havent been used."

Long added that grass type weeds such as dallis- and goosegrass remove more nitrogen, phosphate and potash than broadleaf weeds and their roots are capable of absorbing twice as much water as Bermuda strains. In the last five years, however, arsenical herbicides have been developed that give excellent post-emergence control. What now is needed, Long concluded, are chemicals that knock out the undesirable grasses before they can emerge.

Effects of Shade

Speaking of the effects of shade on grass, Glenn Burton, the Tifton geneticist, explained that while trees slow down photosynthesis and retard turf growth, they also have their good points. For one thing, he said, they reduce damage due to drought, an important consideration in the South. In addition, they give protection against frost and tests have shown that chinch bugs aren't as prevalent in shady areas as in exposed locations.

Describing tests made at Tifton from 1958 to 1961 on the effects of light and shade, Burton stated that density and color of shaded turf are greatly improved if the cut is made at 2 1/4 inches rather than 1 1/4 inches. It also has been shown that grasses that do better growing in the sun also grow better in shade. St. Augustine and zoysia, he said, score high in shade tolerance, finer Bermudas have a fair to good rating, but common Bermuda doesn't fare too well in this respect.

What may hurt grass most in shaded areas, especially on golf courses, Burton concluded, is that more traffic is invited and consequent injury due to trampling occurs.

Neff Nearly Breaks The CGSA Bank

L. R. (Bob) Shields, the new GCUSA director and supt. of Woodmont CC in Rockville, Md., was the m.e. of the Thursday morning session which had as its theme, Progress Through Knowledge. His speakers included William Bengreyfield, Western dir. for the USGA green section; Norman Goetze, turf specialist, Oregon State College; Edward (Ted) Roberts, supt. of the DuPont CC, Wilmington, Del.; Charles G. Wilson, sales mgr. of the Milwaukee Sewerage Commission; and Warren Bidwell, supt., Olympia Fields (III.) CC. At the conclusion of the program, several supt.s took part in a quiz program conducted by Andrew A. Bertoni, supt. of Meadowbrook CC, Northville, Mich.

Instruct the Employee

Bill Bengreyfield discussed aspects of labor management, saying that the supt. would have a better understanding of employee relations if he occasionally put himself in the place of a subordinate and tried to understand the latter's feelings, emotions and attitudes. Bill went on to explain that "telling" a person to perform a certain task is a long way from "instructing" him how to do it, especially when the person never has attempted to do the job before. If the latter is the case, the supt. may be running the risk of seeing the man get injured, damage valuable machinery, or ruin costly turf by sending him out to handle a task he knows nothing about.

Continuing in this vein, the USGA
green specialist said that as far as he can see supts. should devote more time to teaching their employees what they want done. Many plead that they are "just too busy" to do such things, but what they don't consider is that they aren't hired to mow greens or fairways and repair machinery, but to see that these things are done properly.

In his discussion of certified and quality seed, Norman Goetze said that supts. perhaps aren't as careful about checking delivery labels or tickets as they should be. He advised the turfmen to talk to agronomists and dealers in order to learn more about the different types and qualities of seed that are on the market, and to insist on certification of the products that are ordered. In this way, inferior materials handled by unreliable dealers won't be foisted on them.

Certification, Goetze explained, involves two things: purity and germination. Analysis sheets showing percentages of purity, other crops, weeds and inert matter are available with quality seed, and the purchaser should always ask to see them. Minimum germination standards also are specified for certified seed, thus giving the buyer assurance that he is getting desired quality.

Safety in Maintenance

Ted Roberts suggested that the services of the National Safety Council, which provides teaching aids and printed material, posters, etc., should be used by country clubs in promoting maintenance safety. At his club, Roberts said, safety shoes, protective gloves, helmets and goggles have become required equipment because experience has proved that their use cuts down appreciably the number of accidents and injuries. Rubber, and other protective gloves, he emphasized, are especially worth their small cost since analyses of industrial and other injuries show that the hands are easily the most vulnerable parts of the body.

The supt., the DuPont turfman said, should be personally responsible for housekeeping and storage around the maintenance building, seeing that all potential booby traps are eliminated. Roberts also suggested that clubs should have safety committees making periodic inspections of grounds, buildings and machinery to help in the elimination of unnecessary hazards. "The more people you have looking for these things, the more you are going to uncover," said Roberts in offering this recommendation.

Resistance Broken Down

Alluding to a "super highway" for golf cars that winds through the 27-hole rough at Shady Oaks CC in Dallas, Fertilizer Charlie Wilson of the Milwaukee Sewerage Commission said that that just about quells the last bit of resistance there may be to vehicular traffic on golf courses. "As all of us have been saying for the last two or three years," Wilson continued, "we have to live with them, so why not make the best of them? Around 90 per cent of our private clubs are using cars and, where there are sensible regulations covering their use, nobody can deny that they are good for many players and thus good for the game."

Wilson, though, debunked the claim made a year or so ago that the walking golfer puts just as much pressure on turf as the riding one. It was supposedly scientifically proved that the tread of a shoe is just as heavy as that of a tire, Wilson explained, but what was overlooked is that the tire exerts continuous pressure where that of the person who is walking is only intermittent. The Sewerage Commission sales mgr. also pointed out that turf injury due to car traffic may not show up for perhaps as long as a week or two, particularly when grass is in good shape. "There is a good lesson in that, though," he said. "It shows that we should be aerating, etc., when the turf is looking its best. In that way we can head off or reduce the effects of any injuries it may have suffered."

Wilson concluded his speech by saying that the golf car industry has conscientiously cooperated with the supt. over the years by trying to do whatever it can to reduce turf wear and tear. It has designed and re-designed to come up with models
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'Crady of the CC of New Bedford, Mass.; Marion Luke of CC of Florida, Del Ray Beach; Al Caravella, who the audience had met before; and Paul Neff of Scioto in Columbus, O., who nearly bankrupt 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 1/4 in.2?" Neff didn't even draw a deep breath in replying, "Three and 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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