GREENKEEPING short courses continue to demonstrate great interest and value to greenkeepers, although club officials and members for the most part are entirely unaware of the benefits the golf courses are receiving from the greenkeeper tieup with the faculties of state agricultural colleges.

Interest this year at the Michigan, New Jersey, Pennsylvania, Iowa, Minnesota and Massachusetts conferences made it very evident that the status of technical knowledge in greenkeeping is advancing. This year's programs were keynoted to probing and simplifying phases of course maintenance work covered in previous short courses rather than to new subjects. Cost accounting and labor management began to command much time in discussions, as might be expected considering the general situation.

Leadership in turf maintenance methods has been so plainly shown by greenkeepers that this year's greenkeeping short courses had the largest attendance of park, estate and cemetery superintendents ever present at the schools. Attendance by these people has been increasing steadily at the short courses which were established through the earnest solicitation of greenkeepers for the primary good of golf. Greenkeepers, of course, are pleased that the work instituted at their solicitation and so ably conducted by the state college faculties, is receiving this recognition outside of the golf field.

Why Don't Clubs Stand Cost?

But what the bewildered greenkeepers can't understand is that they pay out of their own private funds their expenses for this education that is reflected in improved course condition and greater economies while practically all of the cemeteries and private estates and the large majority of the park systems pay expenses of their men to these short courses as a sound, highly valuable operating expense. Maybe you can explain this failure of golf club officialdom.

There is deep study and lively discussion at these schools. The men go with the idea of studying and the school faculties give them programs that mean thousands of dollars saved to golf clubs each year.

John Anderson, formerly president of the National Association of Greenkeepers, tells highlights of the short course at Rutgers, the New Jersey state agricultural college. Says Anderson:

52 Attend Jersey Meet

"The opening day saw 52 entrants including some from New York, Pennsylvania, Massachusetts and Maryland, an eager crowd all anxious to get some knowledge about their particular problems.

"Those boys had to be sharp in order to digest all that was put before them that week at Rutgers. It was five days of cramming and then some. Some of the fellows who had been through this class a few times previous had a chance to follow through many of the subjects presented; but I am afraid the beginners had more than enough to ponder over. It was certainly a grand week.

"Sessions were opened by Dr. H. B. Sprague who discussed pure cultures and association of turf plants, including climatic factors such as rainfall, distribution, type and amount, temperatures both normal and extreme.

"Prof. Linwood L. Lee lectured on soils; soil classes and types in various regions and their relation to plant growth. Professor Joffe's first lecture which took three hours was on soil physics and physical properties of the soil; particles, pore space and specific gravity, different types of moisture and how they affect the plants. Joffe had the fellows scratching their heads when he told them about the aerohydro-thermal condition of soil.

"Prof. E. R. Gross, talked on and demonstrated drainage in all its phases. Prof. A. W. Blair's fertilizer lectures were well
The candid camera was given a real work-out by Harrison Fisk at the recent Massachusetts State Recreation Conference and we reproduce here some of his better shots. The rapt listener directly above, for example, is Robert A. Mitchell, president of the New England Greenkeepers' Club. The threesome to his left are (l. to r.) Kent Bradley, Jack Harvey and Guy C. West.

Immediately below at the left is Prof. L. S. Dickinson, father of the Conference and sparkplug of Mass. State's justly famous greenkeeping short courses. He spoke on "The Hawthorne Valley System of Fairway Watering."

Right, second row, is Carlton Treat, (Montclair CC), snapped as he left after the lecture on "Golf Course Design and Construction" by Robert Trent Jones, golf architect, whose well-known grin is preserved for us in the third row, right.

In that same row, at left, is Arthur Anderson and friend discussing one of the lectures, perhaps "The Behavior of Fertilizers in Soils," which was given by George B. McClure, soil technologist of Ohio State university. An action shot of McClure during this lecture appears lower left. In lower right, Howard Farrant (The Country Club, Brookline) and Charles Parker (Wianno GC) are shown listening to the lectures.
worth following and his demonstration on how to mix your own fertilizer was a 'knockout.'

