When and How Spiking Improves Your Putting Greens

By KENNETH WELTON

THE PRACTICE of spiking putting greens is not a new one. It has been practiced off and on by greenkeepers in this country for many years. It has usually been done as a purely mechanical means of softening putting green surfaces which have become hard and crusted. The theory is that the puncturing of many holes in the surface of the soil tends to fracture the solid mass, and that the combination of fractures and spoke holes allows the soil some slight movement under pressure which gives the green a softer or more resilient feel.

Spiking has also been used to break up crusts of soil which have formed on the surface due to faulty topdressing and other causes, which if not broken would smother the grass. The same is true of the leathery crust formed on the surface by the growth of algae. Many greenkeepers have spiked at certain seasons to aid in the more rapid absorption of moisture by the soil. Under certain conditions this practice has been very beneficial and has aided in the saving of many areas on greens which otherwise might have died from lack of moisture.

Some greenkeepers have spiked their greens with the idea of relieving a sour condition of the soil. In many cases the reasoning as to how this would be accomplished was rather vague and often entirely wrong, but the spiking usually gave beneficial results and hence appeared to substantiate whatever theory might have been held as to the trouble with the green and as to how the spiking would correct it. Spiking alone does not relieve acidity, which term is sometimes used as synonymous to sourness, but since the term "sour" is often applied to soil that is in poor condition for a variety of reasons, spiking often does give results which become noticeable in the improvement of the turf. A few spiking enthusiasts have claimed brownpatch control with spiking. In some cases an improvement in the soil condition due to the spiking has provided more healthy turf and hence the spiking can be said to have had a certain indirect control over the disease. However, unless the spiking is continued in such a manner that a definite permanent soil improvement is gained, any disease control by spiking is just about as specific and lasting as control from a change in the weather, or an application of lime, fertilizer, or topdressing might be.

Cultivation Benefits Soil

The real benefits derived from spiking in relief of sourness and disease, or improvement in growth of grass are mostly of a nature similar to the beneficial results obtained by the farmer by cultivating his soil. Even the most amateur of gardeners have an instinctive feeling that the soil should be loosened, turned over, exposed to the sunlight, and aerated in order to put it into good condition for the growth of plants, and the long list of proven benefits of soil cultivation need not be numerated here. When one considers that many putting greens have been in turf for 10 to 20 years, during which time the soil has not been cultivated it does not seem strange that many people in charge of turf have attempted from time to time to give the soil, by spiking or discing, the cultivation they feel it needs; and that often their efforts have been rewarded.

When a putting green needs tile drainage or should be rebuilt to improve surface drainage, the sods should be removed from the green so that while the tile are being installed and while grading is being done, advantage may be taken of the opportunity to cultivate the topsoil and that whatever additions such as sand, organic matter, and fertilizing elements are necessary may be made before relaying the sod. There are also some greens that have such poor soil condition that, regardless of whether they should be regraded or tile-drained, the preparations and changes in the soil may best be made by removing the sod. But there are many putting
greens that are not so bad in any of the above points as to require the immediate lifting of the sod provided adequate spiking and other necessary treatments are made.

Golf clubs dislike having to put a putting green out of play during the playing season even if a good temporary green is provided. It is not always possible to do certain work when the course is not in play on account of weather conditions, so that any means of working an improvement on putting greens without the necessity of tearing up the greens is of considerable advantage to the club. Spiking can not cure fundamental difficulties due to the wrong strain or variety of grass, disease, poor drainage, and in some cases poor soil conditions, but it may have value in the above cases by its temporary effect and there are a number of problems for which spiking may prove of great permanent value.

