



THEY PUT ON THE SHOW — Here are the people connected with the National and Philadelphia GCSA organizations who did all the behind-the-scenes work in staging the international turf convention. (Front row, l to r): Betty Jo Lester, Mrs. Elizabeth L. Clark, David O. Miller, Leonard J. Strong, William A. Nurthen, Marilyn A. Donohue, Howard D. Merrick, and Frank I. Shuman.

It's A Record! Turfmen



(Above) Dr. Roy Blaser, Virginia Poly, Harry McSloy, Wilmington (Dela.) CC, Pat Patterson, and Tom Whillock of Eagle Haven CC, Little Creek, Va., probably are getting things straightened out in the Piedmont area. (Right) Registration lines formed early as convention visitors poured in through the day, and day after day.





(Second row) Eddie L. Ervin, H. L. Mahoney, W. E. Titlow, Jerry Howard, Harold J. Freeman (behind Howard), Harry E. Carlson, E. R. (Eb) Steiniger, Gene C. Nutter, H. J. Bartholomew, Marshall Farnham, Paul E. Weis, Sr., John P. Wood, Russell Pagano, Cassiano de Freitas and Lewis V. Payson. It took a month of 14-hour days by officials and employees to stage show.

Pour Into Philadelphia



BUCKEYE DELEGATES included (l to r): Carl Springer who owns the Valley View GC in Akron; Gerald B. Smith of Silver Lakes in Cuyahoga Falls; Ethan Kirkhart, Youngstown CC; and Robert Fannin, Kirtland CC, Willoughby. These fellows won't have to travel far in '65 as convention will be staged in Cleveland.

**Old Miami Mark
of 2,250 Topped
by 500 at 35th
GCSA Show**



Mike O'Grady



Alex Radko



Harry Meusel



Bill Lyons

By **JOE DOAN**

Philadelphia never has been advertised as a particularly exciting city, but it must have an attraction for golf course supts. Enough of them came in for the GCSA's 35th international turf show early in February to shatter the attendance mark that was set in 1962 when the convention was held in Miami. Close to 2,750 were registered at the 1964 conclave. This figure includes supts. as well as their wives, representatives of supply and equipment manufacturing firms and other convention visitors.

As with any convention, it is difficult to put a finger on any happening that was significant at the Philadelphia show. More than 30 speakers ground out perhaps 150,000 or 200,000 words and by the time the six education sessions were concluded, those who sat in on the entire proceedings had to be a little weary of the human voice. But they must have carried a good deal of learning back home with them because the speakers, as they usually do at a GCSA show, generally gave an excellent account of themselves.

First Session

Recreation — Our Third Most Important Industry

Unser Paul Weis, Sr., supt. of Lehigh CC, Allentown, Pa., was chairman of the first assembly, which had as its theme the not too imaginative "The Liberty Bell Rings Again", even considering that the scene was Philadelphia. James W. Brandt of the Danville (Ill.) CC gave the invocation. Mayor James H. J. Tate was scheduled to welcome the GCSA delegation, but it turned out that he was playing golf in Miami and Robert W. Crawford, Philadelphia's recreation commissioner, filled in for him. Roy Nelson, outgoing president of the supts' organization, gave a response to the message the mayor didn't deliver. Gene C. Nutter, the GCSA's executive director, delivered the keynote address, and Wayne Eads of the Scientific Training Institute in Richmond, Va., supplied the inspirational nourishment, which is standard fare at the first session of any convention and apparently is intended to get everybody toned up to the extent that they'll be able to go the distance.

Quoting Pennsylvania Dutch proverbs,



G. Brinkworth



Mike Britton



Joe Duich



Don Wright



Harry Wills (l), supt. at Brookside in Worthington, O., and Audrey Whitmore of Plum Hollow CC, Detroit, grab a few minute's rest in lounge near convention hall. Supt. in the center is unidentified.

pursuits. The city's juvenile picture is probably even worse.

If these arguments aren't convincing enough, Crawford called attention to the fact that recreation now is our third largest industry, ranking only behind manufacturing and agriculture. Providing for it is slowly being recognized as being as essential as supplying food, shelter and clothing. Finally, Crawford predicted, future mass movements of Americans won't be made with the intention of seeking better employment opportunities, but with the intent of going where there are adequate recreation facilities.

There's A Message Underneath

A speaker such as Wayne Eads probably is too patently professional to inspire much more than admiration for the way in which he puts over the pitch, but underneath his free flowing delivery there is a message if a person wants to take it home with him. It comes out "enthusiasm". Eads, a sales psychologist, deals in epigrams such as (1) People are the greatest schoolmasters; (2) Many unsuccessful persons are overburdened with talent; (3) Knowledge isn't power until it's

some of which he may have improvised as he went along, and mercifully minimizing the biographical notes on the speakers who he treated with terse wit, Paul Weiss stole the play in the first act, proving that brevity still beats 10,000 or more words.

The major speeches of the morning were given by Crawford and Eads. The former was late in arriving, being delayed by a two-inch Philadelphia snowstorm that snarled traffic for 30 miles in every direction, and prompted many a hardy Northern supt. to wonder what they'd do along the Schuylkill if the stuff ever piled up beyond the kneecaps.

Romans Could Have Used It

Crawford struck a responsive note by stating that cultures flourish or flounder because of recreation, pointing out that the Romans ate, wine and wenched themselves out of condition when they should have invented a game such as golf that would have enabled them to stay physically fit and continue to rule their empires.

The Philadelphia commissioner made a plea for the preservation of open space. He said that we'll undoubtedly have a 25-hour week by 1980 and a 7-hour week 100 years from now, and if satisfactory leisure outlets such as golf courses aren't provided for future generations, chaos will result. In fact, Crawford added, the recreation situation today is critical and cities should immediately start doing more about it. In Philadelphia, for example, there are 200,000 retired persons, not more than five or ten per cent of whom have any opportunities for enjoying recreational



Fredericksen



Love



Hoffman

put to use; and (4) Everyone has enthusiasm, but unfortunately it isn't always tapped. All these are more than just pithy statements; but they have to be believed and occasionally called to mind if they are going to be of any use.

If you don't find a message in the above paragraph, maybe you'll find one here: Eads told of a tomcat who was de-sexed. The cat continued to prowl after dark — but only as a consultant.

Second Session

Budgets, Ballets and Letters with Punch

Elmer Border, supt. of El Caballero CC, Tarzana, Calif., was chairman of this assembly which was devoted to administrative problems. On the platform with him were Leonard Berry of the International Consumer Credit Assn., St. Louis; Don Wright, supt. of Royal Palm Yacht & CC, Boca Raton, Fla.; William A. Northern, vp, Manncraft Exhibitors Service, Miami Beach; and Charles G. Wilson of the Milwaukee Sewerage Commission, who showed a film, "Tricks of the Trade."

Brainwashing by Letter

Leonard Berry, a credit man, interspersed his talk with a dozen examples of offbeat letters he has collected over the years. Several of them brought out the point that even though some people may be broke and can't pay their bills, they don't necessarily lose their sense of humor. The theme of Berry's speech was "Do the letters you write make people want to join the club? spend money? help you out?"

He then proceeded to outline how letters that get the attention of the reader are composed. The "Dear Sir" or "Dear Robert" can be dispensed with in most cases, Berry said, and a warmer salutation, such as "Hello Bob," substituted. Letters that get people to move usually are mentally composed before they are written, with the likes, dislikes, interests, etc., of the persons whom they are to be sent, kept uppermost in mind. Berry advised the audience to study words with the idea of using those that paint a picture or punch home a thought.

