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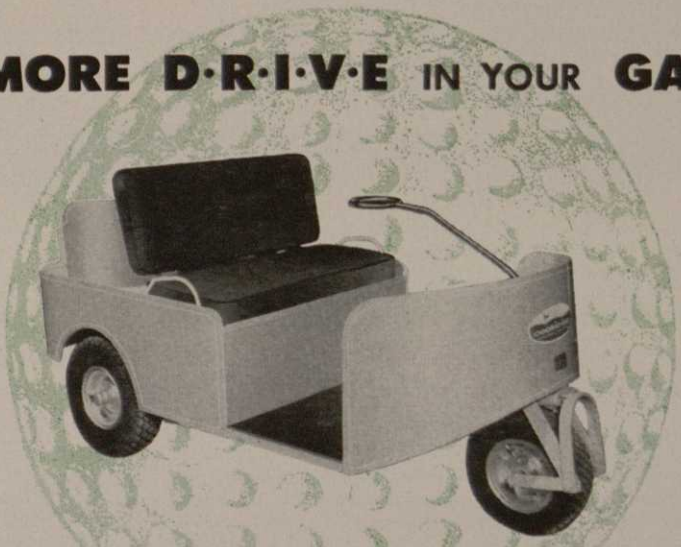

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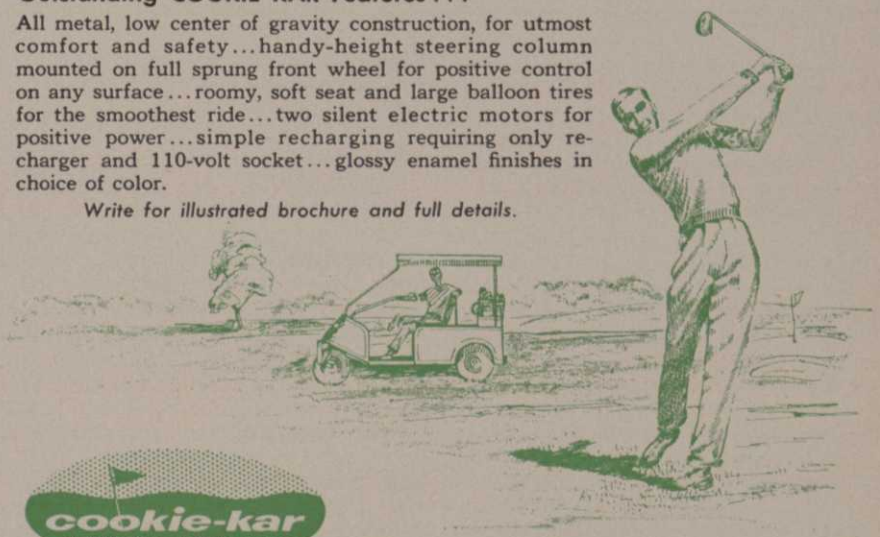

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CONNECTICUT SUPTS. HAVE PRIZE EXHIBIT AT FLOWER SHOW

Connecticut Association of Golf Course Superintendents conducted another Turf Clinic as a public service at the Connecticut Flower and Garden Show, held at the West Hartford Armory March 10-16.

The display shown above had the backdrop for the golf course scene painted from kodachrome transparencies loaned to the association by "Eb" Steiniger, Supt., Pine Valley (N. J.) CC. Turf on the green and tee was creeping bent. All other turf was Kentucky bluegrass. Trees were mostly Scotch Pine. The total area of the display was 310 sq. ft. Scale was 1/4 ft. = 1 ft.

The Clinic was manned by golf superintendents at all times and hundreds of questions on lawn care were answered. In addition, the association gave away 5,000 copies of Tips on Lawn Making, a folder prepared by members of the Connecticut association.

This is the fourth consecutive year the association has held the Turf Clinic at the Connecticut Flower and Garden Show. No association funds have ever been spent for this project. Various members contribute time, equipment and materials and the show management pays the association enough to curtail actual expenditures.

The committee in charge this year was:

John Paul, Indian Hill GC, John Perkins, Jr., Keney Park GC, John Gaghan, Goodwin Park, Anthony Longo, Woodbridge GC, Harry Mensel, Yale GC, Charles Baskin, GC of Waterbury, Edward Fanfesti, Wallingford CC, Phillip Kylander, The Kylander Co., Joseph Bidwell, Avon CC and Everett Pyle, Hartford Park Department.

was not observed the first two years after arsenic was applied.

