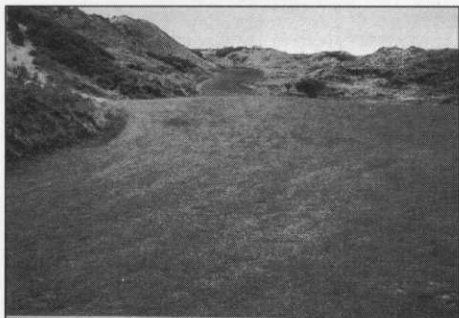


# SOWING



The Moore Uni-Drill - and before and after results

There used to be three traditionally accepted methods of establishing grass on landscaped lawns, sports grounds, golf courses and embankments.

Now there are two others. Meet Uni-Drill and Liquid Sod

## Traditional methods

**1 Conventional Seeding:** This is the method usually applied to the bare prepared ground by drop or broadcast seeding. Germination by this method may take up to 30 days and before there are signs of establishment the seed is exposed to erosion, seed eating predators, drought and weed invasion, creating competition for the germinating seeds. Whilst satisfactory results can often be obtained by conventional seeding, it should be remembered that these factors may result in a need to re-seed at extra cost, not to mention the set-back in producing a satisfactory turf cover.

**2 Hydroseeding:** This is a method that was introduced in the United States in the 1950s. It incorporates water (which activates the seed), a protective mulch or seed carrier, fertiliser and the seed mixture and is applied to the open ground by a spraying machine in one application. This method reduces the cost over conventional seeding and it reduces the establishment time. However, hydroseeding still has the disadvan-

tages of leaving the seed to germinate naturally, again leaving it vulnerable to erosion, birds, drought and weed competition as well as fertiliser leaching.

**3 Rolled Turf:** This is established turf brought in from a commercial turf grower. By laying rolled turf there is immediate erosion control, immediate green-up (even in the off season) and good anti-leaching capabilities. Rolled turf however can be expensive to purchase and it may bring with it foreign soil. Purchasing ready grown turf may not necessarily offer the choice of species variety demanded and it needs an added labour cost for laying over the prepared site.

## The newcomers

**Uni-Drill:** Used to overseed Wembley Stadium in 1992, Moores Uni-Drill has won many converts, especially at the championship links courses in the North West of Ireland, where it has helped those under pressure to produce the best playing surfaces. It can be used with a small 25/35hp

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# THE SEED



Above: A tee prior to Liquid Sod application at West Middlesex GC ...and the same tee nine days later

tractor, the most commonly used in this sector, and follows ground contours to give an even planting at a constant depth. Grass seed planted at a depth of 12mm has revealed an excellent rooting structure, which holds the sward together better than shallow planted seeds, which tend to be more easily scuffed off. The drill has a slitting action, thus moving the first inch or so of soil, relieving soil compaction and aerating the soil in a single pass, making conditions ideal for grass growth.

Equally important, the Uni-Drill creates minimum disturbance of the playing surface, covering the ground in a one-pass operation, levelling, seeding and aerating. The slitting action stimulates regrowth and gives healthier and more vigorous rooting.

In Ireland probably the best example of the drill's success may be seen at Portmarnock. Preparing for a major championship is always a challenge for any greenkeeper, but in the case of Iain Ritchie, who had joined the club only six months before, this presented an even greater problem. When Iain arrived at Portmarnock, one of Ireland's most famous courses, he found that most of the fairways had very few good grass species in them and there were many bare patches. His priority, therefore, was to introduce new seed mixes into each fairway.

This he did using a Moore Uni-Drill and an Iseki 35hp tractor. His staff over-seeded each fair-

way in four directions, where necessary also over-seeded the semi-rough and the rough. This action not only introduced new seeds into the tired fairways but, as Iain observed, helped to break up surface compaction and allowed some of the established grasses to regenerate themselves by the new growth from their split roots.

Iain also saw that all of the grasses on the fairways had an increase in root depth and a more vigorous root growth, this having the effect of causing less surface damage. Within the year the course was playable to championship standard and since the Walker Cup Iain has kept up a once a year fairway maintenance routine, over-seeding other compacted and bare areas such as paths. Iain and the Portmarnock Golf Club have found the machine a good investment that has paid for itself in the few years they have owned it. As for maintenance, the club have spent nothing in the three years of ownership.

**Liquid Sod:** This is a uniquely developed process created in the United States and now being introduced into Europe. This process eliminates the problems of creating a sward by conventional methods, utilising as it does the latest technology in seed pre-germination.

The first stage is the 'patented' method of pre-germinating (or sprouting) the seed in a controlled, scientific environment using an optimum level of water, oxygen, temperature and nutri-

ents. The pre-germinated seed is then taken to a stage further in its development towards an ideal growth, giving it an advanced root system and crown or blade before actually arriving at the site in the form of plantlets.

The second stage uses a patented spraying machine and tank that mixes the plantlets with formulated fertilisers, water and a mulch. This mixture is then delivered to the site ready for spraying to the prepared surface without any damage to the plantlets.

The advantages claimed by the Liquid Sod system are summarised as follows:

◆ **Erosion Control.** The expense of laying turf in many areas for erosion control may be prohibitive. Ordinary seeding methods may take a longer time to establish. The Liquid Sod method has been known to stabilise soils on highly vulnerable areas in a matter of 72 hours.

◆ **Fertiliser leaching.** Because the plantlets in the process are growing at the time of application, the fertiliser that is added is utilised immediately. Thus the Liquid Sod method reduces the possibility of leaching.

◆ **Irrigation.** Newly seeded areas require irrigation and in some areas can take up to 54,000 gallons of water (a depth of 2ins) per acre per week for three weeks to promote growth and satisfactory establishment of the sward. Because the seed is pre-germinated in this process, the water used to establish the seed is eliminated and therefore there is a saving of several thousand gallons of water.

◆ **Germination.** The company claims that the Liquid Sod pre-germination process carried out under controlled conditions can increase the germination potential of seed mixtures by as much as 26%.

◆ **Weed competition.** When hydroseeding, water and fertilisers are used to cover soil which may contain weed seeds. Tests have shown that weed seeds brought to the surface during cultivation processes sprout rapidly. Liquid Sod seed is advanced to such a level that it can compete against weeds and can in some circumstances effectively eliminate the competition.

◆ **Predators.** Many areas of newly sown seed can be quickly devastated by seed eating birds. This is costly and time consuming. Liquid Sod provides a plantlet which has a substantial reduction in its vulnerability to seed consuming predators.

◆ **Time savings.** Golf courses, tennis courts, bowling greens, race courses and any other area using a turf surface requires quick establishment. The company claims the process will produce a mature sward of turf in a matter of weeks, ahead of any of the conventional methods. Areas in northern regions which have a short growing season, the company suggests, make Liquid Sod a viable method of creating a high quality surface.

◆ **Cost.** There are many cost advantages claimed: it gives an almost 100% guarantee of a satisfactory coverage compared to the conventional methods of sowing seeds. There is no need to re-seed because of failure or unsatisfactory cover. Also, depending on the seed type, nutrient requirements and general application techniques, Liquid Sod claims a substantial advantage in cost over the rolled turf method. Precise mixtures can be specified and sown in the proportion required, there is no invasion of foreign soil, labour costs are reduced and the price per square metre is lower by as much as 30% compared to that charged for rolled turf.