AN ATTENDANCE of almost 700 at the eleventh annual convention and equipment and supply exhibition of the National Association of Greenkeepers registered a new high in crowd and interest for these events and gave convincing evidence that golf is out of the storm. The Wardman Park hotel at Washington, D.C., was unable to supply rooms enough to care for the unexpectedly large attendance for the affair, which ran February 2 to 5, inclusive.

Actual orders and live prospects for business as reported by the exhibitors gave an aspect of pre-depression days to the Greenkeepers' show, and the mere presence of so many greenkeepers and their wives testified to an improved financial picture, inasmuch as many of the greenkeepers pay their own expenses to this educational enterprise, although its results pay off in maintenance improvements and economies primarily for the benefit of the golf clubs and their members.

There was a new note in the program of the educational conference. No one who previously had addressed a greenkeepers' national convention talked at the Washington affair. Four government experts, three state college and experiment station men, a Green Section expert, and practical greenkeeping authorities appeared on a well balanced, valuable program.

A tour of the Arlington Experiment station which had more than 200 greenkeepers on their way by nine o'clock on a cold, raw morning and which kept them keenly on the hop around the amazing research establishment of the government and the USGA Green Section, was one of the profitable features of the meeting. Under the direction of Dr. John Monteith, the greenkeepers were toured through the laboratories and greenhouses, and through the experimental plots of the Green Section, where tremendously important research work was evident despite the off-season.

Greenkeepers on the Arlington trip were especially interested in the three-year test on watering, the chemical weed-control plots, the brown-patch control dye demonstration and the demonstration of proper and improper handling of sodium chlorate. A dust explosion was put on as a show for the turf men.

Publicity given the greenkeepers by the Washington newspapers, press services and radio gave hopeful signs that the profession is coming into wider recognition. At a luncheon preceding the opening convention session, President John Anderson of the NAGA and members of the association's executive committee were hosts to the green-chairmen and newspapermen of Washington. Briefly, Anderson outlined the work and the aspirations of the greenkeepers, after which Congressman Donald H. McLean of New Jersey, a former caddie who now owns several golf courses, named the greenkeepers and their combination with the national and states turf research scientists as saving many golf courses from disaster during periods of turf plague visitations and of low club incomes.

Sessions of the educational conference were held in the theater of the Wardman Park. As chairman of the conference, Paul J. Lynch opened proceedings by calling upon Congressman McLean to do his day's second able job of addressing a greenkeeping group. This time he referred especially to the definite money value of turf maintenance science as illustrated by control of the Jap beetle threat.

Dr. M. A. McCall, assistant chief, Bureau of Plant Industry, Department of Agriculture, emphasized that science is only good hard common sense and for that reason is to be eagerly accepted by the "practical" man rather than held under suspicion as pure theory. He cited the speed and economy of scientific investigations by experts as compared with the casual, unrelated work of everyday practice, as
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supplying the information greenkeepers can most profitably use. In his address on "The Application of Science to Greenkeeping" Dr. McCall related some of the difficulties of investigating underlying causes in greenkeeping, which is concerned with grass growing under artificial environment. He mentioned the time needed for effecting improvements in corn growing and said that in comparison the Green Section and other groups of golf turf scientists have done amazingly quick and sound jobs of research.

He commended the valuable co-operation between the Green Section scientists and greenkeepers and pointed out how a comparatively small amount of money, properly spent in research, effects tremendous savings in actual field practice.

Dr. James Tyson, of the soils section of Michigan State college, analyzed the golfers' viewpoint of the greenkeepers' problem, tersely. "All golfers want one-putt greens," was Tyson's close-up of the demands made on greenkeepers.

In describing first grade soils for golf courses Dr. Tyson said that the preferred sandy loam should contain between 50% and 80% sand of not too fine character, less than 20% clay, and silt. There should be between 10% and 15% organic matter in surface soil of greens, he said. The soil should have excellent drainage, good aeration, and should be non-packaging when hard. Inasmuch as we can't get fairway soil fixed to suit ourselves, grass selection to suit the available fairway soil is an important factor, remarked the Michigan expert.

Tyson told the greenkeepers that certain mixtures of sand, gravel and clay make a strong cement, but is no home for grass. He counseled against any soil arrangement that draws up grass roots. He also warned against letting a layer of sand get under a green's topdressing because twisting and scuffling of players' feet causes the sand to cut off grass roots.

The Michigan professor mentioned the puzzling reactions in soil testing and advised greenkeepers to discuss their soil tests with state and national experts.

