

# Tells Maintenance Practices in the Chicago District

By **ROBERT WILLIAMS**

Superintendent, Beverly Country Club, Chicago, Ill.

**T**HE Chicago golf area is some 75 miles long and 30 miles wide centering on the City of Chicago and covering approximately three counties. Within these limits there are some 150 golf courses.

Chicago is located on a crescent shaped plain which is about 580 ft. above sea level. The plain rises about 150 ft. above the lake level and is bordered inland by glacial moraine that rises to about 150 ft. above the plain. The topography does not significantly affect the air masses that usually approach the area from a southwesterly direction. Lake Michigan modifies the spring and early summer temperatures. On occasion the air masses move in from the northeast and produce heavy snows or rains after crossing over the lake area.

Our average annual temperature is near 50 degrees. Average daily maximum temperatures for June, July and August are 85, 88 and 82 degrees respectively. We normally expect 13 days of 90 degree or higher temperature in the year although in 1953 we endured some 42 days of such temperatures. Extremes have ranged from 105 degrees to 23 degrees below zero. Our summer humidity in midafternoon will average 55 per cent. With respect to growing grass you will realize we must contend with summers that are hot and humid.

Our normal annual precipitation is 33 in. It has varied from 45 in. to 22 in. Annual snowfall also averages 33 in. While we are called the "Windy City" our wind velocity reaches its minimum in the summer, averaging 9 miles per hour, and its maximum in the spring, 12 miles per hour, which falls short of the windiest sections of the United States.

## Wide Soil Variations

Our grass growing season normally extends from April 1st through October 30th. although there is a variation of as much as a month less in areas to the north and away from the lake influence.

Knowing something of the weather we should now consider the soil types in the Chicago area.

Naturally in a large area we find consid-

erable variation in the soil. Our surface soil is mainly of sandy clay loam and silt loams. We do have areas of peat, very sandy loam, gravel, and muck soils. At my own club we have 3 very distinctly different soil types on the one course. We have heavy clay, clay loam, and a very sandy silt loam. These variations compel us to treat some parts of the course differently from others. By the same token, general practice at one course might necessarily be entirely different from another due to soil conditions.

Generally speaking one might say that our soils are good productive soils. In the construction of most greens around Chicago a large quantity of native peat has been used and perhaps, in many cases, too liberally.

## Employment Problems

One of our biggest problems, and one which is rather well known to golf course superintendents most everywhere, is the problem of securing labor. In any large industrial center most laborers are employed by the factories and are well paid. During the past 15 years there has been little unemployment and especially so in industrial centers. Where, then, do we find our workmen? Most of our clubs have 2 or 3 men and occasionally more that they employ on an annual basis. These men have usually been with the club most of their lives, love their work, and are a great asset to the clubs.

For seasonal help we must depend on high school and college boys and older men who either have retired from their life work or who desire to get outside for reasons of health. In some instances our courses use considerable part time help such as firemen, policemen and others. About 75 per cent of our crews would be classified as skilled labor and the remaining 25 per cent would be semi-skilled.

Inasmuch as these men are skilled through practice rather than formal education one can readily see that a great deal of training must be given to all of these men. This becomes even more difficult when you realize that their work is



### CENTRAL PLAINS DIRECTORS PLAN RESEARCH

Directors of the Central Plains Turf Foundation inspect a bluegrass plot at the Kansas State College, Manhattan, experimental turf plots during a recent visit to the campus to lay plans for their 1954 research program. From left are: L. E. Lambert, supt., Oakwood G&CC, Dodson, Mo., president of the Foundation; Dr. H. E. Myers, K-State; Harold Glissmann, supt., grounds, Boys Town, Neb.; W. R. Yerkes, commissioner of parks and public properties, Topeka; Prof. W. F. Pickett, K-State, sec.-treas.; and Fred E. Wagner, McPherson arborist, vp. New species and variety mixtures of grasses—both cool and warm season—will be added to the work sponsored by the USGA, the Central Plains Turf Foundation, and Kansas State College. Research also will be continued on height-of-mowing and crabgrass control.

scattered over an area of 150 to 200 acres. Add to this the fact that 75 per cent of the staff is hired on a seasonal basis which usually means that a new group must be formed and trained each year.