Topdress with Spiking

The effect of spiking in softening putting surfaces so that greens will hold approach shots better will be more effective and more permanent in nature if adequate topdressing is done in connection with the spiking. Whatever the effect is of puncturing numerous holes in the turf the soil will soon settle and close the holes. However, the effect of the holes in aerating the soil and in the absorption of moisture will become lasting if some good sandy loam topdressing high in organic matter is worked down into the holes. By working such material into the holes any number of small or large channels of porous material may be projected into a hard-packed soil so that the surface soil is gradually improved under the surface as well as on the surface by the successive spiking and topdressing treatments. In this connection several instances come to mind where greens were in such a packed condition that it was thought necessary to remove the sod to improve the soil but where spiking and working-in of a good prepared soil was practiced as a temporary relief until this major operation could be carried out. In the cases in mind the other fundamental conditions in the greens were good enough that after a number of treatments of combined spiking and topdressing the hard condition on the greens was so relieved that it was not necessary to tear them up.

The soil on many putting greens becomes so packed around the edges and on the high areas of the greens that it will not absorb moisture and even though the greens are apparently well watered these areas show signs of lack of moisture. The trouble is that the soil is too packed to absorb the moisture applied by hand or sprinkler quickly enough to get to any depth. Most of the water applied to these areas runs to the low areas where the surplus of water often causes more trouble. Spiking of these hard elevated areas is of great help in this problem and if the spiking is repeatedly and well done these high packed areas can be put into such a condition that they will absorb moisture. When spiking for this purpose it is also well to work an improved porous soil down into the spike holes in order to keep the holes open with absorbent material and to gradually effect a permanent improvement in the soil texture.

When deep spiking has been done and the holes filled with improved soil it has been frequently observed that the roots have grown down the channels of improved soil far below the surrounding roots. This is to be expected as roots find difficulty in forcing their way through hard packed soils. Certain minerals such as phosphorus, potash and calcium are also beneficial in improving the root growth but these minerals with the exception of potash are insoluble and do not readily enter hard packed soils. Certain minerals such as lead arsenate are freely used on putting greens for grub and worm-control and for this purpose it does not become effective until it enters the soil. The lead arsenate also is very insoluble so that on hard firm soil it will be much more effective to apply it in the manner recommended for certain minerals mentioned above.

Last but not least, there are many greens, especially creeping bent greens planted with stolons, that have developed a thick surface mat of partially decayed roots and stolons. This mat is often found to be more than two inches thick and is responsible for much turf trouble. This condition may be avoided by correct maintenance practices, but once developed it is
difficult to overcome. When a green gets in this condition it should first be checked for acidity. The soil bacteria will more quickly break down this accumulated organic surface mat if the soil is close to neutral or on the alkaline side. The bacterial action which is necessary to break down the organic mat will also be greatly stimulated by aeration of the soil, so that spiking, or discing, can be of considerable value not only in letting oxygen into the soil but in allowing the lime to enter in case it is found necessary.

I KEEP POA ANNUA
Fertilizing Practice that Keeps Poa Annua Greens During Summer
By JOHN MacGREGOR
Supt., Chicago Golf Club

POA ANNUA has caused greenkeepers more worry and sleepless nights than any other putting green grass because it dies out during the summer months—June, July, and August—the months in which there is the heaviest play. During the spring and autumn months, when play is light, Poa Annua greens usually are perfect.

What is the reason for this variability? Many have given their opinions on the subject, but none seems to be able to supply the remedy. Poa Annua is an annual as the name implies. It belongs to the bluegrass family, and bluegrass develops best in neutral or alkaline soil. It is very seldom one sees greens which are 100 per cent Poa Annua, as there usually is a fair percentage of either seeded or vegetative bent in those greens. Now I believe that the average greenkeeper does not cater to the wants of Poa Annua, but leans to the development of his bent, hoping that it will take possession of the green and in this way eradicate the Poa Annua.

I never have known this to happen, because Poa Annua is a prolific multiplier. It drops its seed at least three times a year, so no matter if the old plants die out, the seed will germinate and there will be more of the plants than there were before. Now why not cater to the needs of Poa Annua and develop a really excellent putting-green turf? It is agreed by all good golf players that Poa Annua makes a perfect putting green.

