

SPORT MARKET SURVEY SHOWS Golf Field Is Greatest FOR BUSINESS DEVELOPMENT

Jerry Stedman of the University of Detroit faculty has been doing some interesting work in determining the sport market of the country as one of the practical applications of his merchandising instruction. This work, through association with a prominent Detroit advertising agency, brought to light some definite data that may be of value to golf goods manufacturers, professionals and course-owners, as an indication that the golf market has plenty of room for a big increase right before its eyes.

By courtesy of *Sporting Goods Illustrated-Chicago*, the three illustrations that show the major findings of the Stedman survey of a representative metropolitan dis-

trict market are reproduced here.

Some of the survey's facts worth study concern the potentialities of the women's market. It was found that 35 per cent of women office workers play golf, while only 30 per cent of the office men play, although the women do not play as much as men. Of 50 housewives interviewed only four who played golf were found. Of the housewives interviewed 76 per cent said they would like to play golf. Sixty-two per cent of the non-golfing office girls said they would like to play.

Pros' Winter Money-Maker?

Reports of the success of a "door to door" campaign of golf club selling, tips off some smart pros to what might be done with some of their spare time in the winter. Stedman says of this significant incident: "Macumber and Smith of Detroit, sent a salesman out to visit golfers in their offices and explain the new styles in golf equipment and, in his February operations, this salesman sold \$3,000 worth of golf clubs merely on the story that the prospect's present equipment now was out of date."

That the Detroit sales canvassing idea might well be adapted by professionals is tipped off further in the Stedman article, for he says, in presenting his findings to the sporting goods dealers: "A golf professional is in most intimate contact with golfers. They are influenced by him.



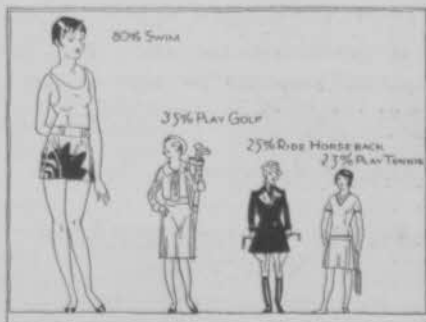
Those Who Wanted to Learn the Game

Mr. Stedman's survey showed that out of 300 persons interviewed, 248 wanted to learn golf and 129 wanted to learn tennis. Out of this total there were 77 actual golf players and 23 actual tennis players.



Comparison of Golf Activity—Men and Women

Of several hundred workers questioned by Mr. Stedman's staff, 35% of female office workers played golf, 30% of male office workers, and 4% of male factory workers were active in the game.



The Sports Preferred by Office Girls

Of a large number questioned by Mr. Stedman's staff, 80% preferred beach sports, 35% played golf, 25% went in for horseback riding and 23% played tennis.

STUDY OF THEORY SUGGESTS Composting Practice IS DUE FOR MUCH REVISION

By B. R. LEACH

AN adequate supply of suitable top dressing material is one of the most important of modern golf course essentials, but the present day methods of preparing topdressing, employing the compost pile method, is both laborious and expensive while the quality of the product obtained is not always of the best, as I shall proceed to show.

Let us consider for a moment the theory of composting. Composting, in the last analysis, consists in heaping together a mixture of animal manure or vegetable matter and soil, the ingredients in varying proportions with the object of inducing decomposition thereby rendering the mass homogeneous and of such a condition that it will be conducive to the growth of plants. Composting has been practiced for centuries not only by greenkeepers but by florists, nurserymen and gardeners. Greenkeepers still cling to the compost pile but the method is rapidly going out of use among florists and nurserymen, first because the method is unduly laborious and secondly because it has been found that there is a much cheaper and easier method and that the product obtained thereby is much more suitable for the purpose intended.

One would off-handedly suppose that the composting method should produce a topdressing mixture just about right for application to the greens when mixed with additional soil, but as a matter of fact this is not so. In the first place, a compost pile rarely possesses the proper moisture content for rapid decomposition, first because the rain runs off it regardless of how it is built, and secondly it dries out much more rapidly because it has a greater surface exposed to the wind. If a compost pile once gets on the dry side it is a Herculean task to again work it into a properly moist condition. Furthermore, and decidedly of the greater importance, is the fact that the type of decomposition which goes on in a compost pile is not of a satis-

factory nature and the product of this decomposition is not the best material for topdressing greens.

I have traveled around a goodish bit in my time, but come to think of it I have never seen a compost pile in nature. The compost pile is a man made institution, a sort of vain attempt to paint the lily and perfume the rose, and is not so hot. When nature is desirous of decomposing animal or vegetable matter she doesn't heap it up in a pile. Rather she spreads it out in a thin layer on the surface of the soil as for instance the thin carpet of fallen leaves in the forest or the mat of last year's dead grass stalks in a meadow.