The training of new personnel occurs during the Spring of the year when we are usually the busiest with the growing season and Spring application of chemicals. It is mainly due to this heavy load of training of personnel that it is most desirable to have an able assistant to the superintendent. The only solution to this labor problem that seems feasible to me is to minimize the problem by maintaining the largest force of full time employees that is consistent with both the funds available and the amount of work that can and should be accomplished during the Winter months. This would in all probability be about 6 men. At that rate 50 per cent of the staff would be well trained and available at all times.

#### Out-of-Season Work Program

Undoubtedly many golfers would wonder as to the requirements for as many as 6 workmen on the course during the non-playing season. Some of the tasks that

might be done are: removal of undesirable trees, pruning and bracing of trees, planting of trees and shrubs, repairing equipment, maintenance of structures, fence repairs, replacement of sand in the traps, winter sports facilities, cleaning out drain tile, and assistance to the club manager in the Winter renovation of the clubhouse building — just to mention a few.

As concerns the more technical aspect of our work, that of growing turf, let us start with the putting greens. The strains of grass now in general use in Chicago for greens are Washington (with numerous varieties), C-15 or Toronto bent, and the ever present, whether desired or not, poa annua. C-15 has gained prominence for several reasons. First, it is available in quantity and in close cut condition from local nurseries and, secondly, because it is such an early starter in the Spring and stays green much later in the Fall than the other grasses. Also it has the characteristic of growing upright without forming as much thatch as other grasses we have been using. The C-15 is rather vulnerable to large brownpatch and is not as hardy in resistance to heat as Washington is. The finer

strains of Washington are still producing fine putting conditions and are still the favorite of most of the superintendents.

### Reducing Disease Damage

Turf disease is still a major problem with us due to high temperatures and humidity, but is becoming less serious with more scientific study by our superintendents, cooperative research, and with improved products and equipment from the commercial field. Our main turf diseases are dollarspot, large brown, copper spot, helminthosporium, curvularia, snow mold, and pythium. Lesser diseases are anthracnos, algae and fairy ring.

We seem to feel that the annual use of ground limestone on greens during the Winter has reduced the frequency of dollar spot and that increased use of potash during the season has increased the resistance of grass plants to most disease attacks.

Since the days of Chlordane and DDT we have not been too concerned with insects on greens. By regular applications we have pretty well eliminated the trouble caused by angle worms, cutworms and ants. However, we are now observing that since we stopped using arsenate of lead, crabgrass and poa annua are more of a problem and in many cases superintendents are going back to the use of some lead regardless of its high cost.

Concerning topdressing; I suppose we are doing about the same thing that most other areas are and that is less and less use of topdressing materials. While I prefer to topdress all the greens at least once in the Spring, I sometimes only topdress a few. This is becoming a general practice. Now, too, that we have the Verticut mower we can keep thatch to a minimum and give more support to the theory of less or no topdressing. Those of us who have used the Verticut can testify that its use has definitely improved putting conditions thus far.

### Greens Watering Delicate

The irrigation of greens is probably one of our most precise jobs in the Summer months. Too much water invites compaction and disease. Too little allows wilting and loss of poa. While no set rule may be applied as to the frequency of application of water to greens, I believe one might say that in general we water our greens about every other day. Many of the clubs have changed over to the center sod cup and water valve in the greens to speed up the job by the elimination of hose.