The proper method to pursue in developing this turf is first to have the soil analyzed to determine the acidity, alkalinity, available nitrogen, phosphorus, and potash. I am willing to gamble that in soils which show an acidity value of pH 5 to 6.5, Poa Annua dies out during the summer months—I am now citing my own experience. My last experience with Poa Annua dying out was June, 1933. I had the soil in the greens analyzed and found the acidity to be pH 5.6, and also a great deficiency in phosphorus. During the hottest week of that year I applied 25 pounds of hydrated lime per 1,000 sq ft. A week later I applied 15 pounds of 20 per cent superphosphate per 1,000 sq ft. Of course I watered the separate applications thoroughly. By the middle of August the greens were in beautiful condition. By the end of September I found the roots of the Poa Annua had penetrated to a depth of two inches. The roots continued to develop during the growing season. Before going into the winter the roots had penetrated to a depth of two and one-half inches. During May, 1934 I applied a complete fertilizer at the rate of 15 pounds per 1,000 sq ft. Although the spring season was extremely dry, I did not apply water to my greens until the first week in June. My reason for doing this was to encourage the roots to go deeper.

I applied light applications of ammonium sulphate only three times during the entire season. When I say light, I mean three pounds per 1,000 sq ft. This is the first time in six years that my greens have come through without the Poa Annua dying out. I should like also to draw your attention to the fact that I have not top-dressed my greens at all this year. The turf has been so dense that I don't know how I could have worked any compost into the grass.

The sooner this program is begun and carried through, the better. Do it now!
Ganson Depew, Section Chairman and Noted Sportsman, Dies

GANSON DEPEW, a leading gentleman sportsman of the United States, died at his home in Buffalo, N. Y., Sept. 25, following a two-week illness. He was 68 years old. He is survived by his widow, Mrs. Carrie Gorton Depew, and his daughter, Mrs. Lucia Depew Parkinson.

Depew was one of the finest fellows in the game. Probably the passing of none other of the grand men the game has lost in recent years has been felt with such wide, sincere sorrow. As an active member of the USGA official family Ganse had two tough jobs. One of them was as the head of the Green Section; the other as the head of the Public Links Section. He was a leader in Buffalo's financial, social and scientific life for 50 years as well as its ranking gentleman sportsman and when he took the job as chairman of the Public Links Section there were those who thought he was miscast. There is no denying that the public links championships were rather sorry affairs of pseudo-amateurism by work-dodgers in whom lar- ceny glowed. Ganse was evangelist, mentor, father-confessor and house detective in this field and to him more than to any other individual in this country is credit due for the high class sportsmanship in the public links event.

When he was made chairman of the Green Section he realized that the earnest efforts of the Section were not having the extensive value they should have because of a lack of friendly and understanding feeling among greenkeepers. So he packed his bag and turned missionary. One time, when the NAGA was having a convention at Chicago, Depew rushed from a corporation directors' meeting in Buffalo to the train, visited for a couple of hours with the fellows at the Chicago convention, addressed them and then made a wild drive in a taxi to get a return train for a bank directors' meeting the next day. Countless similar incidents tip off the Depew work in bringing the greenkeepers today into a keen appreciation of mutuality of sentiment and interest with the Green Section of the USGA.

There's no real reason for doubting that one of the things that caused the death of Ganson Depew was doing so much to help other fellows enjoy life. But he enjoyed life too, and during his 68 years he was blessed with the honors and enjoyed the happiness that finished him ahead of the normal score on sorrow and he had been heavily hit by sorrow, too. Ganson Depew was the last male of the distinguished Depew family. His son, a naval aviator during the war and later an assistant U. S. district attorney, died in 1924.

In his youth, Ganse was one of the tennis stars of his district. He began playing golf in 1896 on the three-hole course at the Buffalo CC. For many years he was chairman of its green-committee. He was very active in district golf affairs and held numerous official positions in district organizations. In civic matters he never slighted those onerous responsibilities many men prominent in public life usually handle casually. At the time of his death he was president of the Buffalo Chamber of Commerce. He was one of the four honorary members of the Society of the Cincinnati, the aristocrat of patriotic bodies. He also was an honorary officer of the Polish army and an admiral in the Kentucky navy. He used to hope that Kentucky and Poland never got into a brawl as he always wanted to do his best by all his friends.