The word, "You," he declared, is too often neglected in personal letters. So, too, is the complimentary phrase or expression. Three out of four letters the average person writes are for the purpose of asking a favor or winning a concession, so playing to the ego of the recipients of your letters is an effective method of brainwashing. But it has to be subtle or your underlying motive is easily detected.

The Comprehensive Budget

Don Wright, one of the more accomplished of the younger men in the green-tending business (and an exceptional speaker, by the way), gave a detailed dis-

Moote Is Youngest Man to Hold GCSA Presidency

David S. Moote, supt. at Rosedale GC in Toronto, who is the president of the GCSA for 1964, represents the new breed



Moote

of greenmasters. Not only is he the youngest man to ever hold the president's post but he is believed to be only one who has had an advance degree in turf science. Moote received his bachelor's degree in 1951 from Ontario Agricultural College in Guelph in 1951 and then went on

to do graduate work at Rutgers. He is the third Canadian to be elected president of the GCSA.

Moote is a past president of the Ontario GCSA and has been a director of the national organization since 1961. His green committee at Rosedale insists that he play golf at least once a week and he shoots around 80.

Other officers of the GCSA are R. L. (Bob) Shields, Woodmont CC, Rockville, Md., vp and Edward Roberts, Fairmont CC, Chatham, N.J., secretary-treasurer. Directors are James W. Brandt, Danville (Ill.) CC, John Spodnik, Westfield CC, LeRoy, O., William R. Riley, Essex Falls (N.J.) CC, Walter R. Boysen, Sequoyah CC, Oakland, Calif., and George L. Lanphear, Thunderbird CC, Palm Springs, Calif. Roy W. Nelson, retiring GCSA president, also is a member of the board.

cussion of how to prepare a budget and then sell it to the grounds committee. Wright divides his request for funds into 20 different categories that include everything from salaries to capital expenditures. The latter, he noted in passing, is often overlooked when the original budget is drawn up and may put the supt. in the uncomfortable position of later having to ask for a supplementary allotment when a piece of equipment breaks down. Four out of five green committeemen will wonder why this wasn't covered in the first place and it usually results in the supt. being downgraded in their estimation.

"The surest way of getting the money



Golfdom's seventh luncheon for fathers, sons and sons-in-law who are supts., was better attended than any of the previous affairs, probably because there was a record number of greenmasters at the convention. At any rate, nearly 100 persons attended the luncheon. Joe and Herb Graffis, as usual, were the hosts for the affair.



you're after," the Boca Raton greenmaster said, "is to come prepared with past cost figures, and estimates of what material and labor are going to cost in the coming year. Be prepared, too," he added, "to give a breakdown of the expense involved in every treatment or application you expect to make, even if it means dealing in ounces. Some green committee members have a genuine interest in the details, while others may be merely testing you to see if you know your business. In any event, you should be prepared to answer both."

True Cost Picture

According to Bill Northern, who spoke on the subject of time management, most supts. don't have a clear conception of manhour requirements on all the jobs they

supervise. Actual working time may be known, because it is possible to put a clock on operations such as green or fairway mowing, spray applications, etc., but what often is overlooked is transport time and time spent in repair and cleanup work. Each factor has to be weighed in getting a complete cost picture.

The easiest way to run a course maintenance operation, Northern continued, is to set up a rigid time schedule, and then work toward meeting it. "It isn't easy at first," the Miami Beach efficiency expert said, "because deadlines are constantly beating you. But if you persist, everything eventually will straighten out and make your job much easier." Besides a primary schedule, Northern advised the supts. to work out an alternate or secondary one



Supts. Joe Butler and Homer Whitson (r) are seen with their wives at the Hospitality Hour get-together. Mrs. Whitson is at left and Mrs. Butler in the center. Mrs. John O'Connor also appears in the photo.

so that hours, and even days, aren't completely lost when the regular routine is disrupted.

Finally, he suggested that the greenmasters give no little thought to preparing detailed reasons why certain jobs aren't completed on time. "These should be foreseen and prepared in advance," he concluded. "Nothing beats them for getting people off your back."

Dance of the Tractors

The Milwaukee Sewerage film, shown and narrated by Charlie Wilson, encompassed the best of no less than six photographers. The entire sweep of course maintenance was covered in the 30-minute epic, and such idyllic spots as Quail Hollow in Charlotte, S.C., Saucon Valley and Bob O'Link in Chicago were visited by the cameramen. The viewer saw such disheartening sights as the ravages of winterkill and the effect that an overdose of chemicals can have on turf, and he was asked to sit through mundane showings of turf plots, the laying on of topdressing and the assault on the sod webworm.



Kids attended the convention, too, although there was no explanation of how they managed to duck out of school. Maybe photo was taken on Sunday.

But he was rewarded, too, and his heart was lifted up by a tractor-mower ballet that was performed at Westchester CC. In this, four pirouetting tractors, trailing agile seven-gang mowers, danced beguilingly across the broad savannahs to music, as it always is with a Sewerage Commission movie, that was exhilarating. If Charlie Wilson, who spliced the film and arranged the music ever deserts agronomy he should have a job waiting for him. He's a combination of Disney and Stokowski.

Third Session

The Agronomists Agree: Balance is Basic

The technical aspects of turf management were discussed for the first time in the third meeting. Chairman Beryl S. Taylor, Iowa State U. course supt., introduced Dr. Roy E. Blaser, Virginia Polytechnic agronomist, Dr. Marvin S. Ferguson, national research coordinator for the USGA, and Dr. James R. Love, who is carrying on a research project at the U. of Wisconsin with the aid of Noer Foundation funds.

Caution in Application

Discussing the ecology of nitrogen breakdown, Roy Blaser emphasized that the application of fertilizer is not to be taken lightly, but is a continuing study of timing and effect. Perhaps because soil reaction is not fully understood, even constant application rates from year to year and in different seasons, may give rise to widely disparate results. It is because of this that the supt. is wise to practice some caution in his fertilizer program and not go to extremes at any time.

Overstimulation of turf, Blaser declared, undoubtedly is the chief cause of



Here's the Kansas delegation — Mr. and Mrs. Henry J. (Bud) Elmer, Mr. and Mrs. L. E. (Red) Lambert, Mr. and Mrs. Paul H. Beer, and Mr. and Mrs. Everett L. Queen. Lambert is a former GCSA president.

wilt, even if it may be an indirect one. This condition goes back to the formation of thatch which, to a great degree, is a product of overfeeding. What happens is that when thatch builds up, roots become more shallow because infiltration of water and air circulation are reduced. In mid-summer, with the onset of the wilting season, the thatch layer may be so heavy that the depleted turf roots aren't capable of supplying sufficient moisture to compensate for the water that the grass blades lose through transpiration.

Contrast in Grasses

Contrasting cool season grasses with Bermuda, Blaser said the reason that the latter can survive comparatively high nutrition rates during periods of extreme heat, while bluegrasses either perish or fade out, is that it is capable of reducing its starch reserve, but not to the dangerous extent that cool grasses do. The respiration rate of Bermuda also is lower in periods of extreme heat than is that of bluegrass.

Apparently even strong strains shouldn't be exploited by any forced feeding program. Balance, after all, Blaser stated, is the desirable thing. Cool grasses can withstand heavy fertilizer doses in the spring, but it should be remembered that these only encourage heavier incursions of poa annua.

Neglect P and K?