A most important factor in greens maintenance is the height of cut. In this re-

spect we do not follow any specific pattern as a district. I believe most of the public courses cut at about  $\frac{1}{4}$  in. in the Spring and raise up to  $\frac{5}{16}$  in. in the summer. Some may go right through the season at  $\frac{1}{4}$  in. The private clubs generally cut down as low as possible in the Spring and then hold about  $\frac{1}{4}$  in. through the summer. Personally I start out about  $\frac{3}{16}$  and graduate to  $\frac{1}{4}$  and sometimes as high as  $\frac{5}{16}$  due to puffy types of bent on some of our greens. The amount of traffic over our greens seems to be a most important factor in this decision along with the type of grass that you are dealing with.

### Greens Fertilizing Varies

Fertilizing practice on greens is so varied that I shall not speak for anyone but myself. We usually follow a program that really starts about November 1st. At that time we apply an organic fertilizer at the rate of 20 to 40 lbs. per 1,000 sq. ft. We find that this brings the turf out much earlier in the Spring. Then during the Winter we apply 10 to 20 lbs. of agricultural limestone dust per 1,000 sq. ft. In the early Spring we apply 20 lbs. of 5-10-5 fertilizer per 1,000 sq. ft. From then on to Fall we use monthly applications of Nugreen and potash as a liquid spray at the rate of 1 lb. of Nugreen and  $\frac{1}{2}$  lb. of potash per 1,000 sq. ft. The Nugreen is 44 per cent nitrogen and the muriate of potash is 63 per cent potassium. In the Fall we usually use one or two applications of Milorganite. This is a very economical program when you consider that the monthly liquid treatments cost about 50 cents per application per green for material.

The weeding of greens is not too important when you are feeding well, except for crabgrass. To combat crabgrass we are going back to the use of some arsenate of lead and also beginning to use the phenyl mercury solutions.

Aeration of greens is another one of those practices that is hard to tie down as to general practice in our area. We all seem to have our own ideas as to the proper method, even though we agree that aeration is needed. Knowing the variations in soil previously mentioned, there is no doubt need for various methods of aeration. At Beverly our need is not so much for soil cultivation as it is for soil and thatch perforation. We find it difficult at times to get water penetration through the turf.

As to renovation and rebuilding of greens surfaces; most of our clubs attempt to do one or two greens per year if needed.

*(Continued on page 82)*

the large audience and the short time, gave the supts. who were taking roles valid excuses for not giving or getting instructions completely or clearly, all the participants frankly admitted that the demonstration was one that emphasized the necessity of giving orders that were certain to be completely understood, remembered and followed.

Discussion brought out the wisdom of giving written orders in some cases, explaining the job on a blackboard or by pencil sketches in the maintenance shop in other instances, or having — as Norm Johnson has at San Jose CC, Jacksonville — large diagrams of greens areas in the shop to show the help exactly what the superintendent wants done.

In view of the many labor management problems confronting supts. it was the consensus at the Midwest conference that a session similar to that at Purdue be put on as a valuable feature of the Golf Course Supts.' national conference in St. Louis next January.

### **Williams Memorial Trophy for Air Force Championship**

A permanent golf trophy honoring Lt. Morris Williams, young Texan who died last fall in an aircraft accident, has been established by the United States Air Force.

The huge loving cup, to be known as the Morris W. Williams, Jr., Memorial Trophy, will be placed in the custody of the winner of the U. S. Air Force World-Wide Golf championship yearly according to provisions of the memorial.

Maj. Gen. E. J. Timberlake, who is primarily responsible for the trophy, presented the cup to Williams' parents March 2 in a public ceremony at the University of Texas.

Williams was a jet fighter-bomber pilot in Gen. Timberlake's Ninth Air Force at the time of his death last September. He was stationed at George Air Force Base, California.

He was never defeated in service tournaments during his military career. Williams held the All-Service championship competing against the top golfers of the Air Force, Army and Navy.

At the time of his death he was the U. S. Air Force champion and champion of the Ninth Air Force.

His previous titles included the Air Force Training Command championship, the Air Force Pacific Coast championship and the Hawaiian Coast Conference championship.

Before entering service he led the Texas University Golf Team to the Southwest Conference championship in 1948, 1949 and 1950. He also won the Texas Amateur and Texas PGA in 1950.