Ganson Depew was an outstanding, lovely character, a rare combination of aristocrat and democratic gentleman sportsman. May his fine soul be led into the psalmist's green pastures, for on the green pastures in this country he enjoyed himself and we all enjoyed him.

THE FIELD of players for the Oregon coast seventh annual midsummer golf tourney, held in late August over the Gearhart (Ore.) GC course, was split into two age groups—players under 32 years of age formed one flight of 16 while players over that age formed another. Victors in the respective flights then played for the all-Gearheart championship.
Soil Must Be Built Right for the Permanent Golf Course

By W. F. THERKILDSON

FRIENDS, GOLFERS and Greenkeepers, lend me your ears that I may pour into them some choice advice, supplied by Nature in her effort to make unheeding man understand her everyday gestures of friendliness.

I've used the Utopian title of "The Permanent Golf Course" as a sort of vision of a greenkeeper's heaven. If it were possible to establish a college where accurate advice and instructions on permanent golf course building were available, I'd bet that the attendance of green chairmen, greenkeepers and golf club treasurers would burst its walls. However, "The Permanent Golf Course"—insofar as nature's limitations allow—is entirely within the range of attainment.

This world of ours pays such marvelous dividends for the exercise of so-called "horse sense" in our attention to plant life, that I sometimes think it is regrettable that man does not possess "horse brains."

A soil, or any soil—obvious as this statement may be—is just as efficient in plant nourishment as the materials from which it is built. I use the term "built" advisedly, for soils are built rather than made. One builds a house from materials manufactured elsewhere and so it is with soils. Nature makes the materials with which the efficient soil craftsman builds.

I've heard about those contributions of Nature which built something called "virgin soil." This general and extensively used name has come to be the common term by which the crop producing capacity of soils has been inaccurately measured. It does stand, however, for that ultimate value which man has arbitrarily fixed for ideal soils.

Greenkeeping Is Fancy Farming.

There is nothing new upon this earth and that goes for the things that are applicable to plant growing. The production and maintenance of greens, fairways and grounds is just another form of specialized plant growing. The greenkeeper must have a knowledge of soils in relation to his special crop of grass. He must know the requirements of the grass—with full recognition of just what Nature has prescribed for each kind.

Grass—nature's largest family—is found in hundreds of thousands of varieties. It has been said that "Grass is earth's carpet for the living and her blanket and benediction for the dead. Earth's scars are healed with grass and when man's highways and gathering places are abandoned, silently but surely, grass grows and returns to the throne that it may have temporarily abandoned, but never abdicated."

A beautiful thought, but how sincerely and fervently many greenkeepers pray for some of the desirable varieties to grow upon and thus cover the scars of the courses under their charge.

Well, friends, save yourself further worry and praying, for most of your troubles begin with the soil! "Sez who?" you shout. Believe it or not, Nature says so! Smart as you, or all of your technical and scientific friends may be, all of us are but kindergarten children when it comes to matching our knowledge against the fixed laws of nature.

A Grass for Each Condition.

In her great plan, she gave the earth thousands of varieties of grasses, each one as an answer to some particular condition of location, soil, or climate. For swamp conditions and wet places certain kinds were provided—I've seen hundreds of greens that were swamps as far as adequate drainage was concerned—but it is a curious fact that she gave us darn few kinds for brick yard and sand dune areas. Honestly, in trying to help some of my greenkeeper friends, I've wondered where or how they secured so much first class brick material to make their greens.

The sand conditions that I have observed, all presented an easily solved problem, as compared to these hundreds of sub-surface brick yards that baffle prac-
tically every effort, other than entire rebuilding.

Numerous times I have said and written and of course been disputed, that the all important factor in any soil is its content of organic matter (called humus). That statement is true, for without humus there is no bacterial activity and where there is no bacterial activity, soils are dead! Humus increases water-retaining capacity of sandy soils and establishes aeration and drainage in heavy soils. If used liberally, it improves the structure and fertility of all soils. Humus stimulates bacterial activity. It is constantly being decomposed, or digested, by soil organisms and such natural decay continuously liberates nutrients for plant development.

