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# TEE SHOTS



by the Editor

IT looks as though the "Pitch & Putt" course has finally arrived. Birmingham led the way six or seven years ago just as it did with public courses before the war. Now Northampton, Southampton and Plymouth all have plans afoot and there must be many others. Small area and large playing potential will ensure their success.

Mr. Don Beevers of "Golf Digest" told us last week that many of the 500 odd new courses reported in the United States each year are in fact Par 3 courses. The Speed Links seems not to have made great headway.

Mr. Beevers has been over in Europe getting facts on new courses. He is also a mine of information on U.S. statistics. Did you know, for example, that \$1,000,000 passes across the bars of American golf clubs every day? "Golf Digest" has 180,000 readers and must be the most widely read golfing periodical of a'l. It certainly puts "The Greenkeeper" in the shade.

\* \* \*

North-West stalwart, O. P. Jones, showed us round Bramhall in Cheshire last week. He is one of the unlucky ones who have to do a great many unseen operations to keep drainage efficient and the course in play. Evidently he still finds time for all the surface operations as well, in spite of the intensive play which this compact layout endures. Visitors are advised to ask Mrs. Jones for at least one slice of her date and walnut cake. We needed no further proof that the best tradition in baking in this country is now in the hands of greenkeepers' wives.

\* \* \*

We visited a golf course recently where two new greens were to be made. The greenkeeper had not been consulted, had not been asked to interest himself in the work, and only knew at second hand that anything was to be done at all.

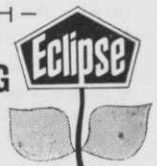
This is a bad way to alter a golf course and must inevitably lead either to practical difficulties, problems of staff relations or, most probably, both.



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## BARE FACTS

**T**HIS was his moment. For the first time he was within a fair chance of winning his first major tournament. And after a hard-fought 15 holes in the final of the Match Play Championship against that terribly formidable opponent, Eric Brown, with the match all square, there was Ross Whitehead driving off the 16th tee.

Brown had already driven: too far left, leaving an awkward second shot across the dogleg corner to the green. Now we watched Whitehead; he swung in the distance with what looked like perfect steadiness and calmness; and up flew the ball—ruled on the perfect line to the right hand, high side of the fairway. It sailed along towards us, dropped, bounced and began to run to exactly the point most definable in theory as “position A”. Two yards short of us it came to rest—on the most horrible patch of bare, hard-beaten ground. It left him a lie for his long iron to the green from which it would take only a real master of method, with nerves of iron, to strike with any certainty the ideal controlled shot straight to the pin-side.

To Whitehead's vast credit, he banged his up safely enough (though it looked a shade thin and faded) on to the green, and went on to lose only at the 19th.

### Under Pressure

As the crowd went on up the 16th I stopped behind to examine the spot from which he'd played this shot. There was hardly a divot! Just a slight scuff on the soil. Whitehead, in fact, had had to take the ball almost absolutely clean—at that stage of maximum psychological pressure in his biggest match yet.

It didn't seem fair, then, and it doesn't now. And the evil genius behind that lie, as with so many other horrible brutes of lies nowadays, is—the trolley!

What greenkeepers in general feel about trolleys, I don't know. In public they seem nearly always patient and philosophic men—however they may ex-

press themselves in private. But—as I seem to remember a correspondent saying in this magazine last year—the trolley has become a real menace in its evil effect on fairways.

The 16th at Walton Heath is not the only hole there badly affected. I was not looking closely at every hole from that point of view at the time, but I did notice that much of the fairway at the long 14th was sadly bare and worn; and off course the problem is general—even on courses where major events are played. At many less famous courses, particularly those on dry heathland, trolley wear has already become a nearly disastrous problem.

**John  
Stobbs**

As we all know, what happens is this. Most golfers take much the same path up most holes, especially going off from the tee through the fairway and then coming in again to the green; while any sort of obstruction like a mound, a ditch or a bunker, concentrates them all on the same route, time and time again. For some reason not yet scientifically established (so far as I know), the narrow, hard wheels of a trolley laden with a set of clubs and not much else have a vastly greater capacity for wearing and destroying the springy turf than the feet of a 15-stone man walking. Perhaps it is the fact that feet come down flat and then lift up again, while a wheel, in rolling, forces its way through the turf, continually trying to push it ahead of its own pressure—rather like a skater running along over softening ice, with a bow wave ahead of him. Certainly the resistance to pulling a trolley through turf—which is considerable if you stop and sense it on your hand and which can often become very tiring—can in itself be only a measure of the resistance continually being overcome by the wheel against the turf. Resistance involves pressure and friction—which does the damage!

