster

The more than 40 speakers must have uttered nearly one-half million words before the program finally offered its first change of pace following Bidwell's address. It came in the form of a \$64 quiz program in which Andy Bertoni, the suave Northville, Mich., answer to Hal March, queried the following turfmen as to what they knew about subjects relating to their profession: Mike O'Grady of the CC of New Bedford, Mass.; Marion Luke of CC of Florida, Del Ray Beach; Al Caravella, who the audience had met be-



Part of the California delegation is shown at a breakfast given by B. Hayman Co., Inc., Los Angeles. Next year these people will be hosts to the GCSA convention.

fore; and Paul Neff of Scioto in Columbus, O., who nearly bankrupted the GCSA by sneaking in an answer to a question that he shouldn't have known even if he had been tutored beforehand.

Mike O'Grady showed brilliant oratorical skill in circumnavigating the queries thrown at him and finally wound up with \$8 (in silver) for figuring out such a brain-teaser as Hagen's first name must have been Walter. Marion Luke climbed to the \$32 plateau but missed after defining the difference between "superintendent" and "greenkeeper" as being \$7,000 a year. Al Caravella pocketed \$16 by enumerating the ingredients in a commercial fertilizer, but declined to go further, saying he wanted to protect his winnings so he could afford a Miami Beach haircut.

Paul Neff's coup came after five perfectly innocuous questions, all of which he answered without any hesitancy, were laid in his lap. Then, Bertoni riffled to the bottom of the deck and came up with a query that Prof. Burton A. Musser and Dr. Fred V. Grau, working together, probably couldn't have fielded given 24 hours: "How much topdressing would it take to cover 5,000 sq. ft. of green to a depth of $\frac{1}{4}$ in.?" Neff didn't even draw a deep breath in replying, "Three and $\frac{3}{4}$ yards!" Panic followed, additional funds were sent out for, and if the GCSA shows a deficit for 1962, you can blame it on an egghead from Columbus, O.

Discuss Irrigation at Final Session

The final conference session, presided over by Dick Viergever, supt. of the Olympic Club of San Francisco, had as its theme, "Golf Course Irrigation." The speakers included: Elmo Dowling, Rainy

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GCSA Education Program

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Sprinkler Sales, Gainesville, Fla.; Ralph E. Engel, professor in turf management, Rutgers University; H. M. Clark, Buckner Mfg. Co., Fresno, Calif.; David S. Moote, supt., Rosedale CC, Toronto; William O. Ballentine, supt., Orlando (Fla.) CC; Gene C. Reid, Randolph Muny, Tucson, Ariz.; Edward J. Casey, supt., Baltusrol, Springfield, N. J.; Robert E. Grant, supt., Runaway Brook CC, Bolton, Mass.; and Roy W. Nelson, supt., Ravisloe CC, Homewood, Ill.

Be Sure of Water Sources

Discussing the development of water supplies, Elmo Dowling of Rainy Sprinkler Sales pointed out that installation of a course irrigation system never should be attempted until after a thorough study is made of potential water sources. Normally, he said, there are enough of these in about 60 or 70 per cent of the country, but the critical consideration is whether they can be tapped when the need for water is greatest. Dowling suggested that perhaps the overall design of new courses

should be based as much on irrigation factors as terrain and other features.

Two Sides to It

Ralph E. Engel, who has made extensive studies of irrigation systems and the effects of water on turf, at Rutgers University, stressed this point: "Too many of us think only of water as a life-giving element or agency; it must be remembered that it also can be injurious to turf." Many of the harmful effects result, Engel explained, from poorly designed supply systems in which the problems of slope, wind, soil variation, grass species, drainage, etc. aren't studied sufficiently before the irrigation complex is installed. Enlarging on this, the Rutgers agronomist said that probably too many architects, supts. and others who work with turf don't give enough thought to the moisture needs of various grass species. "It isn't enough that their intrinsic needs be considered," he explained, "Requirements that stem from soil and climatic environment also have to be weighed."

H. M. Clark of the Buckner Manufacturing Co. and Dave Moote, Toronto

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supt. teamed up in discussing pipe materials and installation techniques in their contribution to the symposium on irrigation. Clark went into the technicalities of pipe sizes and types, saying that performance of the watering system depends to a very great extent in the supt's knowing something about these factors. The quickest and safest way to learn about them, he added, is for the greenmaster to consult the distributor's or manufacturer's engineer before attempting any installations.

