

# Winter School Alliance Pushing Advance of

With the annual exhibit and conference on golf course maintenance at Massachusetts Agricultural college, Amherst, March 13-15, the winter schedule of greenkeeping schools came to an end.

Massachusetts, Pennsylvania, New Jersey, Wisconsin and Michigan state

agricultural institutions have contributed greatly to the advance of course maintenance with programs plainly of practical value. In promoting a mutually helpful alliance between the scientists and practical men concerned with course construction and operation the winter schools undoubtedly have been responsible for a

## Initial Michigan Course Draws Eighty Students

SOME 80 students attended the first greenkeepers short course offered by the Michigan State College, Lansing, held from Feb. 16 to 19. This course was held at the request of the Western Michigan Greenkeepers association and received the hearty cooperation of not only this association but of the Eastern Michigan Greenkeepers association and of the U. S. G. A. greens section, which was represented by John Montieth, Jr., and Kenneth Welton. The meetings also had the support of some of the leading specialists of the state in associated lines.

All of the men in attendance at these meetings were experienced in greenkeeping work and the round table discussions following the lectures proved very valuable to all of those present.

Wednesday afternoon the members of the short course inspected the factory of the Ideal Power Lawn Mower company. Following this inspection the entire group were guests of the company at a banquet.

Prof. Charles Halligan, landscape architectural member of the faculty, who organized the course, says:

"It is expected that this course will be repeated another year and many in attendance this time are planning to return when the course is given again. It was most satisfying to the authorities of the college to note the interest and enthusiasm that was shown and in the cooperation received

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## Wisconsin Course Emphasizes Greens Maintenance

THE short course for greenkeepers, given by the Wisconsin College of Agriculture at Madison, held its second annual session February 9 to 13. Sixty-two greenkeepers from five states were registered for the course. There were many new members in addition to those who returned for their second year.

While the 1930 program dealt with the care and management of golf grounds in a general way, this year the various phases of the subject of greens were covered in detail, and all instruction was made as practical as possible. The aim was a better understanding of the fundamentals underlying the work on golf greens.

Grasses for greens and the care of the turf received a great deal of attention each day of the course. This was ably handled by John Monteith, Jr., of the Green section. He discussed in particular the advantages of using certain kinds of grasses for fairways, tees, and rough, and he emphasized especially the proper mowing of greens, its importance in maintaining a well-kept course, and its relation to the game. This phase of the work was supplemented by G. W. Mortimer of the Agricultural College's agronomy department who explained the principles of grass development and factors that affect the character of turf. L. A. Graber of the same department spoke on how proper and improper cutting affects the health of grass. To

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# of Science and Practice Maintenance Methods

1931 season saving of hundreds of thousands of dollars in golf course budgets. These school sessions are proving a big factor in ironing out a number of conflicting opinions in the fields of turf culture and maintenance methods, and by facilitating the exchange and appraisal of information between studious green-

keepers, in assisting in the identification and elimination of unsound practices.

In almost every case the short courses were attended so well that the matter of restricting attendance is one of the problems confronting those who will conduct the schools next winter.

## Fine Varied Program Given at Penn State

**E**IGHTY-FOUR men interested in fertility problems of fine turf grass management gathered at the Pennsylvania State college for the third annual Greenkeepers' conference February 25 to 27. More than 60 clubs were represented. Last year there were 55 representatives of 42 clubs in attendance at the conference.

The conference opened February 25 with an address of welcome by Dean R. L. Watts, of the School of Agriculture. Joseph Valentine, of the Merion Cricket Club, then gave the report of the Pennsylvania Fine Turf Research committee. This was followed by a progress report on research projects at State college, presented by Professors C. O. Cromer, J. W. White, and H. B. Musser, of the department of agronomy.

Relation of soil types to management was the topic Thursday morning. Professor A. L. Patrick, of the department of agronomy, chairman of the conference, talked on soil types. He discussed the outstanding physical and chemical characteristics of the important soil groups in the state. Professor F. G. Merkle, of the department of agronomy, told of the importance, functions, sources and maintenance of organic matter. He was followed by Wendell P. Miller, Chicago, who discussed drainage and irrigation. Professor Merkle and County Agent C. K. Hallowell, Philadelphia, next told of the nature, cause, effect, and extent of soil acidity.

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## Massachusetts Conference Has Attendance of 200

**A**T THE closing session of the M. A. C. conference, Francis Ouimet, former national open and amateur golf champion, characterized the low handicapped golfer as temperamental as a prima donna. "Unless the golfer gets away to a good start, his whole round for the morning is spoiled," says Ouimet, "and he has to blame somebody or something and generally picks on the condition of the green."