In 1953 we again utilized the greenhouse and planted poa annua in flats into which Merion bluegrass strips were seeded. Lead arsenate was used at 0—20—40—60 lbs. per 1,000 sq. ft. mixed into the upper 2 in. of the soil prior to planting. Sodium arsenite was applied at 0—2—4 and 6 lbs. of 91 per cent dry powder mixed into the surface 2 in. When the poa annua was approximately 1 month old the arsenic began to inhibit its vigor. We then applied 20 per cent super-phosphate at one ton per acre, or 50 lbs. per 1,000 sq. ft., to one-half of each flat. Within two weeks the plants previously showing arsenic inhibition began to show new growth and normal vigor which continued for the following six months. Rates of 20 lbs. lead arsenate, or 2 lbs. sodium arsenite mixed into the soil prior to planting was sufficient for one year. Regardless of the amount of arsenic applied, the super-phosphate application overwhelmed the arsenic effect. The Merion bluegrass strips showed greater tolerance to high arsenic than did the poa annua.

Topdressing Studied

This relationship then becomes one of arsenic toxicity as the young plant roots take up arsenic and combine it to the carbohydrate metabolism of the plant, replacing some of the phosphorous normally present in the carbohydrate molecules. Apparently the arsenic carbohydrates are not translocated; therefore, the poa annua does not produce new growth. The plants will survive unless drouth or disease might kill the seedling. This did not occur under the greenhouse management. However, poa annua plants five months old were no larger following arsenic toxicity than at the one month old stage.

In order to observe the effect of topdressing, we applied 1 in. of arsenic-free soil over an arsenic treated layer. The poa annua readily established a root system throughout the upper inch; the plant secured sufficient phosphorous from this top layer and the varying arsenic application was of less effect. Conversely, when we put arsenic-free soil below arsenic treated soil, the poa annua, soon after germination, absorbed sufficient arsenic that for an extended time the plants remained very weak. However, weeds gradually established a tap root into the arsenic-free soil, then after a delay they grew normally. The location relationship points out why poa annua may have become worse on greens as recent topdressings were not accompanied by lead arsenate applications.

The question arose as to the differences in the tolerance of grass species to arsenic. We prepared 500 four inch clay pots, using 0—250—500—1,000—2,000 lbs. of super-phosphate per acre. These were each divided and mixed with 0—10—20—40—80 lbs. per 1,000 sq. ft. of lead arsenate. Then Merion bluegrass, ryegrass, bent-grass and poa annua were each planted on 100 of these, giving two replicates at both low and high greenhouse temperatures.

In cool conditions, such as fall and spring weather, 60-65° F., poa annua was more subject to arsenic injury than Merion bluegrass, ryegrass was intermediate, and creeping bentgrass tolerated very low phosphorous and very high arsenic concentrations with little evidence of restriction of growth.

On the contrary, at high air temperatures, resembling summer temperatures, the poa annua showed much less arsenic inhibition. This correlates with observations made on the fairway of the Lafayette CC where it was very difficult to see the effect during the bright sunshine, long day, high temperature periods of the summer. We found a similar root reduction in poa annua plants on arsenic treated soils matching the top growth reduction.

Consider Fertilization

From the practical standpoint, this research, which is being continued, illustrates that superintendents wishing to reduce their weedy grass problems, including poa annua, crabgrass and goosegrass, should consider their fertilization practices.

Soil tests at most experiment stations in the midwest show excess phosphorous present in fine turf soils due to the repeated application of complete fertilizers in an attempt to get a nitrogen response.

Out of more than 100 golf greens soil tests at Purdue University at least 95 per cent show excess phosphorous, indicating that the use of arsenic chemicals to secure poa annua inhibition would require rather heavy applications. Even with plant use and phosphorous fixation it is estimated that it will be over 5 years before the excess would be removed. Thus, the need to reduce the annual additions of phosphorous, when there is an excess already present.

Some superintendents may be interested in applying lead arsenate in the early fall or early spring at approximately 20 lbs. to 30 lbs./1,000 sq. ft. to two of their poa annua infested greens as an initial test application.

Then they could use lead arsenate at light rates for cutworm and sodweb worm control throughout the summer period to maintain a concentration of soluble arsenic. Since lead arsenate breaks down slowly this could maintain such a concentration that weedy grasses germinating would be reduced in vigor at an early stage.

The mechanics by which the arsenic uptake inhibits the poa annua vigor is most complicated. These factors favor arsenic inhibition:

1. Low phosphorous availability level.
2. Cool weather.
3. Short days for photo-periodic activity.
4. Arsenic application prior to cool fall and cool spring periods.
5. Having arsenic carrying soil as the surface area.

