

Minnesota Greenkeepers Hold Annual Conference

Club officials were guests of Minnesota Greenkeepers Assn. during one of the sessions held at Leamington hotel, Minneapolis, March 16-18 and learned not only of high professional qualifications the Minnesota Greenkeepers demand for admission into the association but of the greenkeepers' concern about shortage of younger men for maintaining high standards of Minnesota course care. There was considerable discussion about how to attract desirable young men and to train them but it all wound up in the conclusion that few youngsters regard greenkeepers' salaries as inducements.

State course superintendents, University of Minnesota authorities, Fred Grau, O. J. Noer and Herb Graffis presented details of turf maintenance and management operations that made the Minnesota program one directly applicable to the clubs at which attending greenkeepers are located.

An important subject not often found on greenkeeper convention programs was the talk of M. C. Peterson, public health dept. engineer of the state who spoke on "Water Sanitation." Peterson pointed out

that there are innumerable possibilities of drinking water contamination at golf courses and told of methods to protect against pollution. He said that when courses have two types of water (one for course watering and the other for drinking) the superintendent must take thorough care to see that purity of the drinking water is maintained.

He urged that superintendents get state board of health bulletins on protection of drinking water sources and outlets, disinfecting of wells and all other phases of the drinking water supply.

Southeast Turf Meet Set For May 21-24

Southeastern annual turf conference and annual meeting of Florida Greenkeeping Supts. Assn. will be combined and held at Coastal Plains Experiment station, Tifton, Ga., beginning with a field day at the station, Sat., May 21. The following three days lectures and discussions will be held in Hotel George Washington, Jacksonville, Fla.

Among those scheduled for the program are Fred Grau, L. O. Gratz of the Florida Experiment stations, Glenn W. Buron of the Georgia Coastal Plains station, Roy A.

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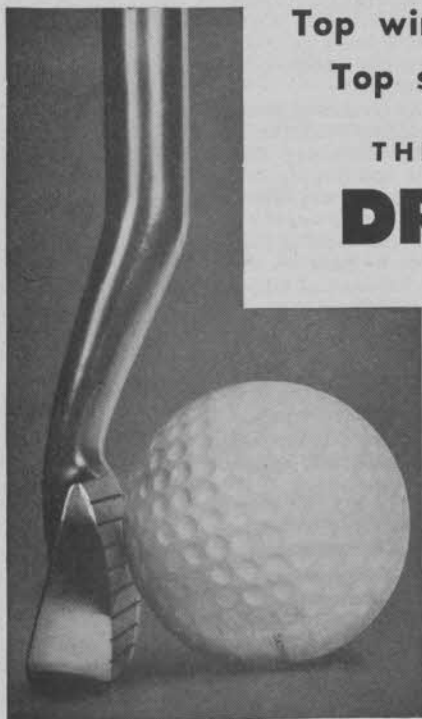
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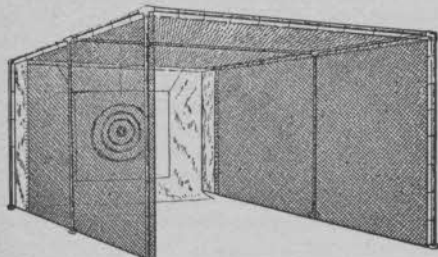
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Bair of the Everglades Experiment station, O. J. Noer and M. K. Jeffords of the Southern GA and Southeastern Turf Advisory committee. Plans are being made for the most complete and practical turf educational conference ever held in the south.

The announcement of the joint meeting says: "In most cases golf clubs that encountered expensive difficulties during the past year were ones whose greenkeepers did not participate in available turf conferences. We are confident that very beneficial results will be obtained by clubs financing their 'greenkeepers' attendance at this conference.

Mass. Section, New England Turf Assn., Holds First Meet

The first annual meeting of the Mass. Section of the New England Turf Assn. was held at the Univ. of Mass. Turf Conference on March 11th under the chairmanship of Homer C. Darling of Juniper Hill GC, Northboro.

The Section was formed just one year ago to establish a sound comprehensive turf research program and to disseminate present knowledge and new facts regarding grasses and lawns to all members.

In 1948, the Section in cooperation with the Experimental Station established experimental turf areas at the University of Massachusetts. A number of projects concerning lawn grasses have now been started on the campus, both outside and in the greenhouse.

The Greenkeepers Club of New England, the Massachusetts GA, The Massachusetts PGA, Cemetery Superintendents, Equipment and Supply Dealers and Park Superintendents are all behind the project to grow better turf.