It follows straight from this, of course,



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that the more a trolley can be designed to run easily behind a player, with least "pull" needed, the less damage it is doing to the turf! In other words, the interest of the greenkeeper in maintaining his fairways in good springy state and the interest of the golfer in the work he has to do pulling his trolley exactly coincide.

### Hard Pulling

This makes it all the more remarkable—and, as so often in this world, in fact absurd!—that trolleys are still such hard work to pull around over good quality turf. In fact, the thicker the turf the harder the work—and the more damage done! With due respect to trolley-makers (who, after all, can only run their businesses by giving the player what he *thinks* he wants), the present type of trolley with the small wheels and hard tyres is really designed to run best only on concrete or other hard, smooth surfaces—such, indeed, as the sort of hard-packed worn ground the trolleys themselves create! And that the only ultimate salvation of the turf on our fairways—which had better come quickly, by the look of many of them—lies in some enterprising maker setting out to design one to pull its load over good turf with the minimum possible effort from the puller.

Taking the parallel of the human foot, it looks straight away as if some sort of small scale caterpillar tread (i.e. like a miniscule tank-track) would be the best answer. Instead of moving forward through the grass, this would just lay itself down continually over it and then pick itself up again as the trolley went

along. It could best be about 6 inches wide on either side, running for about a foot or so between two rollers (each ball-bearinged to offer minimum friction in traction, of course). The tread could be of soft rubber—or even (why not?) rubber with spikes on it, aerating the surface of the fairway all the time as it went along.

It would be better on the whole if the track itself didn't come off the rollers, break, dissolve or otherwise baffle or annoy the player too much or too often. And at least one roller on each track would need to be on a sprung arm, so that the whole set-up ran easily over irregularities in the ground.

An alternative, of course, would just be a much larger diameter wheel, with a broad sorbo-type or soft pneumatic tyre on it. But one maker brought something slightly in that direction in when he put his first trolley on the market just after the war. The small wheels and hard tyres, cheaper, soon forced him to abandon it.

### Strike Action?

Golfers, like all other people, even when they admire the best, don't necessarily adopt it—especially if the second best is cheaper. It'll probably take national agreement and legislation—or possibly even a national strike of greenkeepers (what an arresting idea!) to get any trolley improvement adopted all round. And if it isn't ever adopted all round, it'll have little effect.

But golf's a difficult enough game, isn't it, without having to play it off constantly worsening lies.

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# THE PRINCIPLES OF SOIL CULTIVATION

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**R. W. Sidwell**

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**“What are the real principles underlying the cultivation of the land?”**

**This article, reprinted from ‘Amateur Gardening’ by kind permission, summarises the problems involved and gives practical tips to the man behind the spade or the machine.**

**T**HERE are few subjects more controversial than that of methods of practical cultivation of the soil. In past times it is safe to say that the majority of experts would have come down heavily in favour of deep as opposed to shallow cultivation. Yet today we have seen the rise of the so-called “no digging” school and we have also seen the arrival of the small rotary cultivators which are supposed to do away with digging, although on many soils the depth at which these implements will work is often only a matter of inches.

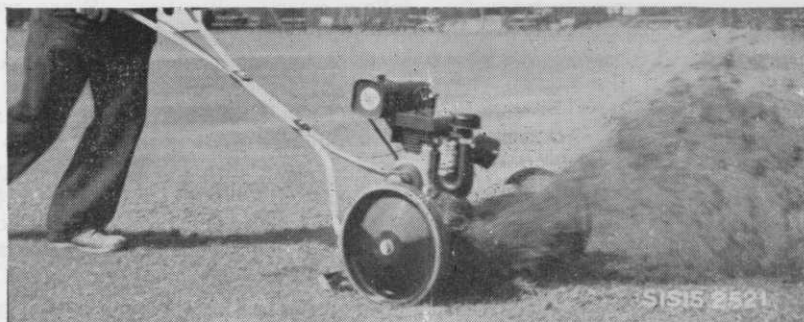
Exponents of the various schools of thought on this subject often become very dogmatic in their assertions and in the defence of their theories. Is it possible to make sense out of this controversy? What are the real principles underlying the practical cultivation of the land?

First and foremost let it be recognised that the soil is not just one material the world over. It is a variable substance differing from garden to garden; differing sometimes in the space of a few feet.