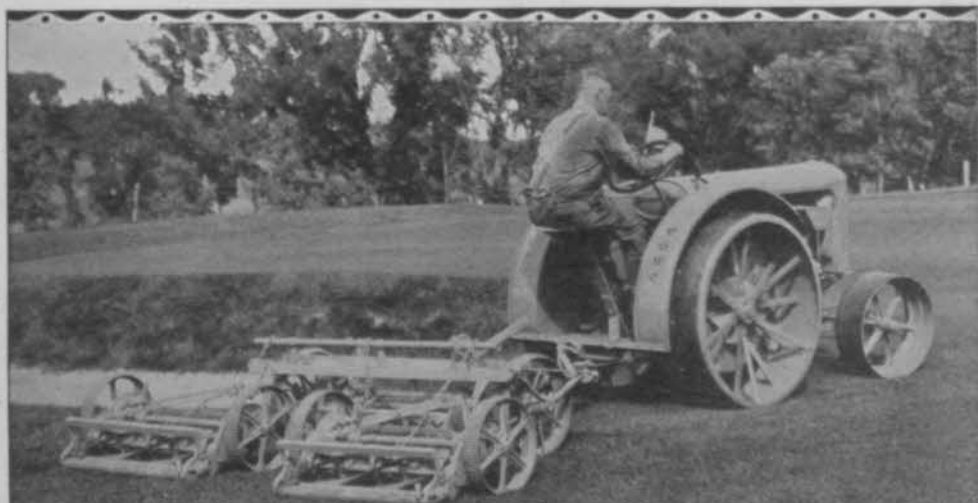
In the decomposition of the compost pile or the decomposition of the leaves in the woods the active agents of decomposition are in both cases bacteria, but they are not the same type of bacteria. The bacteria responsible for the decay of leaves in the woods are known as *aerobic* bacteria, or as the name implies, they act on organic matter only when there is an abundance of oxygen available to them as would be the case in the thin layer of leaves in the woods. A compost pile, on the other hand, will contain *aerobic* bacteria of those outer portions of the pile where this type of bacteria can obtain adequate supplies of air for their proper functioning, but the proportionally greater internal bulk of the pile will be insufficiently supplied with the *aerobic* bacteria for the plain and simple reason that there is not sufficient oxygen containing air present therein for the *aerobic* bacteria to function properly.

Nevertheless decomposition does occur within the internal masses of a compost pile, but it is an entirely different type of decomposition. Under these conditions, with an inadequate supply of air to contend with the *aerobic* bacteria give way to another type of bacteria known as *anaerobic* bacteria or in other words bacteria capable of functioning in an atmosphere practically devoid of oxygen.

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Now, in an off-hand manner the average hard-boiled citizen may dismiss all this distinction with a wave of the hand and a wide yawn, but the thinking greenkeeper will listen to Daddy while he does a little more explaining. In the first place, rotted manure or vegetable matter may all look alike, but believe me there's a difference from the plant growing angle.

Let us first consider the nature of rotted organic matter obtained as the result of the action of aerobic bacteria; that is, the type which works in an atmosphere well supplied with oxygen. Under these conditions decomposition goes on until all the heat of decomposition is given off. In other words, the organic matter unites with the oxygen of the air and the ultimate product is a grade of humus virtually free from animal heat and of immediate use to plants.

The humus obtained as a result of the decomposition of organic matter by *anaerobic* bacteria in the virtual absence of oxygen is, on the other hand, of an entirely different nature. Under these conditions the decomposition never goes to that state of completion desirable for humus intended for greens. The organic matter is only partially decomposed, and at this state of the decomposition it may contain undesirable toxins; that is, compounds of a poisonous or semi-poisonous nature. When compost of this sort is applied to greens the oxygen of the air unites with these toxic products and neutralizes them, but in the meantime they are not enhancing the turf to any extent and may prove detrimental for the time being.

Of interest in this connection are the perennial arguments waxing pro and con as regards the merits and demerits of the various types of bog peat which has been erroneously labeled humus. The word humus applied to a peat is erroneous. It isn't humus in any sense of the word. It is simply peat and nothing but peat. Peat is a sterling example of the product resulting from the action of anaerobic bacteria working in an atmosphere lacking in oxygen. Freshly removed from the bog it is often so loaded with toxine that when applied to a green it will frequently cause serious damage. It is therefore customary to expose this material to the air for a considerable period of time before applying it to turf. During this exposure to the air the oxygen works on these toxic compounds and neutralizes them, thereby rendering them harmless.