Since many agronomists, like everyone else, are impressed by the spectacular, or products that are well publicized, they are inclined to overlook the need for phosphorus and potassium and probably put too much dependence in nitrogen, said Marv Ferguson in discussing the major elements. "There is a chance," he added, "that these same agronomists are

lucky that the soil is provident enough to supply its own P and K.

"Calcium, magnesium and sulphur are other elements that the soil needs in rather large quantities," the USGA man continued, "but these, too, and particularly calcium, are somewhat neglected. The soil and turf, like man, need a well balanced diet and if it isn't supplied, weaknesses are bound to show up. It has been well established that turf that has been fed all the elements survives either heavy acid or heavy alkali conditions and withstands disease, insect attacks and other setbacks more readily than those that are deficient in one or more of the elements."

These Elements Are Enigmas

Ferguson pointed out that at one time fertilizers contained a higher phosphate content than they do today because it was believed this element produced stronger root growth. Eventually, this

(Continued on page 114)

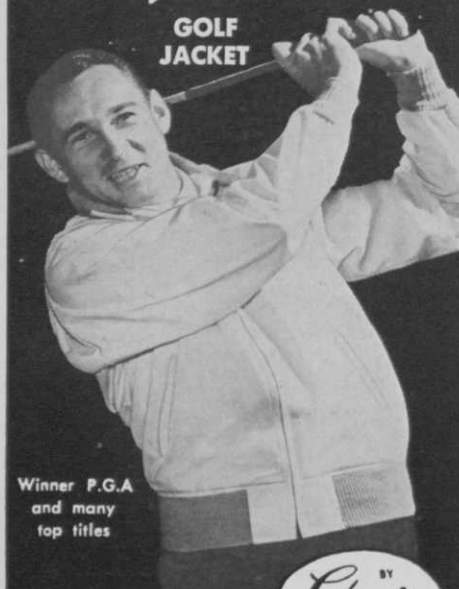


Something seems to be amusing these fellows. Lawrence T. (Ted) Cox of Chillicothe, O. is at left and Lewis Payson, Rolling Green CC, Media, Pa. is in the center. Man at right is unidentified.

Swing in comfort and style . . . in the

Dow Finsterwald

**GOLF
JACKET**



Winner P.G.A.
and many
top titles



"Action Design"
by Grais permits
the fullest swing without
the jacket hiking up. In 100% pima cotton
with Dan-Pel water-repellency. Completely
washable. Smart knit trim, ideal for all sports.
Illustrated: "Tournament" style, in beige.
Retail about \$13.95

Also available: "Grand Match" style
with fly front, knit undersleeves
and side gussets. Retail about \$19.95

Mickey Wright GOLF JACKETS

Newest blouse
jacket by Grais
with "pin-action"
shoulder and sleeve.
Neat collar looks
smart rolled, flat or
zipped around neck.
Washable 100% cotton
poplin. Oyster, Navy
and Red. Retail
about \$11.95



Distributed by:

Great Lakes Golf Ball Co., Oak Lawn, Ill.
The Golf Mart, Inc., Birmingham, Mich.
E. J. Smith & Sons Co., Charlotte, N. C.
Winter-Dobson, Dallas, Texas

For other information, write:

RUBIN GRAIS & SONS
325 S. Wacker Drive • Chicago 6, Illinois

GCSA Convention

(Continued from page 98)

thinking fell out of favor to the extent that the element has become somewhat neglected. Potassium, too, has long been something of an enigma. Some people argue that although plants readily absorb it, it is in reality a luxury product. Others, though, say that since potassium stimulates the production of necessary carbohydrates, it fortifies the plant against several types of disease, plus winterkill.

Ferguson's conclusion: No element can be totally neglected. A few veteran turfmen can detect when one or more elements are lacking. For those who can't, the soil test is the only reliable guide.

Nutrient Deficiency Effect

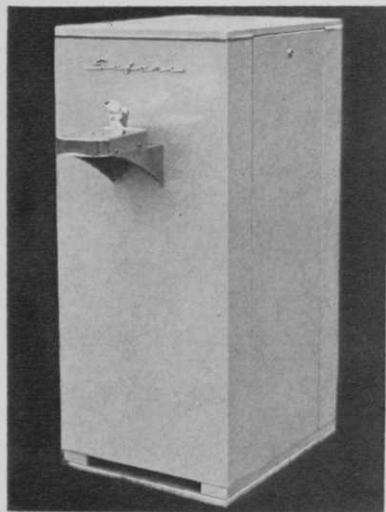
According to Jim Love of the University of Wisconsin, a good deal of work has been done in detecting nutrient deficiencies and their effects in plants other than turfgrass, but it has only been in recent years that grasses have been studied in this light. Early investigations made by Love covered the effects of withholding the major elements, nitrogen, phosphorus and potassium, in addition to calcium, magnesium and sulfur. A report of these studies appeared in the Sept., 1962, issue of *Golfdom*.

Research Being Continued

More recently, Love has expanded his investigations to take in such elements as iron, manganese, sulfur and zinc. Plants originally are grown in a complete nutrient solution and then each of the elements mentioned above is withdrawn, one at a time. The experiment is repeated so that the chance of making incorrect observations is minimized. When an iron deficiency shows up, the blade at first turns yellowish-green and then lapses into a dead white. Lack of manganese also produces a yellowish-green effect, which is similar to that when potassium is withheld, and eventually the blade begins to fold and then becomes limp. When zinc is withdrawn, the blade takes on a metallic sheen, and when the plant is taken off sulfur, it develops a powdery mildew effect.

Other conclusions that were reached as the result of Love's studies: In untreated areas such as roughs, iron is the most plentiful of the minor elements, its content being 25 times greater than such as magnesium and almost infinitely more

Golfdom



NO MORE ICE PROBLEMS WITH A **SAFARI** WATER COOLER

- Completely self-contained. Use Anywhere.
- No electricity. No High Lines.
- No underground cable or other obstructions to mar course.
- Hermetically sealed refrigeration unit.
- No compressor. No moving parts.
- Maintenance free—sanitary.
- Engineered and designed for rugged outdoor use.
- Quality stainless steel drinking fountain.

**PLUS
COSTING YOU LESS
THAN 6½¢ A DAY
TO OPERATE**

SAFARI water cooler economically solves the problem of cold drinking water at all times, without any electrical connections. A SAFARI cooler is available for golf courses with or without a source of fresh water at cooler site.

... Leasing available ...
WRITE TODAY FOR INFORMATION

SAFARI LP GAS WATER COOLERS

591 N.E. 5th Street
Pompano Beach, Florida

Pat. Pending

abundant than copper and zinc. Potassium content of untreated soil is ten times that of nitrogen and 20 times greater than phosphorus.

