## **TREES ON GOLF COURSES**

THE PRINCIPLES OF PLANTING - BY TONY GENTIL



For the best results, conifers and deciduous trees should be planted in early winter.

The three main types of tree that you can use for planting, forest transplants, whips and standards, all have certain basic requirements in common. They must make the transition from nursery to golf courses with the minimum amount of shock. If you give them a hard time during planting, they are likely to become so weakened that they'll fall easy prey to pests and diseases.

The best period for planting trees is when they are dormant or in their least active state. This means that deciduous trees, those that lose their leaves in winter, should be planted during November to March. Within this period, don't plant them if the ground is frozen. I find the time between bonfire night and Christmas gives the best results because not only are the trees dormant, but the soil still retains some of its late summer warmth, which helps the rapid establishment of the root system.

Evergreens, such as pine, holly and yew, are never completely dormant and recover best when planted in October or November. During planting, the most vulnerable part of a tree is its root system. You've got to treat this area with great care if you want good results. It's not so much the main roots that are at risk, it's the thousands of tiny root hairs that are liable to be damaged.

Root hairs are so small that they are hardly visible and, because of this, it's easy to forget about them. Plants can only take in water through their root hairs and for each one damaged there is a reduction in potential water absorbing capacity. If root hairs get killed in large numbers, the tree has a problem obtaining the water it needs in spring after planting.

It's a vicious circle. Without the root hairs, it can't take in water. Without the water, it can't replace the lost root hairs.

So, how does a tree's root system get damaged during planting? Well, most deciduous trees are sold bare-rooted – that is, without any soil clinging to the roots. Even when trees are carefully lifted by the nurseryman, some of the root hairs will be broken off as the soil is shaken loose. The root hairs are at risk all the time they are out of the soil. If they become exposed to drying winds during transportation to your golf course, then many will be desiccated to death. There are further risk if you leave the trees lying on the ground after delivery or as you carry them out to the planting site. A period as short as half an hour exposed to drying conditions will kill off most of the root hairs on a bare-rooted tree. Superficially, the root system will appear undamaged, but to all intents and purposes, the tree will be as dead as a dodo.

If you are unable to plant the trees as soon as you take delivery, cover the roots temporarily with a protective layer of moist soil.

One of the safest methods of transporting barerooted trees round a planting site is to use either a dumper with a watertight skip or a tractor with a bucket. Half fill the skip or bucket with water and add a few shovelfuls of soil or peat to make a slurry. Place the roots of the bare-rooted trees in the slurry and this will give the root hairs the best protection possible. Make sure that the upper parts of the trees don't chafe against metal rims of containers.

If you find that the slurry is in danger of slopping out of its mobile tank during transport, float some short planks on the top to reduce the wave motion.

Evergreens larger than forest-transplant size are not sold bare-rooted and so their root hairs do have a better chance of survival. The soil round the roots of evergreens is dug up with them when they are lifted in the nursery and held in place with a square of hessian tied round the base of the trunk.

I prefer to remove this hessian carefully just before planting because, although it is usually biodegradable, the knotted part round the trunk can take a long time to rot down and may strangle the trunk.

As a tree grows taller, so its root system increases in size. The bigger a root system is, the more difficult it is to transplant without causing damage. It follows, therefore, that smaller trees generally survive planting more successfully than larger ones. One final point worth remembering is that, in the

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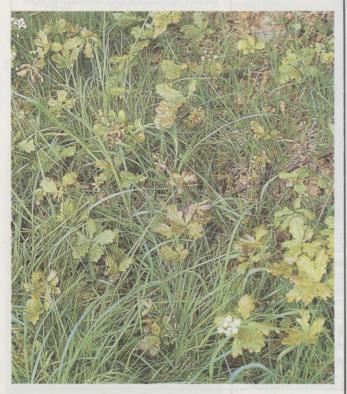


Birch whips planted on a golf course.

wild, trees don't get transplanted. They grow to maturity from where the seeds fall from the parent tree. If there are any areas of natural regeneration on your golf course, see if you can take advantage of them. Can you, for instance, encourage seedling oaks to grow where the parent tree is in decline? If you can, you'll find it much easier than trying to establish imported trees.

Self-sown seedlings could, in fact, provide you with a free source of planting material. Trees up to 12 inches tall should transplant quite successfully. Seedlings much taller than this are not so ameniable to disturbance because their root systems are long and fangy and difficult to dig up without extensive damage.

• The next article in this series will explain the techniques of tree planting.



Natural regeneration of oak.

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