FROM the greenkeeper's standpoint the most important thing to consider in the construction of a country club is the cost of future maintenance. For without proper maintenance any club will deteriorate no matter how well it was constructed.

We well know that certain work must be done, and at clubs where precautions have not been taken into consideration the cost of maintenance is generally excessive, or conditions poor. Multiply this overhead by the number of years you intend to keep any club and the figures become startling. Of course, the larger and more pretentious the club the larger is the overhead.

To the average man a golf course merely consists of so many holes and a clubhouse—nothing more—and these he sees first and last. But the greenkeeper's first thought is the shop, the tools and machinery, the service roads, the compost yard and soil supply, the drainage and irrigation system, for on these depends his success.

Fertilization

ONE of the most important facts to be taken into consideration is that of fertilization, and I take pleasure in calling your attention to Mr. John MacGregor's article in the National Greenkeeper of May, 1930, entitled "The Why of Poor Fairways," in which he says that $400.00 worth of fertilizer will go further toward improving impoverished fairways than $700.00 worth of seed; also the article of Mr. James A. Smith entitled, "The Life and Activities of Soil Bacteria".

In connection with this subject I might point out that I know of no club in America that takes advantage of the fertilizing values contained in greater quantities in water drawn from your own lake, plus the fact that it is warmer than city water—drawn directly from mains.

Water and Drainage

TWO very important features are the water and drainage systems, and too much cannot be said regarding these two points, for without adequate water and a drainage system that functions right, trouble is bound to come (disease, drought, wet grounds, etc.)

A careful chemical test should be taken of the water used, in order to avoid the experience of the Chicago Golf Club. A few years ago they tried to create an acid condition on their putting greens, but no matter how much acid-creating fertilizers used they were constantly becoming more alkaline. An analysis was taken and the discovery made that hundreds of tons of lime was distributed through their deep-well water system.

In the more progressive clubs of America today they are installing automatic watering systems, thereby eliminating a vast amount of man labor and hose. In my humble opinion no better investment can be made than to install such a system calling for from 100 to 110 pounds pressure, covering every fairway on the course. It is also my opinion that the most economical manner in which to create this pressure is through your own water plant, and this not only from the standpoint of cost but from the standpoint of food-values found in greater quantities in water drawn from your own lake, plus the fact that it is warmer than city water—drawn directly from mains.
tained in kitchen scraps. They generally go into the incinerator or the garbage can, thereby losing hundreds of dollars worth of plant food values annually. These should go into a special compost pile constructed for that particular purpose and treated accordingly.

**Nursery**

Every club should have an adequate nursery, not only for grass, but for trees, shrubs and flowers as well, on which it can draw at a nominal cost for its requirements, and these requirements are constantly increasing in the modern up-to-date clubs.

**Shop, Storage and Service Roads**

It is expensive, and may prove dangerous, to send to the factory for repair parts, or to a machine shop or garage to have machinery repaired. Therefore, every club should have a shop, with a competent mechanic in charge, and garage to cover every emergency; also adequate storage space for seeds, fertilizers, tools and machinery. Shop and storage barns should be as close to the center of the course as possible.

It is also an advantage, in order to save time, to have storage for machinery and tools at distant points. These storage places can be combined with the customary shelters without detracting from their beauty.

Much damage to turf can be avoided and a saving of time be had by having good service roads connecting with the pump house, compost yard, tool house, machine shop, clubhouse and distant points.

**Labor**

A careful study of labor conditions is very essential. Local labor is sometimes hard to get and generally unsatisfactory. Under such conditions good labor must be found at distant points. It is my experience that more satisfactory results can be obtained by supplying adequate living quarters for the greater part of this help on the grounds, if possible. Such resident labor would form a permanent and reliable nucleus on which one could depend in all emergencies, (cloudbursts, storms, droughts, fire, etc., etc.).

Rigid, stereotyped rules cannot be followed in the management, development and maintenance of any country club. What would be the correct thing to do at one club would be a mistake at another. The same applies to cost of construction and maintenance, due to difference in climate, soil, topography, water, transportation and labor conditions—not taking into consideration the aesthetic demands and differences of one club against the other.

**Greenkeepers Study Grub Control**

By M. E. Farnham, Secretary
Philadelphia Association of Golf Course Superintendents

The May meeting of the Philadelphia Association of Golf Course Superintendents was held on May 5th at the Huntingdon Valley Country Club. During the afternoon the three nine-hole units were thoroughly inspected as well as the nurseries which interested many.

This layout—one of the newer ones in the district, was built in 1926 when the club was forced to abandon its old course. Conditions show no signs of the comparative newness of the course.

Fifty-six members and guests were present at dinner and the meeting following. Among the guests were Mr. Kenneth Welton, U. S. G. A. Green Section; Mr. B. R. Leach of "Arsenate fame"; Mr. Geo. Cunningham, manager of the local service bureau; and Mr. C. K. Hollawell, the local county agent. Sickness prevented Doctor Monteith from being present so we were unable to personally congratulate the new father.

A dozen of our neighbors from Baltimore and Washington were also with us and it was pleasant that they were able to combine attendance at the meeting with observation of Japanese beetle grub injury which they anticipate. With this latter point in view the group visited me at the Bala course of the Philadelphia Country Club where the rough had not been grub-proofed before severely injured, while the fairways were treated with arsenate of lead in 1928. The protective effect of the arsenate is strikingly shown in these adjacent areas.

The fact that one of these Baltimore men fought a forest fire until three a.m. and left at four a.m. to drive to Philadelphia shows an interest which augurs well for the profession.