Fourth Session

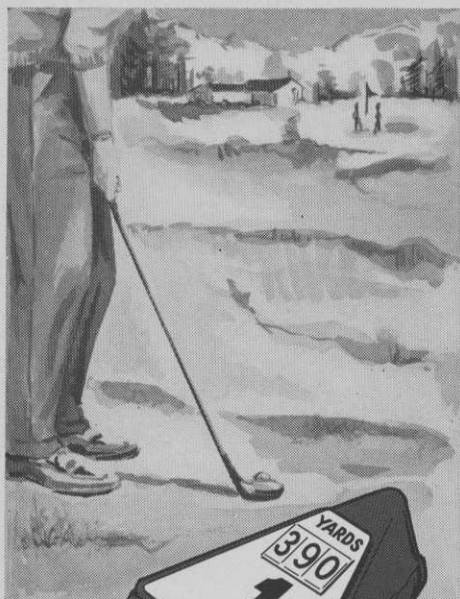
It Was Mike O'Grady's Finest Hour

The Thursday morning session was dedicated to turf management students, several of whom came from nearby Penn State and a few from the U. of Massachusetts, to witness the GCSA proceedings. It was fitting that scholarly **Fred Grau**, Hercules Powder Co. consultant, was in charge of the program. His speakers' roster included **Michael J. O'Grady**, supt. of the CC of New Bedford, Mass.; **Prof. Joseph Troll** of the Stockbridge School of Agriculture of the U. of Massachusetts; **Dr. Joe Duich** of Penn State; **Sheldon R. Betterly**, supt. of Chantilly National G & CC, Centreville, Va.; and **Sherwood Moore**, past GCSA president and Winged Foot's supt.

Mike Gets A Shock

There isn't much doubt that Mike O'Grady made off with this year's GCSA show. Upon being introduced, Mike was billed as a native of County Cork, but he quickly disavowed this, saying he was born dangerously close to Northern Ireland and, as a consequence, damn near became disqualified for the Irish Republican Army. At this, Mike momentarily buried his intertwining shock of gray-red hair in his hands, quivered, quailed and emitted a banshee cry but then manfully recovered. To show you that a man can forgive and forget, three minutes later Mike was allowing that the present Queen of England is a charming lady, indeed, and that he has no immediate quarrel with the Duke of Edinburgh.

O'Grady's stint for the day was to dis-course, with the aid of slides, on the history of turf maintenance and equipment. He went back to near medieval times, picked up the Pennsylvania side-winder, the Wellington mower and the worm rake and came forward to an era approaching the horse and haycutter. Then he digressed to call down blessings from all the heavenly quadrants upon Morley, MacGregor, Piper and a half



Improve
your tee with

Patent
No.
192,739

New CHEK -yards Ceramic Tee Markers

Watch the compliments come your way once your members see these beautifully glazed and rugged ceramic tee markers. Made of enduring high fired, highly glazed ceramic, they are practically indestructible. They are sold in complete 9 and 18 hole sets, custom made with your actual course distances permanently fired in. Available in championship blue, men's white or women's red. White faces, colored lettering and sides. Write directly to us for complete information and prices or ask your regular distributor.

NEW JERSEY PORCELAIN CO.,

Box 5103, Trenton, 5, N. J.

Rutgers Given Funds to Study Pesticides

A \$1 million study of how pesticides influence the balance of nature will soon be started by Rutgers University. It is being financed by the Public Health Service.

The eventual fate of chemical pesticides — involving unintended harm to man and other living things — has been a controversial subject since Rachel Carson's "Silent Spring" was published two years ago.

A staff of 30 scientists at the Rutgers College of Agriculture will search for pesticide residues in soil, water, fish, insects and plants and determine their effect. The appropriation, actually totaling \$1,074,000 over five years, is the largest single research grant the school has received in its 198-year history.

dozen other of the old stalwarts who pioneered turf management.

The fact that Mike never did putt out after he reached the sand greens bothered no one. History was incidental. The audience was completely enraptured by that soft New Bedford accent that is still heavily flavored with Gaelic, and there isn't much doubt that O'Grady could have gone on weaving his spell until lunchtime even if he had been discussing atomic theory or solar dynamics. But the clock has a way of speeding up when a fellow like Mike is talking.

You put on one hell of a performance, Mike O'Grady!

Describes Two-Year Course

The purpose of the U. of Massachusetts' two-year course, according to Joe Troll, who followed O'Grady on the program, is not to turn out a finished product who is capable of handling a supt's job upon receiving his certificate, but to prepare the student to take over within approximately two or three years. To be admitted to the so-called winter school, the applicant must have a high school diploma but he isn't required to pass the college board exam. After matriculating, the student divides his time between attending school and working at a course in an on-the-job-training project.

The average age of a two-year student,

NEW GRIP-GARD SLEEVE



Jackson Bradley, Golf Professional at River Oaks Country Club, Houston, is widely recognized for his mechanical knowledge of the structure of golf clubs and procedures for their repair.

*Patent Pending

Ferrule for golf club grips

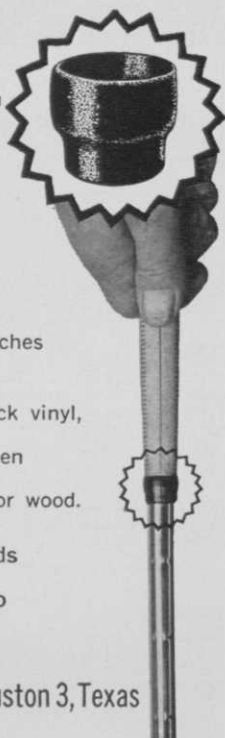
Recommended by JACKSON BRADLEY . . .

**PUTS A "FACTORY LOOK"
INSTANTLY ON A REPLACED GRIP**

Anyone can install in seconds—no skill or experience required. The **only** ferrule that stretches **intact** over the **large** end of a bare shaft and returns to shape.

Made of good-looking, thoroughly baked black vinyl, the Grip-Gard Sleeve* removes forever the problem of wrinkled tapes and jagged ends when replacing golf club grips. Its taper is specially designed to fit the shaft and grip of **any** iron or wood. No glue required.

Inexpensive to buy, easy to install—builds customer good will. Grip-Gard Sleeves have been used on thousands of repaired golf club grips by some of the largest golf repair shops in the country.



PLASTI-GARD CO. 3915 Tharp Street • Houston 3, Texas

A Division of WATCO

Troll said, is 19 years. He has an I.Q. of around 107 and ordinarily he has either a caddie or course laborer background. In his first year he gets a concentrated dose of agronomy, floriculture and entomology; irrigation, mapping, landscaping and record-keeping occupy him the second year. Usually, he belongs to the Turf Management Club, a social organization. Approximately half of the two-year graduates are employed as supts. immediately upon leaving school, and more than 75 per cent choose to work on golf courses in preference to getting into other fields connected with the turf industry.

Penn State's Four-Year Course

Penn State's four-year turf course was described by Joe Duich, who is distinguished not only as an educator but as a researcher who has had a great deal to do with the development and refinement of Merion bluegrass. In recent years, the agronomy student at Penn State has been steered away from specialization. There is more emphasis on the humanities and social science, particularly in the first two years of school, and on math, statistics and

physical and biological sciences the last two years. About 35 to 40 per cent of the agronomy student's time is spent in studying subjects directly related to his major.

"The purpose in giving a student a wider range of courses," Duich said, "is to make it possible for him to go in several directions upon receiving his diploma. We recognize that golf course work is quite highly specialized, yet in recent years the courses themselves have been asking us to send them men who are more than turf specialists. This indicates that they are looking for persons with management as well as technical capabilities."

A reassuring trend noted by Duich is that in the last two or three years several chemists and teachers, and even a psychologist, have enrolled in Penn State's two-year turf school. This indicates that the field is being recognized for the promising potential it offers. On the other hand, though, only about one of four Penn State turf grads have gone into course work in recent years.

Discusses College Training

Sheldon Betterly, a 1959 Purdue graduate who helped supervise construction of

FAST! ACCURATE! FREEDOM FROM STREAKS!

Cyclone Spreaders and Seeders



EXCLUSIVE
TAPERED-EDGE
SPREAD
PATTERN!