Five Keys to Good Turf.

In establishing a successful course—which applies to greens and fairways alike—the vital points are:

First—Permanency.

Second—Soils adapted to the grasses used, or vice versa.

Third—Avoiding over-stimulation in the desire to obtain a quick flash of green. This frequently occurs where the various ammonia agents are used as top dressing.

Fourth—Proper firming of soils. To be permanent, all turf areas must be made firm and kept so.

Fifth—Intelligent mowing and maintenance. These are the most common of fatal abuses. The way that these abuses occur are many and varied, but they arrive at the same general dissatisfaction and complaint.

When one undertakes course building, he must know that he is laying a soil foundation which will have to endure hard wear for a very long time. He must, therefore, establish not only the correct mechanical condition, but fill the soil areas with slowly available, basic naturals that the usually slow-feeding grasses can use. It is then obvious that he must be sure of his soils, mechanically and physically. He must know that unless the native soil is eroded and sterile (subsoil) there are natural grasses indigenous to that native soil which will grow, and that combating such grasses will be one of his chores. He must know that all grasses thrive only where the soils are firm enough to give immediate and close contact with the many fibrous roots that are necessary to provide constant support to the above-ground parts. He must prepare his soil area so that the young roots may quickly penetrate, deeply. Most grasses are heavy, though slow, feeders upon the soil constituency that is peculiar to the support of the particular grass. To illustrate: Bluegrass—the bulk of most fairway mixtures is bluegrass and redtop—is a grass indigenous to natural (not manufactured) limestone soils. Consequently it draws heavily upon the available lime content of all soils upon which it is sown. Bluegrass rarely does well in soils deficient in natural lime. A minor quantity of hydrated lime and a major quantity of ground lime rock thus become imperative in building a turf soil, where bluegrass is used. Redtop—as are all of the Agrostis group (which includes the numerous bent grasses)—is tolerant of and thrives better upon soils that run from slightly acid to markedly acid.

Nature took millions of years to build her natural, or virgin, soils and many course builders seek to equal that record in overnight soil preparation, by the use of chemicals. Such practices—particularly in the case of turf grasses, start every greenkeeper in the endless circle of more plant stimulation ... which demands more watering ... which develops fast soft growth ... which must be cut more frequently ... which requires more stimulation to equalize removed grass and to avoid susceptibility to disease ... which demands spraying and treatment, and so on ad infinitum.

Sandy soils (untreated) rarely produce good turf. Heavy clay soils are so compact that drainage and aeration are inadequate and crusts form; resultant turfs are undesirable on such untreated soils. Silt loams are, as a rule, the most satisfactory untreated soils for turf.

Disease Unlikely in Right Soils.

These natural types of soils should be thoroughly considered in building the long lived, or permanent green and the extensive fairways. If you have a certain type of soil and desire to grow a particular kind of grass, either give consideration—if you are familiar with its native heath—to the kind of soil in which it grows naturally, or learn from some authority what to do to make your soil as nearly natural a soil as possible, for that particular grass. When you have done that, you have started right. You will obtain a uniformly good growth and you will find your problems of disease will be few or none at all.
Some varieties of grass are more susceptible to the ravages of disease than others, but if conditions are natural, for each variety, then their susceptibility is but relative and they rarely become diseased.

No preparation of a permanent soil is of value if the final compost contains less than 10 per cent—by bulk—of organic matter. That is reduced to understandable figures by this illustration: Preparing to a depth of ten inches—which should be minimum—a layer of cultivated humus one inch thick should be thoroughly and evenly worked into the nine inches of top soil directly beneath it. If the soil is very heavy or clayey, or of sandy character, two inches of humus would be better—or 20 per cent.

Hydrated lime should be worked into clay soils at the rate of not less than 140 to 150 lbs. to each 1,000 sq. ft. On silt soils, from 110 to 125 lbs. per 1,000 sq. ft. On medium sandy soils, not less than 85 lbs. and on sandy soils from 50 to 60 lbs. to each 1,000 sq. ft. Lime always moves downward in the soil, consequently even distribution is essential and deep working of lime is not efficient.