"Prof. A. L. Prince chose for his subject, soil acidity. He discussed importance of soil reaction and nature of and causes, types of soil acidity and remedy, the pH scale and its interpretation, also tests for soil acidity. In one of his lectures Prof. H. R. Cox dealt with forms of lime and use in growing grasses, how much lime to use to correct soil acidity of a given pH for a certain crop and in certain soil.

"Dr. R. L. Starkey in one of his lectures stressed the importance of having organic matter in the soil, from its plant food value and its physical and biological affects. He also discussed the sources of organic matter and what to expect from the peats, manures or composts under different conditions and varying stages of decomposition.

"Miss Jessie Fiske, Seed Analyst at the state college, gave an interesting lecture on grass seed, testing and identification. She then took them into the laboratory and showed them how different tests were made for purity, germination and let them have a whack at identifying the seeds for themselves.

"Dr. R. P. White lectured on plant diseases and their control. You should have heard this fellow White discuss the different parasitic fungi and bacteria and how they injure and cause disease in the grasses and other plants, and also the many and different varieties of chemicals and other means that have to be adopted to cope with those diseases.

"Dr. Sprague came into the picture again and gave the men pointers on caring for turf and starting new turf on fairways and lawns. He also gave a summary of some results of their fertilizer experiments on turf grasses at New Brunswick.

**Offers Bulletins On Turf Pest Control**

"Prof. Clyde C. Hamilton, associate entomologist at the Experimental station told the class of experiences in the control of insects and pests. Dr. Hamilton was asked many questions on the chinch bug, ant, mole, and beetle control, and gave out bulletins regarding these subjects; the information of which he had collected from his own and his associates' experiments all over the country. These bulletins can be had by anyone writing to Dr. Clyde C. Hamilton, care of New Jersey Agricultural Experimental Station, New Brunswick, N. J."

At Iowa State college, March 1 and 2, a hundred greenkeepers and members of allied professions, gathered for the biggest short school in course maintenance that the state college had ever conducted.

**Iowa Courses Helped by College**

The Iowa situation is unique. Not only has the State College gone into a WPA golf course construction and maintenance program that keeps the faculty close to the practical problems of golf courses, but the state Greenkeepers' Assn. and the college have had the closest sort of working arrangements during the past several years. Prof. Vernon Stoutemyer who has been engineer of the short courses, and other members of the faculty, headed by Professors Pickett and Firkins have pitched in and contributed such practical help that the tall corn territory can lay good claim to having the best general standard of large and small course maintenance of any state in the union. If you want to argue about this, go to Iowa but don't write us.

A guest artist lead off the Iowa program. Prof. L. S. Dickinson of Massachusetts State college spoke on "The Profession of Greenkeeping," counseling an executive and economical character of management rather than the mower-jockey and gang-boss type of course operation which misses opportunities to improve the course, save money and build up the greenkeeper.

Warnings from all over the country were echoed by Herb Graffis, GOLFDOM'S editor, in a talk on comparative course costs. Graffis reported comments from experienced green-chairmen who detailed the difficulties of trying to compare costs of one course against another as inexperienced chairmen often try to do. However, he gave voice to the observation of many greenkeepers in reciting that course costs, already cut tremendously because of labor reductions since the depression started, were due for keener study due to hiking labor costs per man. He forecasts that cost study would be recognized as an expert study in determining trends of management, just as fertilizer, disease and weed problems required the attention of specialists.

B. J. Firkins of the Iowa State college faculty presented some specimens of topdressing supplied by greenkeepers attend-
This fine turn-out of 80 men attended the Iowa State conference.

The hardy Norsemen want the whys and wherefores and got a bountiful menu served them on the program. A practical novelty on the program was the lecture by Ralph T. King of the university's faculty on "golf courses as wild life refuges". King's address, which will appear in an early GOLFDOM, was rated not only by the assembled greenkeepers, but by such hard-bitten short school veterans as Dickinson and Noer, the most interesting short course address heard in years.

Program Covers Many Subjects

A. H. Larson experted on identification of plants and on plant structures and their functions, H. L. Parten on control of gophers, moles, ants and similar pests, and J. B. Torrance gave lectures and demonstrations on gasoline engines.