Describes Installation

The whole secret of installation of a system, Dave Moote observed, is to plan a layout in which the water flow is unimpeded. "Modern, efficient pumps take care of most of our problems in this respect," Moote said, "but that doesn't mean that we should place complete and utter dependance in them and forego intelligent planning. What should always be remembered is that gravity still is a pumping system's best friend." The Toronto greenmaster used slides in demonstrating how trenching and backfilling equipment is used in making pipe installations, and

added some tips on the use of mechanical pounders and vibrators. He concluded his remarks by saying that if the design and materials are right there is no reason why any supt. should hesitate in going ahead with the installation of an irrigation system at his course.

Automatic and Semi-Automatic

Bill Ballentine of the CC of Orlando and Gene Reid, supt. at Randolph muni in Tucson, contrasted the semi-automatic and automatic systems in their panel discussion of these installations. Ballentine pointed out that the semi-automatic generally works out well after adjustments are made for varying needs of different greens. Studies of soil and turf requirements are highly important in this respect, he said, so that the duration of applications can be accurately determined. Gene Reid said that there isn't much doubt that courses in Arizona have received a tremendous boost from automatic installations and golf in that state possibly would be curtailed without them. An almost 50 per cent savings in watering costs have been made at Randolph, Reid said, since the automatic system was put in. There

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is no estimating, he added, the savings in grief for the supt. who uses the pre-set installation. "All he has to do," Gene remarked, "is set the controller in the evening and then go home without worrying about whether the grass is going to be properly watered that night."

Where Hand Watering Applies

A panel composed of Ed Casey, Bob Grant and Roy Nelson discussed the methods of applying water to greens. Casey said that since structures and contours of greens vary so greatly there is not a truly standard method for applying water to them. The automatic, timed system may work fine where the majority of putting surfaces are involved, he explained, but there are always exceptions where application through such a system may result in mal-distribution of water. These involve not only contour considerations but soil, absorption and percolation factors. In such cases, he advised, the only thing to do is to resort to hand watering.

Discussing the perimeter sprinkler system, Bob Grant stated that the major aim in the watering of greens should not

be merely in applying correct amounts to the flat, putting surface but to surrounding banks and slopes. All are integral parts of the putting structure.

The ideal perimeter layout, Grant said, should consist of a pipe installation ringing the outer edge of the green with quick-coupling valves placed at proper intervals. Using adjustable plug-in sprinklers and different size nozzles, it is possible to cover the entire green area with a predetermined and uniform amount of water. Uniformity, Grant emphasized, should be the goal with every sprinkling system. When overlapping occurs, trouble usually is encountered or becomes aggravated.

Center-Green Installation

The final speaker on the education program, Roy Nelson, also warned against overlapping in applying water. It happens too often, he said, in the cupping area, especially where there are several sprinkler placements. Probably the only way to avoid this is through the use of a center green system, but care must be made in its installation so that adequate and uniform gallonage and pressure are made available for coverage of the entire area.

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Nelson recommended a 1½-inch pipe to the sod cup at the center of the green. If varying patterns, such as higher concentration at the perimeter is desired, he said, these are made possible by simple adjustments in spring tensions and nozzle sizes.

Kenline Named Assistant P. R. Man by Foundation

John Kenline has been named staff assistant in charge of public relations for the National Golf Foundation. His appointment was made in February, according to Rex McMorris, executive vp of the Foundation.

Kenline edits a monthly news letter, writes press releases, maintains a library of planning information and is revising Foundation publications. He formerly was an assistant editor and ad copywriter with Abbott Laboratories, Chicago, where he wrote direct mail and advertising copy for that firm's international ad department. Before this he was employed by a Chicago advertising firm.

Kenline is a graduate of Occidental College in Los Angeles where he was a four-letter winner in golf. He is a frequent competitor in amateur tournaments held in the Chicago area.

Litter Bags on Bag Carts

Courses in smaller communities are looking better in the past few years because of housekeeping campaigns. A sidelight on cleanup appeared recently in Emil Roewert's "From Tee to Green" column in the Shenandoah (La.) Sentinel:

"Cecil Carlson of Essex was the donor of those litter-bags which were distributed last Sunday. While playing in the husband-wife tournament we actually had to hunt paper to pick up. The preceding foursome had really done a job of making use of their litter-bags. Hook one on your cart and it won't take much effort to keep your golf course looking much better.

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