## **MAINTENANCE PRACTICE**

*(Continued from page 46)*

Many of our courses now have been in play since the turn of the century and the strains of grasses are not tolerant. Many of our greens were built without concern for surface drainage and are being rebuilt for that purpose.

Some of our courses are still maintaining a collar around the green of several feet that is cut at an intermediate height. This adds to expense in maintenance but is an asset to the player and general appearance of a green.

### **Tee Maintenance Differences**

Tee maintenance varies considerably in our district from surfaces similar to green condition to surfaces similar to fairway condition. At our club we have predominantly bent grass on the tees and treat them rather similar to greens. We cut our tees at about  $\frac{3}{8}$  in. and follow a fertilizer practice very nearly the same as for the greens. On occasion we treat the tees with fungicide. We do not plug the tees as we used to years ago but instead we use a mixture of soil and seed in the divot holes about once a week. We use ryegrass seed with some bent seed mixed in. Four men can cover all our tee divots that accumulate over a week's time in about 4 hours and it is usually done on Monday afternoon.

At Beverly we are continually rebuilding our tees to provide approximately 4,000 sq. ft. of teeing surface on all the holes. With adequate areas for tee marker placement we find much less wear on the turf. Several courses are trying Merion bluegrass on tees and the reports thus far are somewhat varied. Some seem to like it and some have not. Where Merion and bent have been mixed, the bent has taken over.

### **Fairways the Headache**

Fairways have probably given us our biggest headache in recent years. The players have demanded close cut fairway turf which has forced the courses with fairway irrigation to go to bentgrass on their fairways.

Then after going to close cut bent we gradually go into large quantities of poa annua in the fairways. Of course when the hot weather comes along we lose poa in

the fairways. Not all of it, but usually a considerable amount. At the same time we have pretty well learned to live with poa on our greens and tees. The main difference is in the degree of moisture control between the two areas. With this point in mind several clubs have already doubled their irrigation capacities for fairways.

We are planning to do the same with our fairway system in the near future. When we can go out and water all of our fairways in one night, we will have gone a long way in preserving poa annua.

The water shortage in the city supplies have also helped many of us to make the same decision. Last year many courses suffered when municipal water supplies were rationed during the drought. Several courses are trying to compete with the poa on fairways through sodium arsenite treatments and reseeding with bent. They have been successful where they have repeated the treatment every few years.

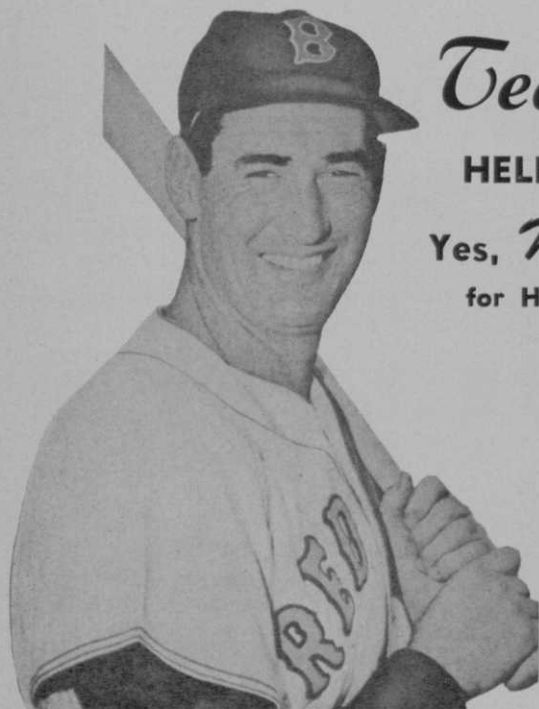
Clover control on fairways is becoming more evident all the time in Chicago through the use of 2,4-5T. Some superintendents are using the material in the Spring and others late in October. We are using very little 2,4-D on bent fairways

particularly in the Fall of the year due to ill effects to the bent grasses.