These facts have been observed:

1. Arsenic availability and application must be approximately equal to those of phosphorous for inhibition.
2. Toxicity of an application of lead arsenate at 30 lbs. per 1,000 sq. ft. on unfertilized turf is still evidenced three years afterwards when phosphorous was medium in supply and none added.
3. On new seedbeds sodium arsenate gray powder 3-6 lbs./1,000 sq. ft. mixed into soil was equal in effectiveness to 20-60 lbs. lead arsenate. Severe leaf burn occurred when used on established turf at above rates.
4. Even surface applications of phosphorous, within two weeks, over-rode arsenic toxicity in greenhouse studies.

5. When phosphorous is excess in the soil, arsenic accumulations must be greater and may not be able to inhibit poa annua.

6. There is a definite species tolerance in bentgrass and Merion bluegrass beyond that of poa annua so the latter can be controlled selectively in turf if phosphorous is not excessive.

7. Extremely heavy applications of lead arsenate might produce toxicity.

This study is being continued. Its original purpose was to determine if arsenics or other chemicals would inhibit poa annua. Other chemicals are being further tested in experimental work. This report should not be construed as an endorsement of lead arsenate alone since any form of arsenic carrying materials, if applied without damage, could achieve similar results.

And a word of caution — it may take considerable time before poa annua weakening is observed.

Greenkeepers Club of N. E. Re-Elects Officers

MICHAEL J. O'GRADY of new Bedford (Mass.) CC was re-elected pres., Greenkeepers' Club of New England at the organization's annual meeting. Also re-elected were Sec. William A. Ash, Franklin (Mass.) CC; Treas. Samuel S. Mitchell, Ponkapoag GC, Canton, Mass.

Manuel Francis, Vesper CC; Albert Allen, Kernwood CC, and N. J. Sperandino, Concord CC, are vice presidents. Paul O'Leary, Warwick CC, was elected a trustee for a 3 year term. The association has 93 members.

The New Englanders presented Dr. Jess DeFrance. of the University of Rhode Island an expression of their appreciation of his valuable work for them and their clubs.

California Superintendents Hold Joint Meet at Santa Maria

GEORGE Lanphear, pres., Southern California Golf Course Supts.' Assn., and W. F. Sousa, former pres. Northern California Golf Course Supts.' Assn. got their groups together recently for a session at Santa Maria CC. More than 70 supts. attended.

Interesting feature of the meeting was the outline of the GCSA plans for its annual conference to be held at Long Beach, Calif., next February. Agar Brown, sec., GCSA, who does an excellent job in arranging the shows, presented the outline. Brown has been in California arranging 1956 GCSA annual meeting details with GCSA Pres. Wm. Beresford of Los Angeles CC, and attending to some GCSA information matters.

Henry Mitchell Heads N. Y.-Conn. Turf Improvement

HENRY Mitchell, supt., Old Oaks CC, Purchase, N. Y. has been elected president of the New York-Connecticut Turf Improvement Assn. for 1955.

Other officers: Samuel Camberato, Vernon Hills CC, Tuckahoe, N. Y., vp; John Edgar, Sunningdale CC, Scarsdale, N. Y., sec.; and Theodore Jozwick, Ryewood CC, Rye, N. Y., treas.

The executive committee consists of Robert Laird of Winged Foot CC, Charles Sawtelle of A. D. Peterson Co., Herbert Johnson of the New York City Dept. of Parks, and George Gullen of Wacabuc (N. Y.) CC.

Longheinrich Heads Supts. of Mississippi Valley

Fred Longheinrich, supt., Sunset CC, Sappington, Mo., was elected president of the Mississippi Valley Golf Superintendents' Assn. at the organization's annual meeting.

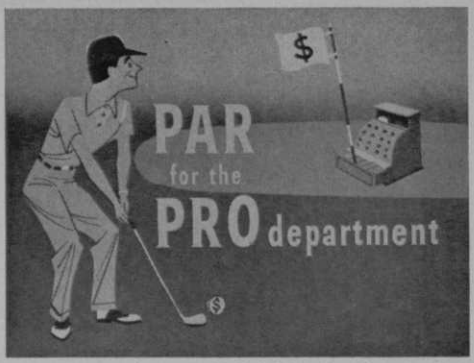
Vice pres. is Mac Parsons, supt., Algonquin GC, Webster Groves, Mo., and sec.-treas. is Ralph Guyer, supt., Westborough CC, Webster Groves, Mo.

