

is poor, or by using a chisel shaped tine producing a rather less deep but uncompacted hole of large area, below the surface, and clean at the entry under almost any condition. This latter tine is therefore usable on a regular maintenance basis.

Now to the choice of machinery for carrying out a programme of aeration and many of the available machines were on display yesterday, where everyone had the chance to discuss the merits of each item presented with personnel from their manufacturers or distributors.

The choice of machinery however can depend upon many factors. Firstly whether the turf to be treated is fine, as on greens, or outfield type as on fairways. Secondly the depth of compaction to be relieved must be known. Thirdly the labour, or power units, which are available for operating the aerators should be considered. Next, the time allocated for the job and therefore the speed at which it must be carried out and, of course, there is the problem which we all have, how much money is available.

Now depth of penetration is very important indeed. It is not always sufficient simply to open up the surface since, if this is done on an area suffering from sub-surface compaction, it can very easily provide conditions which we see all too often these days. I mean the conditions where water, since it cannot percolate to a lower level, or to the drains, remains on the surface. The shallow roots have no holding properties and the sportsmen slide or slither about, or on the golf green the pitch of the ball takes out a piece of turf. So often, damage is caused to the turf which is not easily repaired during the playing season. But how often has one seen a course looking immaculate at the beginning of a season deteriorate very quickly. How often one has taken a plug of soil from such grounds and found two or three inches down, dusty dry soil, although water is lying on the surface.

Depth of penetration then is a prime consideration. It is not sufficient to simply penetrate into the compacted layer. One must get beyond it. Often, an existing drainage system may be a limiting factor in this respect and in due course, one can visualise under-soil heating providing the same problem on a bigger scale.

Available machines

As you will have seen, the machines available today are many and varied. From the simple, to the sophisticated, from the hand tool to the tractor mounted machine, from British to American to E.E.C. Manufacture.

Machines producing a clean vertical hole without surface disturbance are obviously very desirable. This particularly applies on fine turf areas such as golf greens. On fairways, some slight disturbance can be acceptable and quickly restored by the use of drag mats, flat harrows, rakes or even gang mowers. It can be expected that there will be disturbance on an area being treated for the first few times. Until it has been aerated and a good root system developed, sufficient to give it hard wearing, holding properties, it may be necessary to explain to the uninitiated that the long term benefits from a programme of aeration are often achieved, only if one is prepared to accept that conditions which have deteriorated over a number of years, cannot be restored to perfection overnight. What we are trying to achieve therefore are deep holes, with uncompacted side walls, which permit the entry of air into the soil, increase the absorption of moisture by the roots, encourage quicker and deeper root growth, make the introduction of suitable dressings easier, to assist the formation of a natural percolation system down to the drainage layer, and, in all, establish and maintain a turf which is resistant to drought and wear.

Before closing, a brief mention of surface aeration which can be considered a subject in itself. We referred earlier to the build up of excessive fibre in certain conditions. This can develop to a degree when it comes to resemble and act as a thick mat or sponge, preventing water and dressings access to the soil below.

At that stage a mechanical rotary blade type scarifier is essential to remove the excess fibre, to ensure that there are good conditions and space for new growth to develop, rather than the dead spongy surface on which no golfer can give of his best.

Gentlemen, we are all concerned with growing that of all things greener grass, which is often so difficult to grow correctly, at the time and of the type which is required, yet, leave a piece of virgin soil and see how quickly grass will establish itself on it. As manufacturers we are always delighted to hear from you and to assist in any way we can, through our distributors when necessary to fully appreciate local conditions.

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