It was decided that an informal meeting would be held on the campus sometime in May or June at which time members would get an opportunity to inspect experimental turf areas established at the university.

Slate of officers and directors elected for the forthcoming year are:

President, Homer C. Darling, Juniper Hill, GC, Northboro; First Vice President, William Mitchell, Danvers; Second Vice President, Elliot Rogers, Walnut Street, Newton Center 59; Executive Secretary-Treasurer, Lawrence S. Dickinson; Recording Secretary, G. Cornish.

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Fessenden Golf Writers' "Man"

Maynard G. (Scotty) Fessenden, pres., Western GA., has been awarded Golf Writers Assn. of America Wm. D. Richardson memorial trophy as the man who made the outstanding contribution to golf in 1948. Fessenden has been spark plug of big drive for increase in Chick Evans Foundation caddy scholarships. He also heads PGA advisory committee and is pres., Bob O' Link CC (Chicago dist.) and former pres., Chicago District GA. Following Fessenden in the voting were Bing Crosby, Mayor Jim Rhodes of Columbus, O.; Fred V. Grau, director, USGA Green section; Ted Payseur, National Intercollegiate AA golf chmn., and Bob Hope.

Iowa Greenkeepers Hold 15th Annual Meet at Ames

By H. L. Lantz

One-hundred-fifty greenkeepers and turf men from many midwest states, California and Texas registered for the 15th annual Greenkeepers Conference at Ames, March 14-16.

A wide variety of up-to-the-minute topics were discussed including reports on bent grass strains, new grasses, new fungicides and insecticides, tissue tests for greenkeepers, fertilizers, soil aeration, how plants utilize fertilizers, college training for greenkeepers, etc.

The turf garden at Ames jointly sponsored by the Iowa Greenkeepers Association and the Iowa Agricultural Experiment Station was the lead-off subject of a report by H. L. Lantz, of Ames. Lantz described the development of the turf garden and briefly outlined a proposed expanded program of research. Approximately 30 strains of bent grass are growing in replicated 6 x 6 foot plots. The USGA furnished 10 strains, another 10 strains were furnished by the Pennsylvania State College and another 10 strains were added later from assorted sources. The first set of plots were planted in 1939. Each year of observation has indicated that the strains Congressional (C19), Arlington (C1) and Old Orchard (C52) were well adapted and superior in performance to the other strains in the garden. These three strains are being planted on a number of golf courses in Iowa, and have been giving a good account of themselves.

Dr. H. H. Knight, entomologist at Iowa State College told the group about how to use the new insecticides on the golf course and the clubhouse. Numerous questions kept Dr. Knight busy for another 30 minutes. Among the new chemicals for insect control is chlordane which

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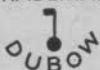
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Tissue Testing on Bent Grass

Dr. G. N. Hoffer, Manager of the Midwest Potash Institute, Lafayette, Indiana, made his first appearance on the Iowa conference program. His discussion and demonstration of tissue testing on bent grass was very well received, and immediately there were numerous inquiries as to whether and how the necessary chemicals could be secured. When asked for a show of hands of those who were interested in equipping themselves for tissue testing, practically every one in the room put up his hand. Dr. Hoffer explained that it would be possible to assemble a kit of the essential chemicals which could be purchased at a nominal price.

Dr. Hoffer explained another feature about bent grass which was new to the Iowa audience. He reported that during the evening and at night when the evaporation rate declines, bent grass roots keep on pumping water and sloutes into the leaves, which cause "sweating" and that this "sweat" carries soluble nitrates which spread out over the surface of the grass blades. Next morning when the sunshine warms up the grass, the nitrogen compound changes to a form that may damage the bent grass. A simple method of pre-

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venting such damage is to wash this nitrogen material off the grass by a light hand watering in the morning. There is a simple test that can be made by the use of Brays powder to determine when the grass is "sweating" out those dangerous nitrogen compounds.

The chances are fairly good that well fertilized greens provide optimum conditions during the summer for "sweating" out nitrates. This new discovery has the earmarks of being exceedingly useful on diagnosing a condition not previously understood.