POPULAR CYCLONE BROADCAST LAWN SPREADER

Fast. Accurate. Breezes through every spreading job. Precision spreads pelleted and granular fertilizers and chemicals, seed, ice melters, etc. Soft, tapered-edge spread puts an end to streaks and overlaps. Uniformly covers up to 8-ft. swath depending on materials. Broadcasts as little as 4 ounces of some pesticides or as much as 40 lbs. of some fertilizers per 1,000 sq. ft.



FAMOUS CYCLONE BROADCAST HAND SEED SOWER

Accurately broadcasts smooth grass seed and pelleted fertilizers. Covers up to 28-ft. width depending on materials being spread. Skips, streaks and double-overlaps are virtually eliminated with soft, tapered-edge spread pattern. Sloping feed floor keeps materials flowing to feed gate. Has exclusive double-oscillating feed - spring-loaded instant on-off control.

See your distributor or write for information on other Cyclone models.

THE CYCLONE SEEDER CO., INC.

Urbana 60, Indiana

Chantilly National about three years ago and then stayed on as supt., spoke from the viewpoint of a fellow who has been in course management work just long enough to see how college training helped him, and where it may have fallen short.

"Generally, I feel that my four years at Purdue were well spent," Betterly said. "The courses I took in English, math, chemistry and speech have been particularly helpful. If there were shortcomings, they were in labor management and book-keeping.

Because of the technical nature of the turf science curriculum, there probably is a tendency by the schools to gloss over these subjects. The student, on the other hand, probably looks upon them as a kind of breather and doesn't work as hard at them as at other courses. It's only after you're out of school and working on a job that you realize how important they are."

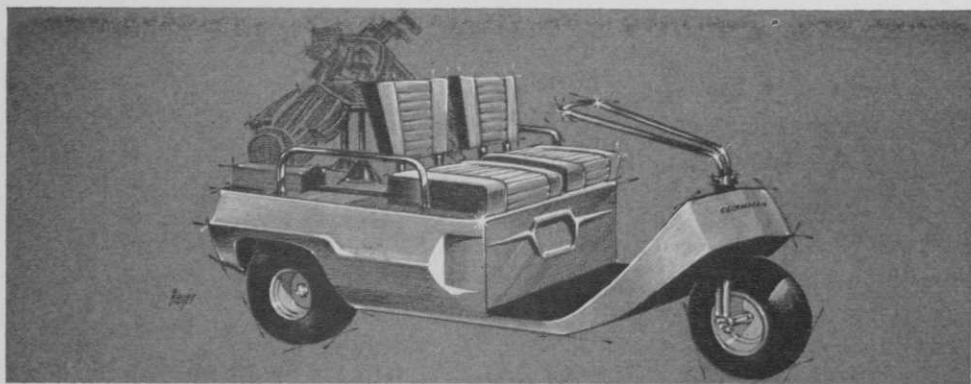
Betterly cited two important things that a turf education does for a person: First, it gives him the reputation of being an authority; Second, it may not tell him all the answers but it gives him a good idea of where to look for them. Finally, he urged every young man coming out of

school to join the local and national GCSA organizations. "You not only learn a great deal at monthly meetings and the annual convention," he said, "but you get a line on fellows you know can help you when you run into emergencies. And, anyone who has been in this business for only a few years can tell you that life as a supt. is one emergency after another."

Good Future — No Soft Touch

The final speaker on the Thursday morning program, Sherwood Moore, pointed his remarks at the visiting students in the audience. There are 7,000 courses in the U.S., he said, and the demand for supts. is increasing every year. The yearly attrition due to retirements is greater than it ever has been. Moore continued, salaries of supts. are slowly improving although there is a wide range in them when you look at the whole picture on a regional basis, and the supt. is gaining more and more professional status.

"Don't get the idea that we have a soft touch," the ex-GCSA president cautioned. "We milk on Sunday, as the saying goes. But along with the hard work, we get a chance to show some imagination and



TWO BIG REASONS WHY — more golfers ride CUSHMAN Golf Cars than any other make:

1. THE FINEST CAR MADE 2. SERVICE — SERVICE — SERVICE



Deluxe Gasoline
Golfster

If you're planning to BUY or LEASE don't fail to benefit from the many advantages that come with operating the world's leading golf car. Call for a demonstration, or advice, or information — all free.

Also, we have many used cars of all makes for sale — all trade-ins on our beautiful new Cushman Golfster.



Scotsman
economy golf car

CHICAGOLAND CUSHMAN SALES 61 E. 23rd St., Chicago Heights, Ill. — Phone: Area 312 WA 8-5554

make 5,000 or 10,000 decisions a year. Then, too, if you're connected with the golf business, you'll find that it's a passport in itself."

If these observations didn't convince the student visitors where their future is, Moore gave them this parting sally: "And don't forget that our equipment is getting sexier looking every year!"

Fifth Session

Panelists Tell How to Protect Course, Owner

As chairman of the fifth assembly, Earl Nystrom of Ryan Equipment Co., St. Paul, introduced a panel on vandalism, security and liability composed of **Walter A. Slowinski**, GCSA counsel, **Holman M. Griffin**, USGA Eastern green section rep, and **Alfred E. Hoffman**, Ohio State U. supt. Other speakers on the program were **Gordon Brinkworth**, supt. at Sunset Oaks CC, Rocklin, Calif., and **William E. (Bill) Lyons**, owner of a Par 3 course in Canal Fulton, O.

Favor Course Owner

Speaking on the subject of the course owner's liability, **Walter Slowinski** said that the courts generally are sympathetic to the person who operates a golf layout, figuring perhaps that there are many "accident prone" individuals who are out to make an easy dollar at the expense of the man who provides them a recreation site. It is quite well established, said **Slowinski**, that if the golf property is kept reasonably safe, a player has little recourse to collecting for any injuries he may incur.

"Reasonably safe" is rather widely interpreted, it is true, but by the same token, the golfer has to accept some responsibility for his well being. In one case cited by the GCSA counsel, a player was held to have been guilty of "contributory negligence," and his case thrown out of court, when testimony proved that he had wandered rather blindly into a pothole that was easily observable to other persons who played the course. "Of course," said **Slowinski**, "another court may have decided in favor of the plaintiff in this case. But it does prove that if an owner exercises ordinary care

**LIVING
LIVELY
LIFE
FOR
Better
Turf**



Dr. Allen's True Organic, a superior plant food and soil builder, nourishes and improves your soil, promotes . . sturdy turf and long lasting results. True Organic is a scientifically digested combination of chicken manure and activated sludge, containing billions of Living, Active bacteria. True Organic, rich in trace elements, primary and secondary plant nutrients.

**REDUCES COMPACTION
PRODUCES DEEPER ROOTS
GIVES STEADY INCREASED FEEDING**

PAUL E. ALLEN CO. Route 584, Palm Harbor, Florida Telephone 733-2141



Golf Now Included in Index "Market Basket"

Golf is now included in the "market basket." The Labor Department recently announced that the game plus a number of other goods, services and recreational activities have been added to the list that is used in computing the cost of living index. Besides making additions to the list, the Department has changed the weight given various components in the index.

Items that have been added along with golf are hotel and motel rooms, outboard motors, phonograph records, textbooks, legal services, funerals and garbage disposal units. Dropped from the index are women's nighties, men's pajamas, appendectomies and sewing machines. About 400 items now are used in making up the cost of living tab, where only 325 were used before.