Approximately 200 golf course managers, greenkeepers, and golf enthusiasts were registered for the conference which was prepared by members of the winter school for greenkeepers at the college. All members of the school, with the exception of five students from the two-year course of the college, were greenkeepers or golf course managers. Connecticut, Illinois, New York, Minnesota, and Iowa are states outside of Massachusetts which were represented in the school. When the school started five years ago it was the first one of its kind in the country and due to lack of laboratory facilities and other factors it is necessary to limit enrollment.

## Exhibits and Speakers at M. A. C.

Numerous exhibits in regard to golf maintenance and golf course machinery were prepared by members of the class. The speaking program included "Testing of Seeds and the State Seed Law" by F. A. McLaughlin of the control service at the

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### GREENKEEPER STUDENTS AND THEIR INSTRUCTORS IN THE 1931 WINTER SCHOOL AT MASSACHUSETTS AGRICULTURAL COLLEGE

1. Harry Bairstow, two-year student at M. A. C.; 2. Julius W. Torok, Wee Burn Club, Norton, Conn.; 3. Dr. Davis, Botany Department, M. A. C.; 4. James F. Carberry, Lake Bluff, Ill., Shoreacres C. C.; 5. Timothy O'Connell, Sidney (N. Y.) G. & C. C.; 6. Sylvanus H. Martinage, Methuen, Mass., Merrimac Valley C. C.; 7. Sanborn Caldwell, Lynnfield Center, Mass., Sagamore G. C.; 8. Professor Gunness, Engineering Dept., M. A. C.; 9. George Figel, Turtle River, Minn., Bemidji C. C.; 10. Robert L. Mitchell, Salem, Mass., Kernwood G. C.; 11. Parker Moulton, Peabody, Mass., two-year student at M. A. C.; 12. Edwin Hansen, Concord (Mass.) C. C.; 13. Paul Wanberg, Waltham, Mass., Weston G. C.; 14. Carl Treat, Auburndale, Mass., Woodland G. C.; 15. Charles F. Carter, Cedar Rapids, Iowa, Kenmore G. C.; 16. Thomas F. Burke, Woburn, Mass., two-year student at M. A. C.; 17. Harry F. Quinn, Franklin (Mass.) C. C.; 18. Charles F. Bernard, Sandwich, Ill., Sannank C. C.; 19. James Twohig, Springfield, Mass., two-year student; 20. Henry J. Travers, Lexington, Mass., Paul Revere Club; 21. Henry J. Toole, Amherst (Mass.) G. C.; 22. Professor Markuson, Engineering Dept., M. A. C.; 23. Dr. Cubbon, Agronomy Dept., M. A. C.; 24. Professor Dickinson, Horticultural Div., M. A. C., in charge of winter school; 25. Joseph Whitehead, Cromwell, Conn., Middletown G. C.; 26. A. Wells Hare, Springfield, Mass., two-year student at M. A. C.

## Massachusetts Conference Has Attendance of 200

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college; "Appreciation of Landscape in Golf Courses" by F. A. Waugh, landscape authority from M. A. C.; and round table discussions on "Soils and Fertilizers," "Golf Course Drainage," and "Water Systems," led by members of the M. A. C. staff; "How the Massachusetts Golf Association Can Help the Greenkeepers" by Talbot C. Chase, president of that body; "Some Water Relations of Turf Plants" by H. B. Sprague of the New Jersey Experiment Station; "Some Interesting Facts on Golf Course Mowers," by L. S. Dickinson of the division of horticulture at the college and director of the winter school; and motion pictures which included golfing with Jess Sweetser and construction and other factors in golf course management.

## Wisconsin Course Emphasizes Greens Maintenance

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further the value of these talks, F. W. Duffee of the agricultural engineering department discussed the best kinds of mowers to select.

Detailed instruction in preparing soils during the construction of greens was given by O. J. Noer, formerly of Wisconsin's soils department. The subject of fertilizers was also assigned to Mr. Noer, and to C. J. Chapman of the soils department. E. R. Jones, professor in agricultural engineering, explained the drainage side of the question.

Pests that attack greens were, of course, a theme of vital interest to many of the greenkeepers. A. S. Dahl, disease specialist of the Green section, gave worthwhile instruction in controlling snow mold and

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Greenkeepers from five states are here in this group photo of the 1931 Wisconsin short Course.

large and small brown-patch. C. L. Fluke, agricultural entomologist, explained how to rid greens of white grub. Weed nuisances, their avoidance and control, were taken up by A. L. Stone of the agronomy department.

### New Features on 1931 Program

New subjects on this year's program were introduced by Kenneth Welton of the Green section, by J. G. Dickson, plant pathologist in the College of Agriculture, and by F. H. Elwell, professor of accounting at Wisconsin. Mr. Welton gave an excellent talk on the proper locations for

traps, and how they should be cared for to give the best service. Mr. Dickson's subject was that of the orientation of the green in regard to the snow problem in the northern states. Mr. Elwell, who is secretary of Maple Bluff G. C., Madison, in addition to his university duties, explained a new system of keeping accounts which would help to make a greenkeeper's work in budgeting a simple and accurate matter.