No Iowa conference would be complete without those two wheel horses of turf management, Dr. O. J. Noer and Dr. Fred V. Grau. Noer explained the fundamental and practical reasons for the need of a balanced fertilizer program on greens. Grau has some definite suggestions about watering trees, greens, and fairways, effectively. Soil that is porous and not compacted takes water readily, and requires less frequent applications than does compacted soil. This holds for fairways as well as greens. This discussion led up to and nicely introduced Tom Mascara of West Point, Pa., who gave an illustrated talk on the use and accomplishments of the West Point Aerifier when used on compacted greens and fairways. There was no

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disagreement among the turf experts as to the value of the Aerifier in rejuvenating greens and fairways.

New Competition for Crabgrass

Crabgrass has a new competitor that can compete on more than even terms with the pest. On lawn and fairways where crabgrass ordinarily takes over and smothers out bluegrass, Fred Grau related that *Alta fescue* if planted early in the spring would by the second year form a strong firm turf that would conquer crabgrass. Furthermore *Alta fescue* will stand one-half inch mowing, and grow well during the hot dry season of the year. The USGA Green Section under Grau's direction has found a strain of hardy *Zoysia matrella*, and has a new strain of bluegrass B27, which is resistant to *helminthosporium*. Other grasses are also being screened for possible use in the various turf areas. A new era in fine turf appears to be here.

The Rhode Island Experiment Station at Kingston has taken a leading interest in the development and testing of new fungicides. Prof. John Rowell presented two illustrated talks to tell the conference how the work was done and what the results were. Prof. Rowell passed out a mimeographed summary of the results of the 1948 trials which was a feature that was

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greatly appreciated. Briefly, Rowell reported that the cadmium compounds gave excellent control of dollar spot, copper spot and pink patch and that the bent grass on the cadmium treated plots suffered no setback in growth or color following the applications.

On a 30 plot fungicide experiment at Ames, Lantz reported results which were very similar to those reported by Prof. Rowell.

Weed control on golf courses and other turf areas is a most important feature of good management. Herbert A. Zuhl of the Dow Chemical Co., Midland, Michigan, explained how the several forms of 2,4-D behaved. While the ester forms of 2,4-D had proved to be the quick killers, Zuhl warned that the ester form might injure plants at considerable distance from the sprayed areas due to the drift of volatile portions of the herbicide. On the other hand he pointed out that the danger of 2,4-D drift could be avoided by using either the sodium salt or the amine formulations of 2,4-D.

Numerous other items were discussed on the program. Dr. I. J. Johnson, Head of Agronomy at Iowa State College, discussed specialized college training as a possibility for young men who wish such training in preparation for a career in greenkeeping.

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**Club Managers Appoint
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John J. Pomeroy, Red Run GC, Detroit, re-elected president of the CMAA, announces the appointment of Regional Directors for 1949 by the Board of Directors at a meeting following the annual convention. Country Club managers named to regional positions were: Harry C. Andrews, Oakley CC, Watertown, Mass.; Mac Arrowsmith, Colonial CC, Memphis, Tenn.; Ralph P. Collins, Transit Valley CC, East Amherst, N.Y.; C. W. Gelwick, Gainesville G&CC, Gainesville, Fla.; Carl J. Jehlen, Glen Ridge CC, Glen Ridge, N.J.; L. Shell Jones, Danville GC, Danville, Va.; William Overton, Lubbock CC, Lubbock, Texas; E. A. Vetter, Portage CC, Akron, Ohio.

DEVELOPING FINE TURF

(Continued from page 58)

Common chickweed is becoming a serious pest on watered fairways in the North. One spraying with 2,4-D checks but does not kill it. Repeated treatment with 2,4-D is dangerous where there is any amount of bent grass in the fairways. The bent will be seriously damaged. Some clubs have had excellent results by using sodium arsenite in October and November. The chickweed is one of the last plants to stop growth in the fall. Two or three treatments of sodium arsenite, spaced a week or two apart can be made and will not be noticed because the grass has started to turn brown by that time.

Soil Compaction and Matted Turf

The turf on approaches should be better, or at least as good as on any other part of the fairway. Many approaches have the poorest coverage and are mainly clover and knotweed after early summer. Wear from concentrated traffic by players and tractor drawn equipment, along with associated

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compact soil are the common causes. Damage may be accentuated further by poor placement of traps from a maintenance standpoint. Some of them make traffic congestion even worse. The same thing occurs to turf around some traps placed along the edge, or jutting out into the fairway. Repeated passage over the same spot by tractor and mowers wears the turf and compacts the soil. A greater concentration of knotweed down the center of some fairways is due to wear and compaction from double passage over the same strip by tractor and mowers to complete the cut. This is another reason for mowing in different directions. Some cross-mow to avoid corrugations, but distribution of wear may be just as important.