When the soil is of loose, or open texture, apply 600 lbs. of a good grade of raw ground bone per acre. Spread evenly and thoroughly incorporate it with the soil compost. If native soils are naturally tight, as are clay soils, 500 lbs. will be enough. 100 lbs of muriate of potash will pay for its use, but in most turf areas it is not so important as bone phosphate.

Ammonia, in any chemical form, is a speed stimulant producing a quick, soft, unenduring flash of green. If used it should be mixed with cultivated humus—2 lbs. of ammonia to 8 lbs. of cultivated humus—and applied thinly and evenly as a topdressing and immediately watered in.

Most golfers get the grass urge in spring. That is natural but, curiously, spring is not the best time for seeding because of advancing temperatures and unfavorable rain fall. In all localities, eight weeks, figured back from the date of the first kill-frost, will be found to be the best for successful seeding. Spring seeding always suffers with the competition of crab grass, knot weed, foxtail, goose grass and other annual weeds, while late summer seeding misses these summer weeds. All desirable turf grasses grow slowly, so don't expect the impossible.

If these directions are followed, you will get a permanent course, providing good, high germinating seed is sown.

All plant life must have phosphorus, because phosphorus increases root development, particularly lateral and fibrous roots, thus increasing resistance to disease. It is also essential to normal cell development.

Nitrogen promotes vegetative or above-ground growth, of grass, but at the same time weakens and softens that growth and makes such stimulated growth susceptible to drought and frost and decreases disease resistance. It does, however, give a quick flash of green, which always fools the amateur.

Potash has local effect upon grass in that it helps in starch formation, also as a necessary component of chlorophyll, the agent that gives color to grass.

If your soils have been properly built, these chemical stimulants are of lesser importance in the start of the area than later. It follows, in older courses, that as mowings are made and clippings are removed, the soil becomes depleted. Don't get into the endless circle of plant stimulation, more cutting, more stimulation, more cutting, and so on.

The greenkeeper must be the judge as to grass starvation. If convinced of the need of nutrition, first try light, even topdressing of cultivated humus mixed with a good complete fertilizer, say 6-8-4, which is 6% nitrogen, 8% phosphoric acid and 4% potash. Mix 3 lbs. of this chemical formula with each 10 lbs. of humus. Carefully spike the area at least 4 ins. deep. Apply the compost evenly to cover about ¼ in. thick. Water in evenly and see for yourself how efficiently and at what low cost a permanently built course can be maintained!
Subsequent waterings must be deep and thorough. Allow the grass to completely make use of the water before watering again. Know that light, frequent watering does more harm than good.

Mowing Height Varies.

Where mixtures of several kinds of seed are used, as in most fairways, the grass should not be mowed closer than 1 in. and preferably 1¼ ins. Shorter mowing with most grasses, has a tendency to restrict root development, thereby limiting the grass plant’s power to resist drought. Where pure bent grasses are used, as on greens, the mower may be adjusted to cut to a height of % to ¾ in. on the first cuttings. Later cuttings may be made at heights in keeping with the greenkeeper’s ideas and the players’ demands.

These rather detailed instructions may seem primary in character to the experienced course builder or greenkeeper but, notwithstanding, it has been my experiences in talking with many of them that they give little consideration to the basic foundation of soil and more attention to the immediate problem or need. This sort of action is uneconomic and is, in a measure, comparable to a man continuously patching his roof—which should be completely torn off and reshingled—and then finding, after the patching, that the roof still leaks.

Plan New Jersey Short Course for Mid-February

ANNUAL SHORT COURSE in greenkeeping at Rutgers university, college of agriculture, New Brunswick, N. J., will be held February 18-23, 1935. Details of the course and its cost may be had on request from Prof. Frank G. Helyar, director of resident instruction.

Dr. Kellerman, Greens Expert, Dies at Washington, D. C.

