The number of golf courses in Britain continues to rise steadily and golf course designers are well aware that trees and woodlands can be used not only to enhance the amenity of the course but also provide an opportunity for improving Its strategy. However less well known are a number of problems specific to the well being of trees on golf courses. John Nicholson of Eamonn Wall & Co explains

Severe damage to a sycamore tree on a golf course

Bark to basics

The growth in the popularity of the game of golf

There are currently 1700 golf courses in England, 118 in Wales and a further 440 in Scotland, this century seeing a rapid rise in the popularity of the sport, especially "south of the border" In fact, in 1888 there were only 57 courses in England and 73 in Scotland.

Although most of the early courses were links the vast majority of courses created over the last 80 years have been inland such that these now out-number the former by a factor of six to one. Most of these inland courses have varying amounts of woodland.

The history of trees within design

Trees and woodlands played little or no part in the design of golf courses until the first quarter of the century, when golf progressed to the heather and pine heaths of Surrey and Berkshire. It was in this period when it is said that the first tree planting plan was included in the designs of H.S. Colt. (Cornish 1982), Colt however was still very reserved about the use of trees within the strategy of a golf course.

"Trees are a fluky and obnoxious form of hazard, but they afford rather good protection, and if a clump of these exists at such a spot it might well be considered justifiable to leave it standing." – *H S. Colt, Some essays on Golf Course Architecture, 1920.*

Trees can he used not only to improve the aesthetics of a golf course but also as an integral part of its strategy, however, great care must be taken when doing so as the three dimensional hazard a tree forrns can easily become detrimental to the quality of play. It is therefore wise to have regard to the fine line which divides woodland design from golf course architecture and one should not he afraid to draw on the services of a recognised architect if so required.

Trees at risk from golf balls

Trees are at risk on golf courses. It may not be thought that golf balls do a lot of damage but they do. A golf ball weighs 45g and travels at between 70 and 80m per second (up to 180mph).

Anything material that comes within the line of play is therefore likely to suffer severe damage. Because of the large numbers of rounds of golf which are played annually on most courses (typically several tens of thousands) then by sheer chance alone contact with trees on the golf course is inevitable.

Golf balls can affect both young and old trees alike. Damage to the bark, cambium, phloem and xylem layers is often so severe that the tree is permanently disfigured. Crown die-back may occur as a result of damage to the trees transportation system. Young trees can suffer by being snapped at the point where they emerge from the protection of the shelter.

The shelters themselves may be damaged, and if not replaced quickly the sharp edges of the shelter (as a result of impact damage) can inflict often fatal abrasions to young trees.

Trees on certain parts of the golf course are more likely to suffer damage by golf balls than in

Bark to basics

other parts. There are two contributory factors to this. Firstly because the majority of golfers slice the ball trees on the right hand side of a hole are always at greater risk.

Secondly trees which are positioned at 180 to 230 yards from the teeing ground are endangered, because they are more likely to suffer the affects of a ball travelling at near maximum velocity. Maximum velocity is achieved close after impact with the club head.

Therefore trees planted at such a distance on the right hand-side of the fairway are most certainly at imperil. If new planting is to occur on golf courses, damage to trees can be reduced by avoiding these areas.

Planting in such areas is not only detrimental to the health of the trees, but may also eventually adversely affect, the strategy of the golf course. The strong hazard a mature tree forms often results in the player having no choice but to "chip out" sideways. Whereas trees which are planted in a more sympathetic position, between the landing area and the green will allow the skilful player to manoeuvre the ball around the obstacle, making for a fairer and more interesting game and giving the player the choice as to whether to attempt the adventurous shot or to simply play safe.

Damage to trees can be further reduced, by correct species choice and by appropriate protection. Thin barked species such as Sycamore and Beech are more vulnerable than the thicker or spongy barked species such as Oak, Ash or Pine. The exception being Lime, although thin skinned its unique cell structure means that the damage incurred is not as critical as to most other species.

However all trees do suffer damage to some extent, the wound openings allow entry to fungal predators and the resulting stress further predisposes the tree to secondary pathogens.

Protection to new planting may be afforded in two ways, firstly physical protection by the use of guards and secondly protection through the rules of golf.

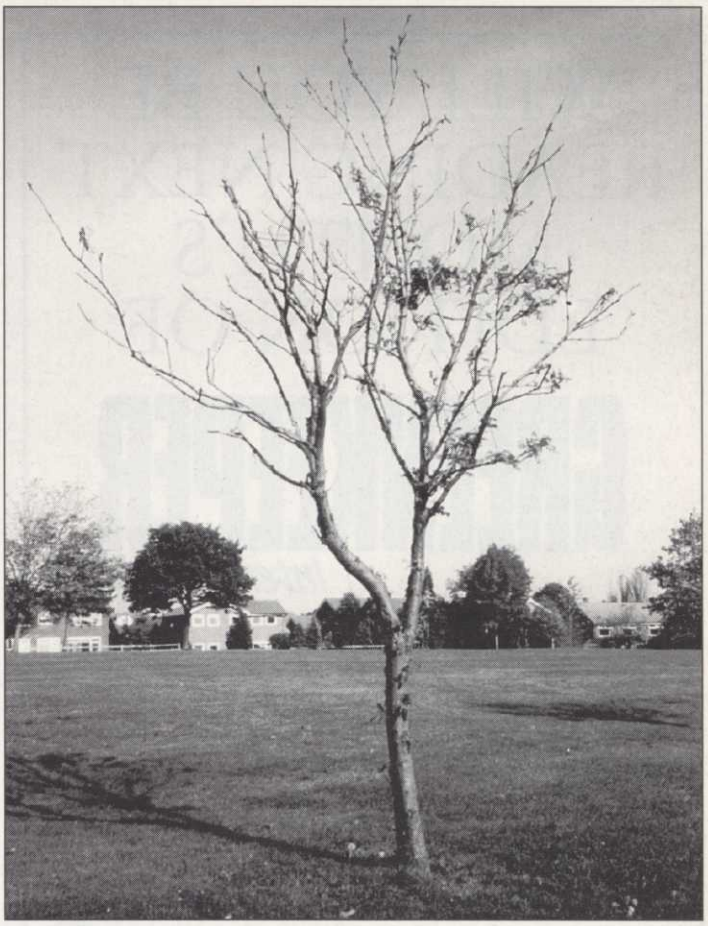
It is natural for golf clubs to have a reluctance to implement rules giving free drops from newly planted copses, as it disrupts play and is never popular with members. Tree planting is a long term strategy and therefore the implementation of a rule for the relatively short period, say 5-10 years would seem inconsequential. However the pressure committees are put under by members whose only interest is that their game is not disrupted is immense, this short term mentality is however detrimental to the long term management of the golf course.

It is therefore difficult for committees to implement rules for the protection of trees. One method may be to introduce dropping zones of long grass so no advantage is gained and so that the player has to find his ball first. This resolves the argurnent that a ball can not be lost in ground under repair and allows the grass around the trees to be left long reducing maintenance for the greens staff and benefiting the trees growth as long grass is less competitive for water and nutrients than close mown sward.

It is however still a brave decision for a committee to make, but it will ultimately benefit the course, save the members money and is the right thing to do.

To summarise, if you are about to plant trees on golf courses then you should consider the following:

1. Plant trees which are resilient to damage in areas of possible contact.
2. Establish trees in suitably sized tree shelters for protection.
3. Avoid planting trees at drive length on the right hand side of the fairway.
4. Establish 'Dropping zones' away from newly planted areas.
5. Avoid planting between adjoining fairways where damage is likely to occur from both directions.



Typical die back semi mature rowan