Food carries less weight in the new compilation, while recreation, housing, transportation, automobile ownership and several other items carry more.

in marking unsafe areas, or by locating them some distance from paths that are regularly used, as happened in this case, the court will give this precaution all due consideration.

Allow for Deviation

The court, too, said Slowinski, is inclined to be lenient with the player who hits a ball and strikes another person, especially if it is established that ordinary care was taken before the ball was hit. The reasoning is, as a Missouri judge decided some years ago, that the slightest deviation at impact can cause a ball to go astray.

Courts generally agree that one player is not the insurer of another's safety, but that does not mean that ordinary care must not be exercised by every golfer. He is obligated to look before he hits the ball to make sure that his driving range is clear, and he also is expected to give the customary "Fore" warning if other persons are even remotely endangered by a ball that he may hit.

As for trespassing, Slowinski pointed out that an owner usually is not liable for injuries to persons who unlawfully invade his property. However, if there are unusual hazards on a course property,

from tee to green
SOD MASTER
 for better turf at
 a lower labor cost!



New METE-R-MATIC POWERED TOP DRESSER

The only machine of its kind with exclusive revolving brush that drives top dressing down to the base of the turf . . . *where it belongs!* One man can do the complete top dressing job alone because raking, pole whipping, and mat dragging is practically eliminated. Mechanically positive dispensing mechanism *does not* depend on agitation or vibration for spreading.

- Genuine Terra-Tires on traction wheels
- Complete control system within reach of operator

EDGE-R-RITE POWERED TURF EDGER

- Safe (non-spinning), vertical oscillating cutting blade.
- Cleaner, sharper trim edges. Trimmings easily gathered.
- One setting for depth and angle of cut.
- Controls mounted on handle bar.



Bantam SOD CUTTER

Though compact in size, the SOD-MASTER Bantam is a giant for work . . . cutting sod cleanly and easily at a rate in excess of 120 ft. per minute!

- Extremely easy to handle. Exclusive cutting action slices through sod.
- Duo-control handle controls both depth and angle of cut.
- Clutch and throttle on handle bar.



Write for free catalogs

SOD MASTER

3456 No. Washington Ave. • Minneapolis, Minn.

Green Section Road Show Scheduled for March

The USGA in a followup of the success of the green section's and club officials' regional conferences held last year, has set regional programs for March 23 in Los Angeles (Ambassador Hotel) March 25 in Detroit (Sheraton-Cadillac Hotel), and March 27 in Philadelphia (Bellevue-Stratford). On days following each of the green section programs, conferences of club officials will be held.

The green section programs will follow the pattern of the turf meetings that were held prior to the USGA annual meeting in New York and will have the theme, "The Putting Green." The New York program presented green section staff members, prominent supts., green section committee members headed by Chmn. Henry H. Russell, and amateur Champions, Mrs. Allison Choate (USGS Women's Senior) and William P. Turnesa (British and USGA National Amateur).

even trespassers have to be protected against them. If children trespass and are injured, the owner has little recourse. "There are too many of the so-called 'attractive nuisances' on a course to keep kids out," the GCBA attorney observed, "and the responsibility for protecting them against these hazards rests with the property owner."

Kids to Blame

Holman Griffin gave an account of the rather extensive study of vandalism that the USGA made two or three years ago. It was found that the most frequent violators of course property are kids ranging from 12 to 15 years of age and most of their depredations are committed on the greens. The USGA went beyond effects and concluded that the cause of the destruction is due to boredom on the part of the kids, lack of parental control, too many movies and too much TV, and gang motivation.

"There probably is no cure for vandalism the USGA has decided," Griffin stated. "But it can be cut down by strong judicial action in some cases, better protection methods on the part of people who run the courses, and by better community relations. Clubs can do a great deal in the latter area," Griffin continued, "by fostering or supporting youth pro-

IF

YOU HAVE ANY OF THESE SPRINKLER SYSTEM REQUIREMENTS . . .

IF you want an economical, permanent system . . .

IF reduced water pressure in your area is causing decreased coverage . . .

IF you want mechanical sprinkling in areas where low water pressure previously ruled this out . . .

IF you want a trouble-free, no labor system . . .

then -

the new field-proven Thompson Commander is for you. Forty p.s.i. discharges 15 g.p.m. to a 100 ft. dia. with only 4½ lbs. pressure loss. This is the lowest pressure drop in the field. Engineering and craftsmanship of the Commander, backed by Thompson's 55-year reputation for quality, assure you of top performance and economy.



"put water in
its place"

SPRINKLERS

write



Thompson Mfg. Co.
2251 E. 7th St., L.A. 23, Calif.
Dept. G

NAME _____

FIRM _____

ADDRESS _____

grams. If the kids' craving for excitement is drained off through legitimate activity, that is at least partly sponsored by country clubs, it won't be spent in destroying greens, breaking flagsticks and stealing everything that is movable."

Griffin showed several slides that reveal just how extensive and insane golf course damage can be. One among them, though, showed how a supposedly defenseless golf course can have its revenge: An adult, probably with the I.Q. of a field mouse, drove his automobile across several greens but finally wound up in a deep trap that impounded the car. It cost the fellow a few dollars to get squared away on that one.

Tolerate Some Damage

Ohio State University, according to Al Hoffman, has its share of petty vandalism in the off-season, but until losses exceed the cost of hiring a night watchman, the destruction will have to be tolerated. Usually, it amounts to about \$500 a year. It probably would be greater, Hoffman remarked, if the 36-hole Scarlet and Gray courses weren't fenced in and if both layouts weren't well lighted. Trespassers who are caught (about 80 per cent are youngsters) are given a firm warning not to return, but it is rare when they are turned over to the police.

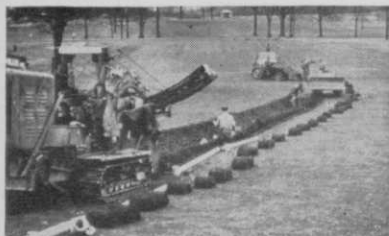
The Ohio State supt. said that vandalism at his club undoubtedly doesn't get any further out of hand because the caddies, many of whom live in the vicinity of the courses, help to prevent it. "We've got these kids pretty much on our side," Hoffman remarked, "because we go out of our way to cultivate them. Our caddiemaster is the O.S.U. wrestling coach. He won't allow the kids to swear or smoke around the place, but he takes good care of them. For example, they have a practice green in the caddie yard. The result is that the boys admire the caddiemaster and they're 100 per cent on his side. With this kind of an attitude, the boys are more than willing to see that our courses are protected."

Bridges Open Up A Course

The wide introduction of golf cars in the last few years, said Gordon Brinkworth, has made it necessary for many courses to rebuild their bridges or put in new ones. Because of this, supts., architects and construction men have found that courses can now be built on property that once was thought to be inaccessible.

"The whole secret of bridge building,"

ONE source for ALL your needs



If Your Course Is Anywhere
In The Midwest... Call — Write
— Wire Miller For Free Survey!

more \$\$\$ for you in WATERED FAIRWAYS

DESIGN

We furnish complete plans
and specifications.

by
Miller

INSTALLATION

Complete guaranteed installation or coop-installation
whereby we furnish materials and supervision, you pro-
vide labor.

EXPERIENCE

Miller designed systems were installed in over 35 miles
of fairways in a single season.