Insects gave us plenty of trouble last year on fairways in the form of a specie of the sod webworm. Large areas of lawns were killed out and many of the courses were hard hit on the fairways. We had three attacks during the season and neither Chlordane nor DDT seemed to have any effect on them. We expect to treat with arsenate of lead this Spring in an attempt to keep them under control. We expect also that the arsenate of lead will help to keep down the crabgrass population in fairways as it has been on the increase since the use of arsenate of lead has been discontinued. Also phenyl mercury will probably be used to help combat the crabgrass.

We have licked the angleworm casts on fairways through the use of Chlordane at 8 to 10 lbs. of toxicant per acre. This is a fairly cheap treatment and requires less than a day to apply.

Our fairways at Beverly are cut about  $\frac{5}{8}$  in. during the Spring and then raised to  $\frac{3}{4}$  in midsummer. In the Fall we usually go back to the closer cut again. Some of the other courses cut about the same and others cut higher at about  $\frac{3}{4}$  in. to 1 in.



## Ted Williams

HELPS YOU SELL SKOR

Yes, *New* SKOR Grip Cream  
for HANDS, GLOVES OR HANDLES

for GOLF  
and ALL SPORTS  
is now endorsed by  
TED WILLIAMS

---

RETAIL 50¢ PER TUBE

SOLD IN PRO SHOPS ONLY

---

SOLE DISTRIBUTOR U.S.A.

The TED BISHOP CO., Inc.  
101 Tremont St., Boston 8, Mass.

---

At Beverly we find that our need for fairway aerification is more of perforation than of cultivation due to thatching of the bent. Also we want to do the least possible amount of damage to the surfaces, so we do not impede the golfers. We are accomplishing this through the use of a new tine on the Soilaire machine that we have developed through the cooperation of Kenneth Goit of Soilaire Industries.

Our fairway fertilization program starts in March with an application of 6-12-12 at 600 lbs. per acre. We try to apply this chemical fertilizer before the grass starts growing and while we still have surface frost in the ground. The next fertilizer treatment is usually applied about July 15th. This time we use Milorganite at approximately 400 lbs. per acre. Milorganite

## PROFESSIONALS!



Increase your earnings!  
Regrip all clubs  
with...



*Finest "Feel"  
in Golf*

## Flange Wrap Grips

Obtain from your distributor

**C.S.I. Sales Company**

Solon Center Bldg. • Solon, Ohio  
Exec. Office: 536 Terminal Tower, Cleveland 13, Ohio

## EVERY GOLFER IS A CUSTOMER

for



Rolls like a Cadillac...

Carries like a Feather!



*WHEEL IT  
CARRY IT!*

**WEIGHS  
ONLY  
10 LBS.**

• **COMBO-CART** is always "at the lie." Takes the work out of Golf... gives you ALL the advantages of both a Golf Bag and Golf Cart, with none of the inconveniences! Won't tip or spill on steepest hill. Fits in your car!



**\$39.95 RETAIL**

### OPTIONAL COMBO-CART EXTRAS

DeLuxe Carry-All (illustrated on Combo-Cart above) ..... Extra \$5.95  
OR—Smaller Ball 'n Tee Bag ..... Extra 2.95

Also available: Rainproof Combo-Cart Cover with zippered opening Extra 4.95  
(Less Usual Dealer Discount)

Order Today—Immediate Delivery!

**BURKE INDUSTRIES, INC.**  
97 Chestnut Street, Newark 5, N. J.

is used again about the middle of August at the same rate. Our fourth and final treatment is applied in mid-September and is usually a 5-10-5 ratio material applied at 500 lbs. per acre. This program gives us close to 50 tons of fertilizer for fairways each year.

Another treatment for the fairways is sodium arsenite. We start in March and apply three or four treatments at the rate of 1 to 2 lbs. per acre. This kills back knotweed and chickweed and inhibits the growth of poa annua. As soon as the sodium arsenite treatment is complete we reseed any sparse areas with bent seed.