Such properly weathered peat may be applied to a green with impunity as far as the possibility of injury to the turf is concerned, but on the other hand it will result in no benefit to the grass or to the soil because the organic matter present in peat is in a sort of semi-petrified condition and resists stoutly the decomposing action of the oxygen, bacteria, water, etc., of the ordinary soil type and especially an acid soil.

Weathered peat may be very aptly compared to a half-baked potato. The reaction of a traveling salesman who cuts into a 40 cent baked potato on a dining car only to find it raw in the center is exactly the same as the reaction of turf to peat. Both are only half-cooked and before the peat is of any value to turf the cooking must be completed.

For many years the owners of peat bogs have frothed at the mouth because the technical highbrows of the golf course maintenance racket have steadfastly refused to countenance the application of bog peat to turf.

Technical men have taken this stand simply because bog peat, as stated above, is only half baked, in the sense of the comparison with the potato and until such time as bog peat can be treated in such a way that the resulting product is of immediate value as a soil conditioner for turf the owners of peat bogs are out of luck. I believe the era of bog peat transformation or modification into organic matter suitable for soil is much nearer at hand than is commonly supposed. The ever diminishing supply of animal manure and the crying need for organic matter by nearly all soils will bring about the ultimate exploitation of bog peat in due season. In the meantime it offers little from the standpoint of efficient turf maintenance.

Laborious and expensive though the compost pile method of producing topdressing material may be it is nevertheless not exactly a safe bet to assume that any fertilizer mixture will take the place of the product of the compost pile as a topdressing material for greens. Nor do the various brands of commercial so-called "humus" offer a satisfactory solution of the problem. Nevertheless there does exist a simple, easy, inexpensive and practical system of manufacturing adequate amounts of topdressing material. Furthermore this method is not in the experimental stage

because it has been used extensively by florists and nurserymen for several years.

The method in brief consists in taking a small piece of land, enriching it for one or at most two growing seasons by means of cover crops, fertilizer and if possible manure until the soil is rich as cream and in perfect physical condition. At the end of this period you can skim off three inches of the surface soil, run it through a screen and it is ready for the greens. In a future article I will discuss the "soiling" method of producing topdressing in detail and furnish pertinent reasons as to why it will ultimately render the compost pile as extinct as the Australian Dodo.

GREENKEEPING PROBLEMS

in

LEACH'S MAIL BAG

Sir:

Have you any information regarding use of Double Duty Tobacco Fertilizers on putting greens.

C. H. B. (Illinois).

Answer.

Sir:

Have had no experience with "double duty tobacco fertilizers" as such but would advise that tobacco dust and refuse in general can be applied to turf with impunity. Usually, however, it is rather expensive as a fertilizer when compared with other sources of nitrogen such as ammonium sulfate, etc.

B. R. Leach.

Sir:

I am enclosing one pair of beetles which I hope very much are what we call in this section June Bugs, and not the Japanese Beetle.

For the first time our golf course has quantities of these beetles on the greens and fairways. I suppose the best method of treatment is spraying with arsenate of lead, but I am rather uncertain as to the best time to spray.

H. L., (Illinois).

Answer.

Sir:

The beetles forwarded under separate cover are your native May beetles. Arsen-

ate of lead for the control of these grubs may be applied at any time, the sooner the better.

B. R. Leach.

Sir:

Clover has taken possession of our greens. Is there any better treatment for this condition than ammonium sulfate, top dressing and watering?

W. L. Q., (Ohio).

Answer.

Sir:

Would advise that the only known method of eradicating clover consists in the consistent application of ammonium sulfate and refraining from the application of lime or fertilizers containing potash.

B. R. Leach.

Don't Dust Arsenate

B. R. Leach,

GOLFDOM.

Sir:

I note that in all of the experimental work which has come to my attention, the general practice has been to mix the required amount of lead arsenate to 1,000 square feet of soil with some inert filler and then broadcasting this on.

It occurs to me that it would be equally as practicable, if not more so, to apply this with a duster and then either work the material into the soil or if it was applied to a green, then wash the lead arsenate down into the soil. I can see no reason why this would not be as practicable and it would seem to me to be a much simpler procedure and I am wondering if any experiments have been conducted along this line or what would be your reaction to this?

I personally would like to make this recommendation as to applying the material and would be interested to know whether in your judgment this would be a satisfactory method of applying the material.

H. D.

(New York.)

Answer

Sir:

This idea of dusting on lead arsenate has, to the best of my belief, occurred to 1,796 individuals aside from yourself. It is much simpler than applying the chemical mixed with a filler, also a thousand times more conducive to injury by burning. Go ahead and advise dusting if you're looking for trouble.