Along with those practical authorities were L. E. Longley, lecturing on nursery practice and on evergreens, Carl J. Eide of pathological effects of sprays and insecticides and the nature of fungi, and C. O. Rost, conductor of the short course, on soil conditions and plant growth and soil tests and their interpretation.

Prettying-up the clubhouse grounds was aided by Louis Sando who spoke on culture of annual and perennial flowers. A. R. Gemmel held a clinic on new diseases of metropolitan bent, A. A. Granovsky described factors affecting the occurrence of insect pests, W. W. Meyers told of the principles of plant genetics and A. R. Gemmel described plant movements in growth.

Prof. Dickinson, the Massachusetts State pioneer in greenkeeping short courses, lectured on control of turf diseases and the methods of keeping within the ranges of tolerance. Dickinson also
repeated his Iowa State lecture on the profession of greenkeeping.

How to find out what it costs to maintain a golf course was a most helpful lecture delivered by F. E. Roller of the Minnesota department of agriculture staff. Herb Graffis, GOLFDOM'S editor, followed up on a session held previously by Twin City greenkeepers and chairmen, with a talk on how the newer social concepts are affecting course labor management and budgets.

Kent Bradley and Sherwood Moor ably digest the year's concluding state short course by reporting the Massachusetts State college course which has grown into a recreational conference.

From the ringside, write Bradley and Moor:

Conference Attracts 1,000

Nearly one thousand visitors were at the Fourth Conference on Outdoor Recreation held at Massachusetts State college, in Amherst, March 11 to 14. While most sports activities were represented, golf is still in the lead in interest and attendance. Professor Dickinson's winter greenkeeping school has grown to six-ring circus proportions. As usual, golf superintendents from many geographical sections attended this year. Twenty-five were at the regular and advanced courses.

Arthur Anderson of Brae Burn told what the school has done for him, mentioning that records he keeps now mean something. He learned to think further, and make keener observations. A desire to make further investigations in pertinent subjects was aroused, and a clearer understanding of all course factors resulted. Anyone who takes the short course is in an excellent position for advancement when the occasion occurs. (Anderson was able to take the helm at Brae Burn, when the late John Shanahan died.) Although Arthur took the first course of study 10 years ago, he is still realizing returns from it. (Anderson was able to take the helm at Brae Burn, when the late John Shanahan died.) Although Arthur took the first course of study 10 years ago, he is still realizing returns from it. To-day's course of study is much further advanced.

Robert Williams, of Chicago, told why he came back and studied in the advanced course. Unorganized facts in his mind have been put in order, he learned to think, and not jump to hasty conclusions. His work is now interpreted in a business-like manner which is more professional.

Geoffrey Cornish, a student from Canada, read a paper on course labor, mentioning that the education standards of greensmen has gone up. There are more high school men working on courses today than in any other year. Quoting him from notes taken, "Labor qualifications, ages 21 to 31 prime; race not essentially a basis for qualifications; consider ability to tackle any job assigned. Mental and physical strength should be an important factor. Should have good self control; enjoy job; a good judge of time required to do given tasks; able to think for himself. Farm-raised men best; those used on construction not always best for maintenance. They should be regarded as skilled craftsmen if they meet course requirements, although many clubs commit folly of not paying to get and keep them. Wages too often the least the men will stay on for. We need the same type of men that are being reabsorbed by industry; we can compete with industry only if players help them with jobs in their firms over the winter months. We can capitalize on the fact that the work is more healthful than indoors. The character of course superintendents is important to hold laborers, giving no special favors, and posting them on club politics. It is up to us to make conditions right for our men, to avert trouble. Outside labor leader interference will cause many clubs to close, or increase use of machinery, with smaller and higher paid crews."

Ed. J. Casey of N. Y. C. Metro, district discussed maintenance section systems. Although section system may call for extra equipment, it renders great saving in time and money, inasmuch as time is the limiting factor. A decent section shanty need not be hidden. Can be utilized for player convenience also. In case of fire, if one central shed burns, all tools are lost, while there is less risk on this if tools are in sections.