In our rough maintenance at Beverly and at several other courses, we have just this past year started to cut an intermediate height adjacent to the fairway and one swath wide with a five gang mower. This has eliminated the complaint by many players who found their ball just off the edge of the fairway and lying imbedded in a thick mat of bentgrass. We also cut the area between the tee and the fairway with this same unit so as not to handicap the women who many times cannot reach the fairway from the tee. Like the collars on the greens this also adds to maintenance

cost but pays dividends in appearance and improved playing conditions.

The maintenance of traps in the Chicago area is one item that gives us a characteristic completely different from many Eastern courses. We maintain a groomed appearance on the edges of our traps where the eastern courses usually allow the edges to become rough and the grass to be somewhat long near the edge similar to the way it is kept on the old courses in Scotland. We like the groomed appearance of a neat edge and some of us also add a sharp lip of several inches in the greenward side so that a ball will not roll out. During the Winter months when the ground is frozen we usually have our fresh sand hauled direct to the traps by the supplier.

A resume of our work in the Chicago area would not be complete without a brief mention of the functions of our Midwest Association of Golf Course Superintendents.

One of the most valuable services we render as an association is that of the consultation committee. We have this committee that is ready at any time they may be called upon, to go to any club whose superintendent is one of our members, and

**Build Up Range TRAFFIC  
Speed Up Range PLAY  
Increase Range PROFITS**

*with* **PRO-TEE**

**Tee off this year to greater play and profits by installing the modern, mechanically perfect PRO-TEE automatic teeing equipment.**

No clogging, locking, jamming or spill-outs with PRO-TEE's practical design and patented mechanism. It meets all range conditions—installed in the ground or on platform. Simple, rugged and dependable. Low in cost—easy to install.

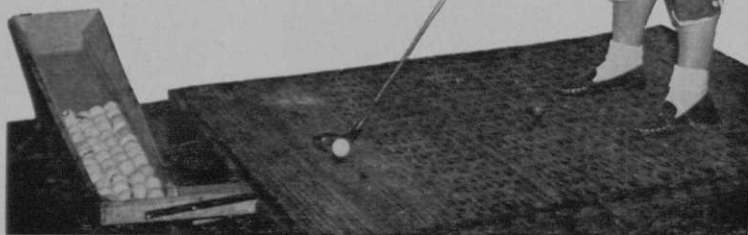
Immediate delivery for the start of your 1954 season. Write, wire or phone for complete details.

*Every PRO-TEE is backed by a responsible guarantee*

**SERVICE METAL FABRICATORS, INC.**

2350 W. 58th Street, (Tel: WA1brook 5-1400) Chicago 13, Ill.

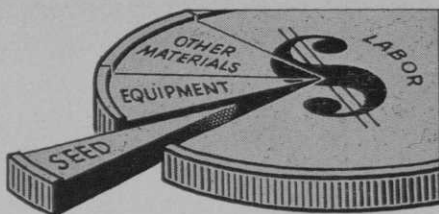
**Keep 'Em Swinging**  
The fresher your players stay—the more they play . . . and the more you profit.



go over his problems with him and give its suggestions as to the proper procedure to follow. Many difficulties have often been overcome or avoided by having several other superintendents come in this way and be of assistance.

This past December we launched a new program on education. We started a two day school that dealt primarily with one subject. The first school's subject was plant disease. We spent two days going over the subject in considerable detail and in microscopic study of the various diseases. Next year we are planning to put on a clinic dealing with soil study and look forward with a great deal of anticipation to assistance from James Watson of the Toro Corp., similar to the assistance and cooperation we received from Dr. Klomprens of the Upjohn Co. at our plant disease clinic.