B. R. L.

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Dandelions and Plantain Eradication Method

By JOHN MacGREGOR
Greenkeeper, Chicago Golf Club

YEARs ago an energetic truck gardener wished to have a complete assortment of vegetables. He thought it was not complete without the dandelion, and to give his countrymen their much loved greens, he imported several pounds of seed from Italy, and "Oh gawd, how we love him for his foresight." From his importation we have what you see around us in the spring, a golden sheet, as far as the eye can see; when the gold has waned, a beautiful sheet of white as of snow takes its place, and many a golfer has looked in vain under this sheet for his ball.

When this snow or seed has matured, the air becomes filled with it. Wherever they eventually stop, they germinate and fill any small space which has not already been occupied. Being a deep rooted plant, I have in the early spring pulled them out with roots three and a half feet long, so that extermination seems an impossible feat.

I have tried every device and method which I thought might combat them. First I tried cutting them under the ground, and I found they had increased instead of decreased in number; where one was, six or seven showed up from the same plant, so the pest was multiplied a thousand fold. Then I tried gasoline. I took an ordinary oil-can and soldered a spike with a sharp point to the spout. The spike extending an inch and a half beyond the end of the spout, this was pushed into the heart of the dandelion and a small amount of the gasoline deposited in the wound, which was very effective, but an expensive cure. Then there was the danger of poisoning the soil.

During this period we wrote to the Department of Agriculture at Washington for information on the eradication of dandelions. When the information came, I immediately set to work on this new system. We bought a power sprayer of 200 gallons capacity, also a potato sprayer attachment, which was attached behind the outfit.

The formula was one and a half pounds iron sulphate (copperas) to one gallon of water, the solution to be applied with 150 pounds' pressure. I followed the instructions, choosing one of the worst infested areas I could find. The day following the

application I looked over the result of the experiment and was disappointed. All that could be noticed was the leaves of the dandelions were spotted with rust. Then I noticed that where the wheels of the sprayer had traveled the leaves were entirely black. I decided we had the correct formula, but the method of application would not give the desired results, so decided, after being satisfied the foliage was destroyed where the wheels had bruised the leaves, I must devise some means of bruising the leaves so the iron could penetrate, and hit on the idea of using a chain drag which had been used during the construction of the course. I am glad to say this has proven to be the death knell of the dandelion, although success was not to come just yet.

At this time we still had horses and they were the only means by which this sprayer could be navigated. Anyone who has had anything to do with horses knows that hauling a 200-gallon sprayer, loaded, is real work, and that they must be given a breathing spell quite frequently to enable you to have them the following day, especially in hot weather. The result was, before I had covered half of the rough, the first dandelions I sprayed were just as strong as they were before I started, having completely recovered and growing as healthily as before. During this period I was trying to devise ways and means whereby this solution could be handled and applied with dispatch.

When we got the first few shipments of iron sulphate it was coarse and hard to dissolve. Upon investigation I found we could purchase granulated or sugar iron sulphate. This I found could be dissolved in less than half the time. Then I procured six 50-gallon barrels and knocked the heads out and used them for dissolving, putting 100 pounds of iron sulphate in each, dissolving with sufficient water. Three of the barrels are enough for a load in a 200-gallon tank. The other three barrels are dissolving while the load is being emptied on the course; when the men return, these three are pumped into the tank. Every time three barrels are emptied, the material is put in for the next load. I use a portable double-action suction pump for pumping the solution into the tank, using a 2-inch suction and a 2-inch outlet hose.

After two years' experimenting, we purchased a Fordson tractor. This was the first time results really began to show, as

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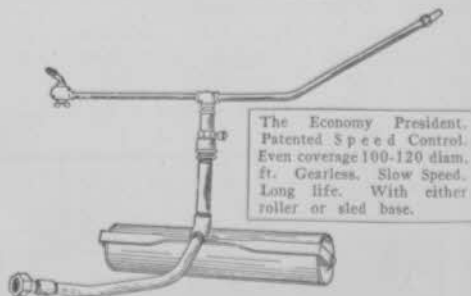
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I found the rough could be sprayed in a week, and that five successive sprayings two weeks apart would kill 98 per cent of the dandelions. The only ones left were some of the very largest, which were very easily destroyed with a weed stinger and gasoline.

The success of this treatment is evidenced by the fact that the treated areas are free from dandelions.

The fine or narrow leaved plaitain can be eradicated by the same method as is used for dandelions. The broad leaved plaitain when young can be destroyed in

the same way, but the older plants are not so easy to kill, as the leaves are more leathery and therefore harder to bruise. If the plantains are in the putting green, hand-weeding will be necessary, using a sharp knife and cutting under the crown just where it leaves the roots.

Do not use iron sulphate on bent-turf, either seeded or stolon. It will kill out badly.

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