Besides giving clear instruction in the use of native plant materials for beautifying greens, F. A. Aust, of the department

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of landscape design, showed moving pictures which demonstrated a practical method of tiling around trees for subirrigation purposes. The moving picture machine also came into play for illustrating how various diseases appear when they affect turf, and for showing views of experimental plots where work in growing different kinds of grasses was being done.

Discussion and laboratory periods were as practical as both students and faculty members could make them. The discussion periods were rich in worthwhile experiences which the greenkeepers themselves related. The laboratory periods, held each afternoon, gave the men opportunity to study drainage and soil problems, to see the latest and best in mowers, and to examine grass and weed seeds.

## Fine Varied Program Given at Penn State

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Featuring the program Thursday afternoon was the effect of soil fertilization on the development of grasses, weeds, and fungus diseases. Professor H. W. Popp, of the department of botany, presented the nutritional requirements of plants. He pointed out the important life processes of plants, including the intake of nutrients and the manufacture of compounds.

Professors Patrick and White discussed the nature and value of fertilizer materials.

### Green Section Experts Help

Friday morning the conference continued the discussion of the effect of soil fertilization on the development of grasses, weeds, and fungus diseases. John Montieth, Jr., Greens Section, U. S. G. A., presented the relation of soil treatment to fungus diseases. Professors White and Patrick gave the results of experimental work dealing with the development of turf grasses and the control of weeds. Professor White then summarized the fertilizer recommendations for fine turf grasses.

Starting February 2 and running until the conference opened was the annual greenkeepers' short course. Nineteen men attended this and also stayed for the conference. They were Allison, Beck, Cruikshank, Derr, Dygert, the two Erbs, Evans, Frable, Grosjean, Henriksen, Hornby, Lenikus, Ludwig, Rye, Snyder, Swan, Wolford, and Wrye.

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lems, machinery, drainage, and irrigation were studied and applications made to fine turf management.

Discussion and laboratory studies covered the origin, formation, and physical properties of soils, soil acidity, and the purchase, mixing, and use of fertilizers and lime.

### Feature Lab Work

Class room and laboratory work was done on classification, identification, and propagation of the important fine turf grasses, including seed identification and analysis.

The characteristics, life habits, and control means of the various weeds common to golf courses were studied, and weed seeds were identified.

A brief study of the insects affecting fine turf grasses was made with reference to their control.

Considering the nature of diseases and their effect on plants, the principles of prevention and control were applied to turf grasses.

Landscape problems included factors determining the location and layout of golf courses, and study of golf course plans, grading, trees and shrubs for golf courses and club house grounds, identification, special uses, planting, and maintenance.

A detailed study was made of gasoline engines, their operation, repair, care, and adjustment. The location, design, and construction of tile drain systems were covered. Power requirements, design, and operation of spray irrigation systems, pipe friction, pipe sizes, and pumps were studied.

Members of the faculty of the Penn State school of agriculture took care of the instructional duties.



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## Initial Michigan Course Draws Eighty Students

(Continued from page 28.)

from the associations of the state and from the U. S. G. A. through its representatives."

Program of the Michigan State College included:

Recent Developments in Greenkeeping—Representative of U. S. G. A. Green Section.

Soils and Fertilizers—Prof. G. M. Grantham.

Laboratory Study of Soils and Peats—Dr. Harmer, Prof. Grantham—Soils dept.

Grasses for Golf Courses—Representative of U. S. G. A. Green Section.

Round Table Discussion of Grasses—Led by Representative of U. S. G. A. Green Section.

Drainage Problems—Prof. Robey, Agricultural Engineering dept.

Landscaping the Golf Course—Prof. Haligan—Landscape Architecture dept.

Gas Engines—Prof. Musselman—Agr'l Engineering dept.

Laboratory Study of Gas Engines—Prof. Musselman and staff.

Service Offered by Botany Dept., M. S. C.—Prof. Muncie—Botany dept.

Turf Diseases—Representative of U. S. G. A. Green Section.

Round Table Discussion of Turf Diseases—Led by Representative of U. S. G. A. Green Section and Prof. Muncie.

Weed Control—Prof. Megee—Farm Crops dept.

Mowers—Prof. Musselman.

Service Offered by M. S. C. in Insect Control—Prof. Pettit, Department of Entomology.

Control of Turf Insects—Representative of U. S. G. A. Green Section.

Round Table Discussion of Insect Control—Led by Representative of U. S. G. A. Green Section and Prof. Pettit.

Grass Seeds—State Seed Analyst.

Round Table Discussion of Problems in Greens Management—Led by Representative of U. S. G. A. Green Section.

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