The most important factors are texture and structure. Soil texture is a permanent feature of the soil in question. The term is used to denote the relative proportions of coarse and fine soil particles. The coarser particles are termed sand, the intermediate ones silt and the finest clay. Texture is a thing that cannot economically be altered on large areas. A sandy soil remains a sandy soil and a clay soil remains a clay soil regardless of materials normally applied, although the horticultural value of the soils may be greatly improved by good management.

## **What Structure Means**

The term structure is used to signify the condition of the soil, especially the relationship of the soil particles to one another. A clay soil, for instance, may form crumb-like aggregates on weathering if lime is adequate. This is further improved by the addition of organic matter. The process is known as flocculation. The key to good management of clay soils is to aim at producing this condition. Careful timing of cultivations is



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of utmost importance if good structure is to be maintained on such soils.

These are fundamental points. We will now see how an appreciation of these helps us to understand the practical problem of soil cultivation. It is a fallacy to suppose that roots penetrate only as far as the cultivations go. Wheat roots will penetrate to a depth of many feet although much of the wheat land may be ploughed to a depth of only 5 to 8 ins., and this applies to many plants, provided drainage is good and the sub-soil free from "panning."

### Types of Panning

Panning is an important thing. The "plough pan" which is produced by ploughing to the same depth for many years is not likely to worry the gardener very much, but rotary hoe panning is common on certain types of soils, especially those that form a surface crust or "cap" as they dry out. Such soils are

often found to have a fairly high percentage of sand, but also possess enough clay to bind the sand grains together. If one has such soil the effect of rotary hoe panning can be demonstrated most effectively by cultivating alternate strips to a depth of about two inches with an ordinary fork and an L-bladed rotary hoe. The differences between the strips after rain has fallen is really most striking. It will be possible to walk on the forked strips without difficulty, but the rotary-hoed strips may be a sea of mud through the water failing to penetrate the pan at the bottom of the cultivated depth.

### Chemical Panning on Acid Soil

Chemical panning is an entirely different matter. This is liable to occur on certain types of acid (lime deficient) soils. Aggregates of iron compounds cementing pebbles or gravel together may occur at a depth of a foot or two.

When one attempts to make rules about how to cultivate one is forced to the conclusion that the rules are dictated by the soil in question and the man on the spot is the best judge.

It is probably safe to say that if there is nothing wrong with the sub-soil, deep cultivations will be of limited benefit, but if there is anything leading to impeded drainage or any other hindrance to root penetration then deep cultivation will undoubtedly be of value. A light to medium loamy soil, free from any sub-soil troubles, with a fairly high organic matter content and adequate supplies of lime, can probably be cultivated in any manner the owner chooses and to any depth he cares to go provided it is done deeply enough to give a satisfactory planting tilth. On such soils shallow rotary cultivation often produces all that is required for growing most crops.

When soil is trenched or double dug it may take some years for consolidation to reach its original state. The treading that takes place during work in a crop rarely produces consolidation for more than a few inches down. If this layer is broken up in some convenient way it is probably all that is required. On soils liable to panning the use of straight tines instead of hoe blades on rotary cultivators is desirable.

### Effect on Weed Seeds

To many people one of the values of digging is the burial of weeds and refuse. This is of even greater value than is sometimes realised. Shallow rotary cultivation keeps many of the weed seeds within the layer from which they can germinate readily and it is well known that heavy crops of annual weeds usually

follow rotary cultivation. When weeds are buried fairly deeply, say 4 to 8 ins., germination does not take place until the seeds are brought nearer to the surface. In fact few weed seeds germinate from a depth greater than about 1½ ins. At the depth of normal digging many weed seeds die in the course of a year or two. On the other hand, very deep burial, say 4 ft. or more, may keep seeds dormant for many years.

### Spade or Fork?

Perhaps we may close with a few hints on the choice of hand tools for basic cultivations. Whilst the spade is the most popular tool for digging with most people it is far from being an ideal tool. A good flat-pronged three-tined fork is not only lighter in weight, and this is a point of great importance, but it offers less frictional resistance to being pushed into the soil. This becomes especially noticeable on firm stony ground where the output of work may be doubled with the same effort. The somewhat rougher top presented by digging with such a tool provides a better surface for weathering action than smeared chunks left by the spade when digging heavy soils.

On the heaviest clays, why not try to get hold of one of the Evesham pattern two-tined forks. At one time of day, before the tractor had replaced hand labour, many hundreds of acres were dug annually with this tool at speeds that would have made the most skilled spadesman look pathetically slow, and the two-tiner would have done a better job into the bargain. There is no special merit in the square-chopped trench once one has overcome the initial prejudice.

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