The use of the F. G. Aerifier, a rotary hoe, or a disc once or twice a season should go far toward producing better turf on approaches, around traps, and down the center of the fairway, by eliminating soil compaction. The aerifier does the best job in theory at least, because of the cultivating effect of the spoons.

Fairway turf in the North and Bermuda grass in the South may develop a dense surface mat. Water from rains or sprinklers does not penetrate the mat and wet the soil below. Root systems underneath the mat are shallow. The grass wilts and dies during dry periods. The use of these tools (Aerifier, rotary hoe, or disc) destroys enough of the mat so water will penetrate and turf will develop a better root system. These mechanical tools are very beneficial on fairways. Spring and fall are the best times to do the renovating. Some favor fall, especially in the bad crab grass areas.

Insects and Fungus Diseases

Fairway turf must be protected from injury by insects such as white grubs and chinch bugs. Earthworms are objectionable to players and ants are troublesome in some places. Cut worms may cause severe damage occasionally, particularly in the South. Leaf spot is the most serious fun-

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gus disease, although dollar spot and brown patch occasionally attack bent fairways.

White grubs: The grubs of the Japanese, the Asiatic, and the May or June beetle frequently cause serious and extensive damage to turf. The life cycle of the Japanese and the Asiatic beetle is completed within a year, so turf damage is apt to be an annual occurrence. The May and June beetles have life cycles covering a span of three years. Severe injury may occur every third year, but in some places, such as western Michigan, two broods are extensive, so turf devastation may be had two years out of every three.

Grub-proofing of turfed areas is justified wherever there is any possibility of severe damage. May, June, Japanese, or Asiatic beetles in great numbers are the forewarning of a plentiful crop of grubs that fall and the next year. The grub-proof treatments are expensive, but the task of fairway renovation is even more costly. Any club in the path of the advancing Japanese beetle should meet the problem of grub control before the beetles arrive. It is a case where an ounce of prevention is better than a pound of cure.

Lead arsenate was the first effective insecticide used to control white grubs. It lasted five years or more when applied at 200 to 400 pounds per acre, and controlled every known species. Slowness of action was its chief drawback. An application made at the first sign of turf damage did not stop further injury that year. By the next season the treated area was protected. Lead arsenate has become so costly since the war that it is not being used.

DDT and Chlordane are the materials now being applied for grubs of the Asiatic, Japanese and the annual June beetle grubs.

Control is excellent, and the action is fast, particularly with Chlordane. The recommended dosages are 25 pounds actual DDT and 10 pounds actual Chlordane per acre. The effect from DDT lasts four to five years or more, and Chlordane plots treated three years ago are still grub-free, but the untreated ones are not.

A disease called "Milky White Disease" kills the grub of the Japanese beetle. Entomologists say the action is a specific one, and that the disease does not affect other species of white grubs. Spores of the disease are mixed with talc and used to inoculate the soil. A commercial preparation is marketed under the trade name "Japademic". The mixture is too costly to be applied broadcast. Spots are treated instead, according to a definite pattern. The disease spreads gradually in the soil and does not become fully effective for three to five years. Hence treatment to stop an infestation, followed by inoculation with the disease is advisable.

The white or phyllophaga grub of the 3-year life cycle June beetle is harder to kill, especially during the second year of its residence in the soil, than the annual types. DDT has not been effective on these grubs. Chlordane at more than the 10-pound rate is said to be effective against the grub during the first year of its growth. The use of lead arsenate is still advocated by some for this grub.

Sodium arsenite and arsenic acid used for weeds helps control white grubs of all kinds. Concentrations of 1½ to 2 pounds per 1,000 square feet (60 to 80 pounds per acre) equal 5 to 10 pounds (200 to 400 pounds per acre) of lead arsenate.

Chinch bugs: The chinch bug has been a turf pest in Florida for a long time, but caused little damage in the North until

ILLINOIS SECTION, PGA, HOLDS ANNUAL SPRING MEET



Illinois Section, PGA, made plans for its biggest year of activity at the annual spring meeting held in the Morrison Hotel, April 4. In the background seated at the head table are: (L to R) Fred Slyder, CDGA sec'y.; Frank Whiston, CDGA pres.; Geo. S. May, Tam O'Shanter CC; Joe Graffis, GOLFDOM magazine; Bill Gordon, Ill. Section pres.; John Kennan, ex. sec'y., WGA; John D. Ames, Chmn., USGA Implements and Ball Committee, and Lou Strong, Ill. Section sec'y.