Tells of State Extension Work

Charles K. Hallowell, Philadelphia Extension representative, Penn State college, spoke on "Agricultural Extension Service and Its Relation to the Golf Club." Hallowell, Fred Grau and others have done greatly appreciated work in bringing the findings of Penn State's staff of scientists into greenkeepers' service. Hallowell outlined the agricultural background of the extension service and detailed how this work had been expanded to care for demands of greenkeeping.

Work of this sort in Pennsylvania unquestionably is a fore-runner of extension work that will be done for greenkeepers in other states and the Hallowell address decided officials of several sectional greenkeeping organizations to bid for state extension tie-ups this year. The Penn extension man and W. E. Farnham, Philadelphia CC superintendent, told of how the extension service, with state entomologists and agronomists, held an emergency meeting with Philadelphia district course superintendents and took prompt and effective action on a sudden attack by sod webworm and chinch bugs.

There have been scores of addresses on landscaping of club grounds made before greenkeepers' meetings, but none of them scored as accurately and as helpfully as the 1937 national convention paper by Charles H. Connors, ornamental horticulturist of the New Jersey State experi-
ment station. Connors' address was illustrated by slides. It is presented in somewhat shortened form in this issue of GOLFDOM and it is recommended that greenkeepers and chairmen check up the landscaping of their own properties with the Connors paper.

J. K. Hanes, superintendent of Yeamans Hall club, Charleston, S.C., presented a paper on "Maintaining Turf in the South" which was illustrated by slides of the beautiful and superbly groomed Yeamans Hall grounds. Hanes gave expert treatment to maintenance work in a section of the country that has been only casually treated in national programs. His paper appears on another page of this issue. An address by Dr. N. R. Smith of the government's Bureau of Plant Industry, "Soil Organisms in Relation to Golf Turf," gave to the greenkeepers a close practical picture of the growing background of growing grass. Micro-organism activity is a complex department of turf culture but one to which greenkeepers are devoting considerable study. The Smith paper will appear in an early issue of GOLFDOM.

Talks on Road Surfaces

Another government expert, Dr. C. N. Connor, of the Department of Public Roads, gave greenkeepers a hand with his talk on "Road Surfaces for Club Grounds." Unless grading and drainage are properly done in road building the best of surfacing may fail as a result of freezing, thawing and traffic, Smith said. He gave greenkeepers construction details, among them the advice to see that stump holes are substantially filled when making roads. Various types of road surfaces are approved by the Bureau, according to service requirements and availability of materials, but there are comparatively sharp limitations to the recommendations of road width. For club ground traffic where speed is relatively low, Dr. Connor endorsed a minimum width of 22 feet. Sharp curves need widening and super-elevation, even for low speed roads on club grounds.

Bituminous road types on flexible bases are "probably most economical and satisfactory for roads in club grounds." He told of methods of preventing dust on gravel roads by sprinkling with calcium chloride, common salt, a lignin binder, or thin asphaltic oils or tars. Connor went into various types of road construction almost in working detail and his paper in full should be obtained by greenkeepers or chairmen having road-building to do on the club grounds. Its value to the operating men at any club having a road-building problem will greatly exceed the cost of sending the club's greenkeeper to the convention and in addition the cost of several years' association dues.

Jap Beetle Now Controllable on Courses

Prof. C. H. Hadley, Bureau of Entomology, Department of Agriculture, reviewed the work of controlling Japanese and Asiatic beetles in turf and assured greenkeepers that routine proper treatment with lead arsenate had the peril under control. He advised his hearers to write the Department of Agriculture bulletin office at Washington for USDA circular 403 for procedure of treatment. You can't expect lead arsenate to stop beetle damage right away because it's a slow-acting poison, said Hadley, so if you discover that failure to protect with lead arsenate leaves you with your grass destroyed and the beetles on the rampage, you may as well forget the grass (which won't come through anyway) and treat with a quick-acting poison such as carbon disulphide emulsion. Hadley advised in areas where infestation was possible, light

(Please turn to page 77)
Nicodemus — claimed to have been sold five times as a slave.

Demus used to claim that life had treated him pretty well. He saw the south as a stud in slavery days and was well fed and treated by masters who rated him as a good investment. The time between emancipation and the beginning of Pinehurst wasn’t any golden age for Demus, but he used to tell Donald Ross that being black boss of the Pinehurst caddies was an ideal way for a talented man to round out a career.

In obtaining soil samples for testing don’t take samples from the tops or bottoms of slopes; such samples won’t be representative.

GREENKEEPERS’ CONVENTION

(Continued from page 31)

applications of lead arsenate in topdressing.