A. J. MILLER, INC.

"Midwest's Largest Underground Irrigation Contractor"

1320 N. CAMPBELL RD.

ROYAL OAK, MICHIGAN

Brinkworth explained, "is not in throwing them up, but in looking into the future and trying to foresee if they are going to be adequate in face of the changes that will come in golf in the next 10 or 20 years. You have to ask yourself, for example, if something bigger and heavier is going to replace the golf car or the machinery we use today, and if your bridges are going to be large and strong enough to take them."

Criteria for Construction

Brinkworth listed several criteria that have to be considered when bridges are constructed. They are: How are they for safety? Can they support tournament crowds? Are they high enough to span rising water? Are accesses to them large enough to keep compaction reduced in the approach areas?

The ex-Canadian supt. supplemented his speech with slides that showed how bridge foundations are built, flooring is installed and how large pre-fab steel spans are set on piers. Some of the more interesting views showed how three 100-foot long, corrugated steel tubes that are 10 feet in diameter were installed as underpasses at Sunset Oaks about two years

ago. Brinkworth supervised construction of this course and then remained as supt.

Bill Rolls 'em Up

Bill Lyons, the Akron, O., squire, is a speaker who has a bit of the Mike O'Grady in him. He doesn't invoke any blessing in the O'Grady manner, and he doesn't threaten to dissolve at the thought of almost having missed bearing Irish arms. Nevertheless, he does a good job of rolling up an audience because he has an uninhibited way of serving some vegetables with the meat course. Bill gave his listeners a shot or two of Edgar Guest, Elbert Hubbard and who knows, maybe Socrates, before easing into the proposition that maybe supts. are getting in the golfers' way.

Here he became a little red-eyed, pointing out that since the players are paying the tab they have a right to expect to use the course from sun-up to sundown. "The trouble is," Bill exploded, "we think we should be cutting grass just when play is heaviest. Golfers are paying guests and we'd better not forget it. We're throwing too many distractions in their way and it's time we stop. How would you like to come out to play golf and have a green-

AQUA-GRO

Blended Non-Ionic Organic Wetting Agents
(100% active ingredients)

stoma-seal

CHEMICAL CONTROL OF WILT

New for 1964

AQUA-T

Non-Ionic Organic
Soil Wetting Agent

(100% ACTIVE INGREDIENT)

AQUATROLS' PMA

Liquid Turf Fungicide

Aquatrols Corporation of America 217 Atlantic Ave., Camden, N. J.

mower whirring in your ear, or wonder if some guy was going to amputate your left leg with a seven gang mower?

"The whole thing is ridiculous," Lyons growled.

He offered a solution, too. It's simple enough — night maintenance. If you don't think there's a case for it, Lyons offers these thoughts: There is less wear and tear on men and machines when they work nights; Close mowing at night is safer; There is less wind drift at night and thus spraying is made easier; Even stolons planted at night grow better than those planted in the daytime. Finally, if you work nights and sleep days, you won't suffer the agony of seeing golfers tear up your course.

Sixth Session

Six speakers were presented at the final education meeting by Tom Mascaro, West Point Products Corp. president, the chairman. They included: John E. Gallagher Amchem Products; Prof. John C. Schread, U. of Connecticut entomologist; Alex Radko, eastern rep for the USGA green section; Stan Fredericksen, Mal-

linckrodt Chemical Works; Harry W. Meusel, Yale U. GC supt.; and Dr. Michael P. Britton, U. of Illinois.

Aquatic Weed Control

Because water consumption increases eightfold in a generation, there must be a relentless battle against aquatic weeds, said John Gallagher, a research chemist. It has only been in the last five years that this has been fully realized and a concentrated attack made on the weeds that infest ponds, lakes, streams, irrigation ditches and other bodies of water.

Gallagher declared that herbicides can be used safely and effectively and that tests have pretty well proved that their residue is not toxic to fish. Wide scale weed control through herbicides, he pointed out, is considerably cheaper than carrying on repeated dredging operations to keep water sources cleaned out.

Much of Gallagher's material was presented through the use of slides. These showed the most common aquatic weeds; water hyacinth and water chestnut, both found throughout the U.S.; the water grasses such as coontail and cat tail, both widely distributed; and submersible weeds such as pondweed, of which there are 20

SOLVE all your TURF PROBLEMS!

—with products of proven effectiveness
in modern turf management.

WE SHIP DIRECT

a specialized line of

- LIQUID FERTILIZERS
- FUNGICIDES
- HERBICIDES
- INSECTICIDES
- WETTING AGENTS

PROVEN SATISFACTION since 1939

write for FREE 1964 catalogue!

American Liquid Fertilizer Co., Inc., and Rokeby Chemical Co.
Marietta, Ohio • P. O. Box 267 • Phone: FR 3-1394

or 30 species, and eel grass that comes in after other weeds are disposed of.

Battle Must Go On

Prof. John Schread conceded that Rachel Carson may have good reason for taking a stand against indiscriminate use of insecticides, herbicides and fungicides, but he added if these different eradicators are used with discretion there is no cause for alarm. So far as insects are concerned, Miss Carson apparently doesn't take into account that more than 1,000,000 different kinds are recognized and catalogued, and perhaps another 8,000,000 unidentified species are in existence. If a large scale war weren't constantly waged against the insect population, man would have to find a way to get to and live on another planet in a hurry.

In the endless battle that has been fought against insects and, of course, continues, most pests have been controlled, but it is doubtful if even one species has been made extinct. The history of insect migration, Schread said, is a fascinating one, but at the same time one that has to be contemplated with a good deal of apprehension. A species may migrate from one coast to the other within a gen-

eration, and in the case of such as the Colorado potato beetle, may transfer its feeding ground from animals to plant life.

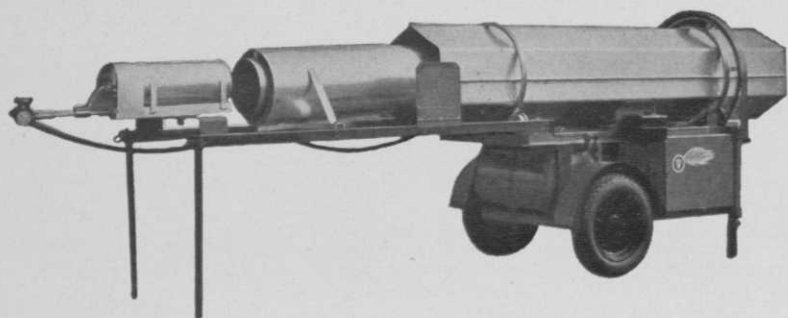
Many insects are imported, Schread stated, but most that infest turf are native born. The chinch bug, the popular new nemesis to lawns, spreads in hot and dry weather, hibernates through the winter if thatch is heavy, and is only destroyed when steady summer rains destroy both young and adults during the insect's heavy reproduction season. The sod webworm, on the other hand, survives when there are moderate to heavy rains. The earthworm, the scourge of putting greens in the '50s, but since controlled by chlorinated compounds, is washed to the surface during a heavy rain and literally can be raked away.

Winter Problems Intensified

Alex Radko, who is starting his 18th year with the USGA green section, offered a question that may continue to disturb supts. for some time: Why have our winter turf problems been intensified in the last three years? Radko didn't attempt to supply a specific answer, but

(Please turn to page 140)

For Best Turf: pasteurize your top dressing mixtures



with a Tarco "Flash Flame" Soil Pasteurizer. Kills weed seeds and harmful bacteria with controlled heat.

Portable. Set up anywhere and start in five minutes. Treats 2 to 4 cu. yds. per hour. The Safer, More Convenient and Faster Method — tested and used by turf experts.