Dr. Karl Frederic Kellerman, chief of the division of plant disease eradication of the Dept. of Agriculture and one of the world’s great plant pathologists, died following a brief illness, at Garfield hospital, Washington, D. C., August 30.

Dr. Kellerman was born in Gottingen, Germany, the son of Dr. W. A. Kellerman, late professor of botany at Ohio State university. He graduated from Cornell and after serving on Cornell’s faculty a year after graduation, entered government service.

He was a sound and interested counselor in USGA Green Section affairs from its inception and, for his interested service as chairman of the Section’s research committee, the Section’s active factors acknowledge a great debt to him.

Henry W. T. Dutton Takes Forest Hills at Augusta

HENRY W. T. DUTTON, famous operator of resort hotels in the north and south, and father of Henry Dutton, former secretary of the Club Managers Assn., has taken over operation of the Forest Hills hotel at Augusta, Ga. Dutton operates the Greylock hotel at Williamstown, Mass., during the summer season.

The Forest Hills will open for the season January 1. With Dutton at the helm, it probably will be headquarters for the pros during the Jones Tournament of the Masters.

Government Figures Show Big Slump in Sports Goods

BUREAU OF THE CENSUS, Department of Commerce recently released data on the government’s biennial census of manufacturers taken in 1934 which shows that the total value of products made by establishments in the sporting goods field slumped from $49,257,447 in 1931 to $25,267,452 in 1933. Figures given are f.o.b. factory prices. These figures do not include firearms and ammunition or sporting clothing or footwear.

If golf maintained the 40 per cent share of total sporting goods business that it held when figures on the previous census were made public, the f.o.b. factory prices of golf goods in 1933 summed up to $10,106,960. Figuring that the retail selling price of this merchandise in 1933 was slightly over $20,000,000 and that pro retail sales in 1933 were approximately $12,000,000 you have the picture of the pros’ importance in the sporting goods retailing picture.

Little bits of plant food,
Little grains of seed,
Produce the turf all golfers want.
And income all clubs need.

Let GOLDOM’s fertilizer and seed advertisers build up your turf and income.
Tom Ream is one of those bright ambitious young men who started out to learn all there is about the club and hotel business. As bell-hop, pearl-diver in the kitchens, and as locker-room boy Ream served his apprenticeship, a snooping, industrious, thinking kid. He spends his spare time now looking around clubs and hotels and learning from other fellows in the business. He goes on the basis that there are a lot of smart men who can teach him something. He looks and listens.

Ream has been manager of the Westmoreland CC (Chicago district) for the past few years and in that capacity has turned out a big league job of management at a distinguished club. Thoroughness, efficiency and immaculateness are factors that Ream insists his employees worship as he does himself. The commercial value of these factors shine out in the maintenance of the Westmoreland clubhouse.

For years he has kept scrap books of clippings from hotel and restaurant magazines, women's magazines and newspapers. In these books he files ideas that may be applied at his club. Frequent reference to this file and close observation of his members' reactions enable Ream to do work "on his own" and advance suggestions to the board for approval in a manner that rates him an ace with his employers.

An Idea Hunter.

Each year Ream tries to have some marked innovation in the clubhouse. This year an outstanding new feature has been a cocktail room in space that formerly was a women's toilet. It takes a brilliant manager to figure out a change in function that diametric. Smart new furniture that's not too costly Ream is quick to adopt.

Ream makes a speciality of presenting to women members new ideas in cuisine and service. He goes to almost as much trouble for Westmoreland's weekly bridge luncheons as he does for banquets because he knows what women boosters can do to build club business. Such successful experiments as the Westmoreland Coca-Cola parfait and other little features that he and his chef work out may result accidentally but more often are brought about by digging up hunches in his evening reading and talks with other managers.

When house budget preparation begins Ream has available the notes he compiled from a study of his scrap books and the notes he has made during the season. His notes have been filed by classifications. With this data he goes to work.

Managers who are acquainted with Ream's budgeting plan, many of whom Ream credits with having supplied ideas encompassed in his system, say it's the ideal system for preparing a house budget. The method protects the manager and gives the chairman and the board a clear and precise picture of present operating shortcoming and requirements. Complaints and observations of the operating season's defects are carefully analyzed and accounted for in budget preparation.