The Executive committee consists of Ralph Sehrt, supt., Westwood CC; Walter Ragan, supt., Greenbriar Hills CC, and August Schnatzmeyer, supt., Bellerive CC.

Charles K. Hallowell Joins USGA Green Section

Charles K. Hallowell has been engaged as Mid-Atlantic director of the USGA Green Section. He will take care of Green Section member clubs in Del., D.C., Md., Pa., Va., and W. Va.

Hallowell, long active in turf research and advisory work in Pennsylvania and closely teamed with golf course superintendents for years in helping them successfully solve their maintenance problems, is nationally known as a golfturf authority.



New 35mm color sound slidefilm, Par for the Pro Department, combines artwork and photography for a colorful, compelling presentation of successful pro shop operation. (L) Title frame of the new film. (R) Jimmy Starr, the successful professional star of the film, is shown here with woman customer in scene taken from the film.

New Film Points Way to Profits for Alert Pros

SIXTY million dollars in prize money will be at stake in pro shop merchandising this year—more than 60 times the total prize money tournament pros will play for in all major and minor golf events this year!

To meet this compelling challenge the PGA Educational Committee, has produced a 35mm, color sound-slide film "Par For The Pro Shop," a down-to-earth, hard-hitting picture story of what makes a pro department operation pay off for the professional, for his staff and for his golfers.

Fifteen prints are now available for bookings through the national offices of the PGA in Chicago and a separate booklet, reviewing the material contained in the film in printed form, is now being prepared for distribution through the PGA.

Actual examples of successful pro shops in operation are included in the film together with details on the selling techniques and service methods employed by successful business men professionals in cornering their share of the big growing country club market.

The film pulls no punches in describing the familiar problems and complications of the average pro operation in terms that every golf professional will recognize and appreciate. More important, it lists the eighteen basic factors that must be incorporated into any pro operation to produce steadily increasing profits.

The original idea for the 30 minute film was proposed by the PGA Educational Committee last year, headed by Chairman George Lake and was enthusiastically endorsed by sales-wise golf equipment manufacturers who agreed to pick up the tab through the National Golf Foundation.

No time was lost in getting into production on the film. Dallas Jones Productions, Inc., producers of the popular "Keep 'Em On The Fairways" film for the National Golf Fund, were given the go-ahead and worked with the PGA Educational committee in preparing the script, setting shooting schedules and selecting picture locations.

Because the main theme of the proposed film consisted of presenting the experience of successful pro shop operations for the benefit of all professionals in all sections, actual pro shops had to be selected for pictures. Unfortunately, the shooting schedule was set for a time of year when many northern and eastern pros had closed shop for the winter, making it necessary to rely on the southern and western operators for picture locations. This was done to make the film available for the annual section meetings in the spring of '55. However, the merchandising and service experiences of golf

professionals in all sections of the country were studied and included for use in the film.

Herb and Joe Graffis, publishers of Golfdom Magazine, were consultants in the preparation of the film and on completion of the project, suggested that "Par For The Pro Shop" could do a terrific additional job in creating a better understanding between the pro and his club officials, if the officials were given an opportunity to see the film.

Advance bookings have already been made by some PGA Sections to show the film to members at annual spring meetings. Bookings should be made through the National PGA Offices, Room 1024, 134 South LaSalle Street, Chicago 2, Illinois.

Hopkins Gives Trophy for World-Wide Individual Event

A NEW international trophy will be placed in competition during the international championship at the Columbia CC, Washington, D. C., June 9 through 12.

John Jay Hopkins, founder and president of the International Golf Assn., is the donor of this trophy which will honor the player with the best individual score. The Canada Cup will continue to honor the country whose two-man team produces the best combined score.