For complete details — about the machine or the method — see your Tarco Dealer or write to us.

TARRANT MFG., CO.

98 JUMEL PLACE, SARATOGA SPRINGS, N. Y.

did suggest several alternatives. The trouble may be due to too much traffic through the season; too much play in the late season; turf is maintained in too soft or succulent conditions; it is mowed too close during the playing season; or it may be due to the weather itself that brings snowmold, buries the greens under a ice sheet and induces winterkill, or generates enough strong winds to cause intense desiccation.

"The supt. may be a victim of the system," Radko said. "He has been giving the players close-shaved greens for so long that to change now might excite a revolution. But it's questionable if turf, even as finely maintained as it is, is intended to be as closely clipped as it is during the summertime. It is fairly well established that high-cut turf is better fortified to withstand the rigors of winter. But whether the players would ever stand for the mowers to be set 1/16 or 1/8-inch higher is another matter."

What Causes Deadspot?

Stan Fredericksen, who followed Radko on the program, also posed a question for the audience. What causes the spring deadspot that is so prevalent in Bermuda

in the transition belt? Fredericksen explained that large, circular gray spots are common in U3 fairways throughout the entire Washington-St. Louis zone and to date nobody has come up with a fungicide that permanently eliminates them.

They recur annually in exactly the same spots they had been in the previous year. Later in the season weeds and crabgrass infest these infected areas.

"Northern agronomists think we are seeing things that don't exist," said Fredericksen, "but one of these days they are going to find that deadspot isn't an illusion because it is spreading northward. It showed up in Oklahoma 10 years ago. Deadspot was originally observed in southern Missouri back in 1936 by Bob Dunning."

In the last three years Fredericksen's Mallinckrodt firm has intensified its study of the mysterious condition which is due to desiccation or disease. It has compounded 100 products that have been used in the battle against deadspot and at present the company feels that there are two possible fungicides that may eradicate it. Two years ago it was felt there were 19 possibilities. A breakthrough

might have been made this winter, but uncooperative weather upset the control program. It is thought that it will probably take regular fungicidal treatment combined with improved fertilizing and more extensive thatch removal to finally solve the deadspot problem.

Supt. Grows Own Wilt

Along with supervising maintenance of the Yale University GC, Harry Meusel has devoted a good deal of time to studying the cause and effect of wilt. His conclusion is that the supt. grows his own wilt.

It comes about, said Meusel, on those bright days when turf is overwatered. The stomates, cell-like structures in the inner leaf blade, are extremely responsive to light. On a bright day they open up, so to speak, and if the turf is heavily watered, they are literally saturated. As a result, the plant's respiratory system is impaired and wilt sets in.

Muesel's studies show that heavy watering on cloudy days is not nearly so injurious to turf as it is on bright days. The conclusion is that the delicate stomates don't open up and thus aren't susceptible to drowning. Heat, he feels, has little to

do in the wilt process or, at least, it is not nearly as significant as the degree or incidence of sunlight.

Turf should not be fertilized during the wilt season, the Yale supt. stated, and neither should lime be applied to it. If either fertilizer or lime is applied at this time, along with overdoses of water, the sensitive stomates are further impaired and the degree of wilt is intensified. The safest way to water in the wilt season, according to Meusel's observations, is to use wetting agents along with only a light amount of water. The wetting agents have no effect on the stomates and enable water to penetrate to its roots. When enough water is stored in the roots, excessive transpiration doesn't take place in the leaf blade.

Disease Identification

Mike Britton, last to appear on the program, showed a series of slides that gave a pictorial review of the common turf-grass diseases. Copies of the slides, incidentally, are available from the Dept. of Plant Pathology, University of Illinois.

While the films were being shown, Britton told when the various diseases are likely to show up, how to make the

SKINNER

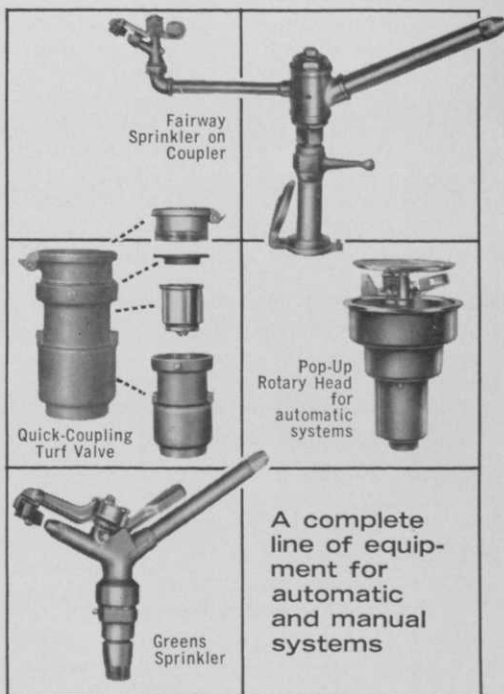
... the oldest and
most experienced name
in irrigation

Over 60 years of irrigation research, design and manufacturing experience is built into Skinner products of today to assure you efficient, economical golf course watering—either manual or automatic.

Skinner sprinklers—made in a complete range of types and sizes—distribute water uniformly and slowly with maximum coverage at minimum pressure. The patented Skinner quick-coupling turf valve is the only bayonet type valve that can be cleaned and repaired without being removed from the riser—and without disturbing the turf.

Whatever your watering requirements may be, it will pay you to investigate Skinner.

Write today for
complete information!



THE SKINNER IRRIGATION COMPANY, 415 WATER ST., TROY, OHIO

Lawn Beauty®

FERTILIZER AND SEED SPREADERS

Model 36 Professional for greens and tees. Calibrated regulator for accurate distribution.

Stainless steel hopper bottom and slide.

Heavy duty galvanized agitator.

Available for immediate shipment.

See your jobber or write direct to:

SCHNEIDER METAL MANUFACTURING CO.

1814 South 55th Avenue

Chicago 50, Illinois



sometimes minute distinctions that distinguish one disease from another, and how to treat against them from both a preventative and curative standpoint. The Illinois University pathologist called particular attention to helminthosporium, saying that it is difficult to detect although it can be expected to appear in late August or in September. It is probably due to a root and crown blight, he said, and may stem from injured grass. It is generally prevalent where there is an abundance of poa annua. One of the first places to start looking for it is in cup locations.

Seeks Federal Aid

Topeka, Kansas is seeking 30 per cent of the anticipated cost of a new muni 18 from the Federal Housing and Home Financing agency.

Foundation Publication

The National Golf Foundation, 804 Merchandise Mart, Chicago 54, publishes five books that cover the planning, building and operation of golf facilities.

USGA Releases Revised "Golf Rules in Pictures"

"Golf Rules in Pictures," a publication of the USGA, is now available in a revised edition brought up to date with the 1964 changes in the rules. It is a 96-page book with many definitive illustrations of salient points.

Originally published in 1962, Golf Rules in Pictures has been translated into Italian, Dutch and Spanish. Editions in Japanese and Swedish are to be published this year. Some 65,000 copies of the original version were distributed.

Edited by Joe Dey

Golf Rules in Pictures is published by Grosset and Dunlap, New York, and was compiled and edited by Joseph C. Dey, Jr., USGA executive director, with the aid of P. J. Boatwright, Jr. and C. Edmund Miller. There is an introduction by Wm. Ward Foshay, chairman of the USGA rules of golf committee.

The book is available at \$1.95 from the USGA and many pro shops and bookstores.