In detail the house budgeting work as
done by Ream is described by the Westmoreland manager as follows:

"In making up a budget for the coming year, I don't trust to memory. I keep a list of needed house items. We also project our budget on the basis of the preceding two years' actual expenses and observation of whatever oversights or possibilities for improvements have been noted after a careful survey of those years. We are able to do this, for we have a full membership each year—hence a definite income.

"Our expense is classified as (1) House maintenance; (2) Building repairs; (3) Entertainment; (4) Refurnishing account; (5) Restaurant replacements; and a departmental expense—restaurant—locker—cigars and buffet.

"Note of all items to be considered in the budget is kept during the year in a 'future work' file I have. If it is an ice cuber I need, I apply that to the restaurant budget. If it happens to be a new rug for the locker room, I apply it to the refurnishing account, and so on.

"I go over catalogues and investigate in other ways, to determine the price, size, stock number, etc., and write this data alongside the needed article.

"Before the budget is presented to the chairman, I go over it thoroughly so that I can present him with a complete picture of our requirements in a manner that will enable him to acquaint the board with our situation.

"Under the house maintenance budget we consider the following items: Manager's salary, operators' salaries, other salaries, board and room, light and power, fuel, laundry, ice supplies, repairs, furniture, fixtures and miscellaneous.

Repairs Given in Detail.

"Repair items are itemized, as for example: drapery and fixture repairs, repairing electric fly screen, rubber ends for locker room rugs, repairing outside furniture, repairing dormitory furniture and electric fan repairs.

"Supplies should be carefully itemized for the protection of the operating standard and for explaining to the officials why the general total of supplies sometimes seems high, but actually is conservative.

Among the supply items I note golf pencils, book matches, soap and cleaning compounds, disinfectant, deodorant, fly spray, hardware, uniforms for houseman and housemaids, broom, mops, pails, sponges, spring and fall flowers (before and after flowers from our own garden are available), floor wax, furniture polish, vacuum sweeper supplies, magazine subscription, toilet paper, car parking checks, sweeping compounds, refills for fire extinguishers, piano tuning and radio repair. Omission of any of these items, or other details, that in themselves may be minor, soon will represent a total that will mar the effective operation of the budget.

"Building repairs I itemize as:—Painting, carpenter work, electrical repairs, plumbing repairs, and miscellaneous. Here is where a manager does justice to his club and his own reputation only if he insists that the house be protected against undue depreciation."

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Dust Storms Hit Golf Clubs a Mystifying Blow

A LONG WITH DROUTH, web worms, grubs, crabgrass and a few other pests, golf clubs were plagued with a new and baffling mystery during the past season.

Storms of unparalleled severity, reaching from the Dakotas and Kansas to the Atlantic Seaboard, blew thousands of tons of finely abrasive dust over the country.

C. A. Tregillus, manager of A. D. Las-ker's Mill Road Farm at Everett, Ill., reported dust was so thick that the filters in his swimming pool became clogged and it was necessary to clean and drain the pool a number of times after the storms had passed. Several weeks elapsed before the air was cleared of fine particles.

Following these storms, many green-keepers began to complain of inability to keep mower blades sharp, and of undue wear on bearings. It seems that the storms had deposited on the turf minute, gritty particles comparable to emery powder in their abrasive action.

Moving machinery caught the brunt of the damage, but automobiles, farm equipment and all kinds of outdoor machinery suffered from the unnatural wear and tear. The welcome and badly needed fall rains have apparently put an end to the problem, but many clubs will be forced to replace gears, bearings and blades that otherwise would have gone through another season if conditions had been normal.

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URING a recent membership drive by the Ellinwood CC, Athol, Mass., non-members were offered the privilege of a round of golf over the course once free of charge, in order to familiarize themselves with what the club has to offer. As a further inducement to prospective members, all who signed up prior to August 10 were entitled to three free golf lessons from the club pro.