We believe this sort of concentrated study will and should eventually replace the regular local turf conference as we now know it. After two days of basic study on one subject one feels that he is up to date on all new developments in that subject. Then, too, I believe that our agronomists, pathologists, and other specialists would



### The Smallest Slice of your course expenses can make The **BIGGEST** difference

Do your golfers wind up every round praising your turf? If you're not getting your share of compliments, you ought to check that vital 5%—the average course budget expenditure for seed. It's mighty important to spend that slice wisely for top quality.

Call upon Mock's for the newest developments in turf grass seed, sold either pure, or mixed to your special formula. Your inquiry will receive immediate attention . . . your needs will have Mock's specialized service.



**MOCK SEED COMPANY**  
PITTSBURGH 30, PA.

## A NEW ELM IS BORN

- Column-like stature
- Sturdy and ample crotches
- Strong anchorage — deep root system
- Vigorous growth — large leaves
- Great indestructibility
- Allows sun to get to grass



Drawing of chromosomes in a root cell. Advantage of healthy resistance to tree plagues; and is a mutation of American Elm.

Golf course superintendents have found this popular new elm variety ideal for enclosures, avenue and fairway borders, wind breaks, and boundary markers. For beauty and economy, it is unexcelled. Each scion produced by grafting so that all have the identical features of the original. Write to us for information. Publication, "A New Elm is Born," sent on request.



**AUGUSTINE ASCENDING ELM  
RESEARCH ASSOCIATION**

932 East 50th St., Chicago 15, Ill.





Recommended by Authorities

**KAPCO**  
AGRICULTURAL  
PRODUCTS

*best on earth*



*best on turf*

**KAP-OGANIC**

**THIS PURE ACTIVATED SLUDGE  
CONTAINS MORE PLANT FOOD!**

KAP-OGANIC contains 5 to 5½% organic nitrogen and 5 to 6½% available phosphoric acid. No other sludge gives so much safe, non-burning turf food so low priced for such uniform high analysis! Write for full details.

**Kapco Soluble Fertilizers**

Ideal for one-operation liquid feeding of Greens while spraying insecticides and fungicides. Complete selection of analyses are available.

See Your Distributor  
or Write Today for  
Our Price Lists



Look for this Label **KAPCO**  
McKEESPORT, PA.  
Division of Summers Fertilizer Co., Inc.

feel that they were actually doing more good through education that is so much more complete than merely giving a 45 minute report once a year. We found also that once a subject is developed for a clinic such as we held, it can be repeated for other local groups without a great deal of work in preparation.

Another way in which our local association plans to be of greater help to our superintendents and to our golfers is through a committee recently organized by Ray Gerber of Glen Oak CC. Ray has volunteered the services of his committee to the Chicago District Golf Association to work with its greens committee. We hope that through their cooperation we shall progress together.

**"HOMETOWN BOY"**

*(Continued from page 54)*

ner, followed by a bingo game, serving from 70 to 80 meals.

Each activity of the club is handled by a special committee, the chairman of each being under the supervision of a board member. This plan works like a charm. Every one is glad to do his part.

**Rebuild the Course**

Then we started on the golf course. During the past two years it has been completely rebuilt. The rocks we couldn't blast or bulldoze out were covered up. Hundreds of trees which caused lack of air drainage were removed. Good topsoil was brought in and new fairways built and sodded with Bermuda. Deep gullies were filled. Five greens were built, replacing the old ones which gave so much trouble every summer. Two brand new greens of 10,000 sq. ft. built correctly were opened for play last May. Most of these things were financed by my own money, as well as most of the new maintenance equipment. I have bought an Aerifier, power sprayer, two new greens-mowers, a heavy duty utility mower, and all the other things necessary for the proper maintenance of the course. I bought a new Verticut also.

I owe a debt of gratitude to Bob Dunning of Tulsa for teaching me how to build greens and maintain them. I know nothing whatever about it. All of this work on the course, with very little extra help, had been done by my chef Bob Neely and myself. We haven't even slowed down during the past two years and are still at it. In addition to all this, Bob has done an admirable job in the kitchen. Our only tools have been an old road grader lent to us by a neighbor, our tractor and a borrowed spring tooth