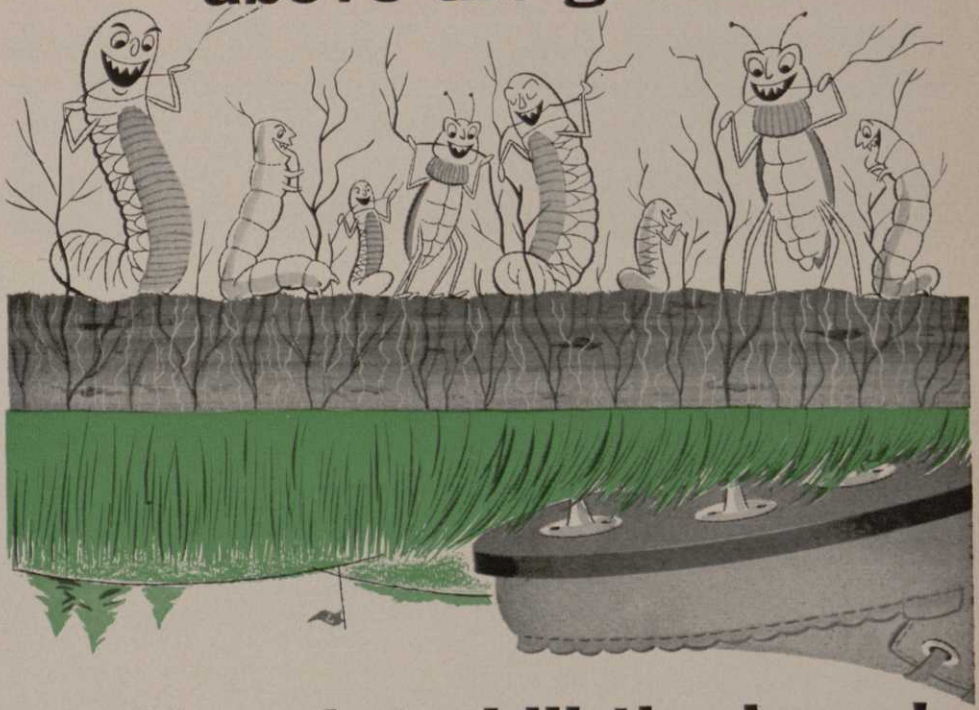
The championship in June will be conducted along the same lines as last year, with the addition of the new individual competition. An effort will be made to increase the number of countries which participate.

PGA Sections Plan Spring Business Meetings

ALMOST every PGA section is planning big spring business meetings. Sales and teaching programs and salesmen's displays and the first showing of the PGA Educational committee's new "Par for the Pro Department" slide film will feature the gatherings.

Among those widely announced are the New England section meeting and dinner, April 11, with Cary Middlecoff putting on the clinic; the Indiana section, April 11 and 12 with Toney Penna presenting the clinic; the New York Metropolitan section, April 25 at the Park Sheraton, and Illinois section, April 18.

If turf roots grew above the ground—



you'd rush to kill the bugs!

If turf roots grew upside down, you'd see how bugs attack the roots, causing unsightly brown spots and bare patches. It pays to knock out sub-soil pests *before* they destroy the beauty of your turf. Use dieldrin!

Dieldrin attacks with a double punch that rids your turf roots of these ruinous pests; destroys surface bugs as well. A one-shot treatment controls white grubs, Japanese beetle grubs, ants, chiggers, cutworms, chinch bugs, and many other lawn enemies.

Dieldrin is easy to use. Merely sprinkle dieldrin granules on your turf or mix with fertilizer and apply. Follow with irrigation to soak it in. Dieldrin is also available in 25%–50% wettable powder, 1.5 lb. emulsible concentrates and dieldrin dusts. No matter how you use it, one application gives you dependable turf pest control, lasts an entire season, costs little.

Preserve the beauty of your turf . . . get dieldrin today! Technical information on dieldrin is available.

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Recently elected officers of the Midwest Regional Turf Foundation for 1955 include (L to R) G. O. Mott, treas.; Ward Cornwell, vp; Frank Dunlap, president, and W. H. Daniel, executive sec.

Midwest Turf Conference Draws Over 400

ATTENDANCE at the 18th annual Midwest Regional Turf Conference held at Purdue March 7-9 reached a new high mark of over 400. Most of the crowd came from the seven-state area of Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio and Wisconsin. However, Canada, Kansas, Minnesota, Nebraska, New Jersey, New York, Pennsylvania and Texas were represented.

Enlivened interest characterized sessions on fertilizer usage, labor conditions and preparing for motorized carts. Experienced golf club supers also praised the talk on corrective maintenance of shrubs, saying that too often this is a neglected phase of their programs. "Practices are Influenced by Principles" was the theme of this year's conference.

As usual, entertainment was provided by A. P. Stewart and the Purdue Glee Club. By popular demand, these internationally famous singers seem to be a permanent part of the Purdue turf conference that follows the banquet.

Dr. W. H. (Bill) Daniel developed interesting pre-conference side trips to the new Life Science Building and to the greenhouse where golf course, cemetery, park and other turfgrass-growing supts. could view actual experiments in progress.

Looking at greenhouse experiments are Frank Dinelli, Bill Shields and Joe McDermott, who are talking over nitrogen effect. Others in the photo are not identified.