Cites Value of Greens Courses

Roland H. Verbeck, director of Short Courses, presented the certificates of merit to the students. He mentioned that 240 enrollments were made up to this year by 183 men, many of whom also took the advanced courses. While a ten week course costs about $200, these men realize a net personal return of at least $1,000 per year thereafter. He brought out the fact that one man who took the courses gleaned information from one conference only that saved his club $2,200 in one year. This is an important factor, emphasizing the fact that clubs are benefitted
by underwriting professional improvement of their superintendents! This stamps as false the saying that the course is turning out unqualified men.

Gives Lecture on Canvas Hose Watering

Professor Lawerence S. Dickinson discussed the Hawthorne Valley CC fairway water system. Porous canvas hose is used to irrigate strips 300 feet long by 20 feet wide. Under low pressure, irrigation is placed where and as needed by a man who keeps moving the hose. Water and root penetration is good and deep but soil porosity and ability to take a large amount of water in a short time is an important factor. One man waters 18 fairways in five days. Water is applied on the average of once every three weeks during the dry season.

Dr. Geo. B. McClure, of Ohio State university, gave a technical pair of addresses on the behavior of fertilizers in soils. Movement downward of the chemicals to the roots depends largely on irrigation, often to the extent of flooding that gives adverse results. He stressed the importance of getting fertilizers down in the root feeding zone.

J. N. Everson recommended applying water with common sense, regardless of whatever means was used; the ideal condition is when the soil has 50% of its full water-holding capacity.

Dr. W. S. Eisenmenger, Mass. State college spoke on the effect of poisons applied to soil for insect or fungus control. Another Mr. Baker spoke on archery golf, the fall and winter being best time to participate. Equipment need not cost over $200 for 18 holes.

Clinton K. Bradley gave a war correspondent’s account of the Brown Patch Battle. He kidded all participants, warned of the greater danger of brain patch than brown patch, and showed how $375 was saved for other needs by a single investment of a temperature recorder costing one tenth this amount.

Robert Trent Jones, of the firm Thompson & Jones, gave two talks on golf architecture. He stressed the mutual responsibility of the architect and the golf superintendent, said the better golfer plays to the pin regardless of location, the less skilled player shoots for the green and then putts out.

James B. Gill of the Buckner Irrigation Co., in his talk on the mechanics of irrigation, said the best system in the world did not include the brains to operate it. The superintendent’s judgment on the operation and use is very important. He cautioned to go after results, and not make a toy of sprinklers by using them too often. Each course is a distinct and separate problem, and the course determines the system design. Proper system design keeps down initial and future costs.

R. W. Speiser of the Worcester Lawn Mower Co., spoke on codes of ethics. Dr. DeFrance of R. I. State college advised that the 14276 strain of grass is now accepted and named “Piper Velvet Bent”, in honor of the deceased man who did early turf research work. Dr. Erwin of the same connection spoke on pink patch turf disease.

Jack Gormley, professional at Wolferts Roost CC, Albany, N. Y., read a soul-inspiring paper on “Greenkeeper” recognition.

NAME of the National Association of Greenkeepers has been changed to the American Greenkeepers’ Society, effective in 1938. Dues of the organization were raised to the former rate of $10 a year.

Change of name and the dues increase were subjects of lively debate at the Washington convention but were approved by a substantial majority.

The former dues income together with profits of the annual convention sale of exhibition space barely permitted the organization to get by. With increasing demands for organization activity and an expanding field of recognition and service, it was decided that the $10 annual dues would be acceptable to the many greenkeepers who have found affiliation with the group a profitable move, as well as to those contemplating joining.

ALMOST 30 years ago a New York newspaper man gave a young Scot, who had just landed to take his first pro job in the States, brief but comprehensive advice that can’t be beaten as a tip to young pros today.

Said the journalist to the Scotch laddie: “When you get that job do everything you can to make yourself indispensable to the club.” The kid who took the advice was Jack Mackie. Mackie now is in his 20th year at Inwood CC. He held two other pro jobs prior to his Inwood connection.

The journalist who gave Mackie that advice was P. C. Pulver, veteran golf writer and editor of the PGA magazine.