Slides showing operations in growing seed of golf course grasses were used by H. F. A. North of the Green Section who gave a helpful address on seed selection and buying. The North address will appear in a later issue of GOLFDOM, as it contains much information on grass seed production methods that the greenkeeper will want to consider in buying.

Concluding the educational conference was a turf watering forum at which papers from successful greenkeepers in various sectors were presented. A large chart showing annual precipitation in inches and by months in different major cities was displayed on the speakers’ platform. Lengthier reports of these watering comments will appear later in GOLFDOM. Speakers and high spots of this interesting feature of the program follow:

Clarence W. Hazlett, pres. of Southern California Greenkeepers’ Assn.: Areas with underlying sandstone ledges require special attention and heavy watering. If they are high, there is danger of over-watering adjacent lower areas. Must be alert to weather and atmospheric changes. Each green a different watering problem every day. Use water cautiously during hot weather.

J. L. Haines, Denver CC: Winter evaporation brings courses into spring with soil dried out and root system in poor condition. Hence, soak course in fall through vitrified sewer pipes to which, at outlets,
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are connected 30-foot lengths of 9 in. canvas hose. Use 1,500 gal. per night, split into three heads which are used 12 hours a night and six nights a week. Course to be covered with exception of tees, greens, banks and high spots handled by usual sprinkling methods.

Chester Mendenhall, Kansas City: If watering is held off until late summer, crab grass is reduced. If watering is started early in spring crab grass has tendency to crowd out bluegrass. Each day fairways are carefully examined and nightman is given list of numbered valves to run. Watch weather reports carefully and consider effect of hot, dry winds. Watering practice depends largely on soil conditions. Fertilizing program is vital.

Harold Clemens, Chicago: Fertilize well and use water conservatively to maintain natural balance. Solid turf reduces evaporation. On heavier soils, major trouble is surface drying from hot winds. Doubts that watering produces clover problem on properly fertilized fairways.

Emil Picha, St. Paul-Minneapolis: Length of day, temperature, humidity, cloudiness or sunshine, wind velocity, rather than precipitation alone, determine watering schedule. In Twin Cities most rainfalls during the golf season occur toward morning; so Picha considers revising night greens sprinkling plan to wait and see if there's a morning rain. With golf season short in Twin Cities district, watering for attractive color is good investment. Emphasized fertilizing in spring with readily available fertilizer to control crab grass.

Frank Wilson, Boston: Study water absorbing capacity of soil. Scattered showers even in districts covered by one weather station may seriously effect watering conditions at courses in same neighborhood. Danger in drainage to low areas, bringing weeds. Increase fertilizer requirements when fairway watering is done. Thousand pounds of fertilizer applied in mid-September sharply reduced crab grass.

T. T. Taylor, Long Island: Fairly definite determination of when to water is biggest problem. Advises carefully maintained reports including date, areas watered, meter readings, water consumed, daily cost, rainfall (in two columns), one

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at club and the other as per weather bureau report. Avoid trouble of over-watering. Difficult to get averages on water supply costs. Get a rain gauge. Drill to use judgment in watering.

The conference concluded with an enthusiastic vote of thanks to President John Anderson for a vigorous and definitely constructive administration. The association voted to raise the national dues from $6 to $10 annually.

John Quaill of the Highland CC (Pittsburgh district) who long has been active in greenkeeper organization affairs, was elected president of the national body and provided with a cabinet of earnest, experienced men. The 1938 convention of the association will be held in Cincinnati. Consideration was given to a suggestion that the name of the organization be changed to the "American Greenkeepers' Society," but no conclusive action was taken.

The Greenkeepers' convention presents the largest effective educational activity in the golf club operating field, and club officials as well as members may well rejoice that the size, spirit and definite technical contributions of the 1937 Greenkeepers conference and exhibit must forecast a great year in golf.

Social Security
(Continued from page 20)

filing of the 1936 return from January 31, to March 31, 1937.

There are additional credit provisions for the year 1938 and thereafter; but they are not of immediate concern.

Forms Required—Form 940 has been issued and is to be filed on or before January 31, of the year following the one reported on. The time for filing the 1936 return was extended to March 31, 1937. This form requires a simple statement of the amount of wages on which the tax is to be based and shows the computation of the tax. It is extremely simple and needs no amplification here.

The tax is payable either in full at the time the return is filed, or one quarter with the return and quarterly payments each succeeding three months.

State Unemployment Insurance Laws—
At the date of compiling data for this talk 36 states have enacted Unemployment Insurance Laws. Thirty-one of the states have tax rates as follows:

In 1936, .9% of total wages, in 1937, 1.8%, and in 1938, 2.7%.

Ten of the states require a contribution