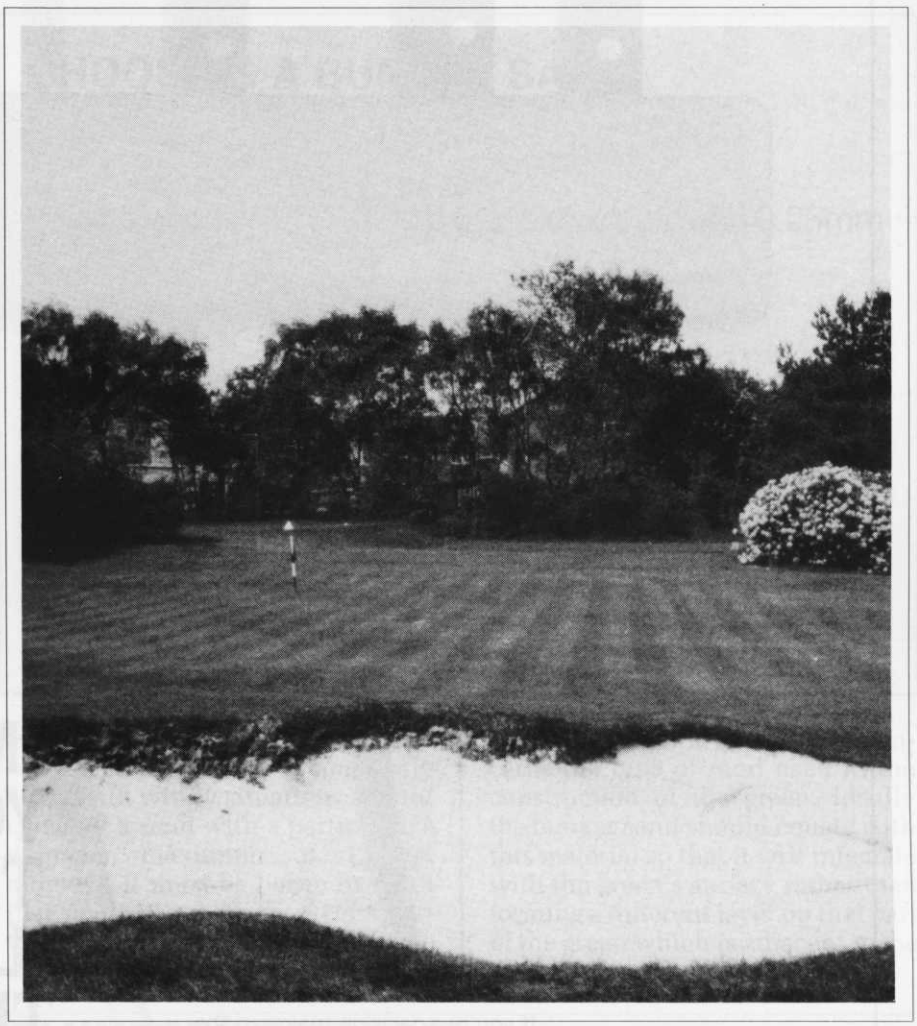
Bunkers and Bunker Sand

Advice from Ian Greenfield on the type of sand to use



Bunkers are an essential feature of the golf course and originated as hollows formed by sheep, rabbits and wind on sandy dunes along the seashore in Scotland. They soon became integrated as hazards to be avoided when playing and thus by accident became an important part of the game of golf.

Today, as an integral part of course layout, they form strategically placed hazards designed to catch and penalise the mis-hit shot as well as directing play on fairways.

The course designer decides bunker position, size and shape according to the type of course he is designing in relation to the topography, shrubs, trees, and the general landscape as well as proposed or existing water features. The contrast between a preferred off-white bunker sand and the green of grass and trees creates a most attractive picture. Coloured sands are also used but off-white is much preferred avoiding the glare of pure white.

There is no limit to the minimum or maximum number of bunkers that may be built on the course. It may be as little as 20 or 30 on the one hand and sometimes as many as 80 to 100 on the other. The shape and depth of bunkers varies and these may be large and small or deep and shallow but they should be readily visible to the player so that he can fairly plan his shot according to the demands of the hole.

It is important when planning the hole in respect of these factors that bunker siting, construction and drainage to enable proper maintenance should also be considered. Efficient bunker drainage is essential and requires the installation of a herringbone or grid arrangement in the base comparable to that provided for the greens. It is also important to prevent water running into the bunker by the construction of swales (during green and fairway formation) to direct water away. The face of the bunker must be clearly visible from the approach and basic bunker formation should be in the form of a shallow saucer with the face visible on the approach high enough to be readily visible.

Fairway bunkers are generally shallower with of course the exception of the Scottish pot bunkers, many of which are quite demoralising. Wind corrosion of bunker sand can be quite a problem and often as much as a tenth of the sand content will be lost annually due to wind as well as sand removal when playing out.

To prevent soil encroaching into the bunker sand, geo-textile materials can be used to line the bunker and prevent sand contamination by the indigenous soil causing an originally white sand to turn rapidily into an orange one. These materials allow water through to the drainage system and prevent sand contamination by the soil. Well manicured bunkers are a delight, neglected ones are not. Control of weed growth and a well manicured sharp edge to the bunker as well as the removal of rubbish and stones are essential.

Bunker sands are usually washed to remove clay and silt as well as coarse sand and gravel and it should be stored on a hard surface prior to being introduced to the newly constructed bunkers.

The ideal bunker sand should consist of sharp or angular grains in order to provide a firmer and harder surface. Rounded grain sands produce a softer surface resulting in a deeper ball lie. Off-white silica sand as opposed to soft chalky yellow or silty sands are preferred and provide a smart apperance as a result of the white and green con-

trast. It is essential however that the sand is free from foreign material such as clay and silt, weed seeds, earth, rubbish and gravel although it must be said that most Clubs do tend to buy the cheapest sand available for their bunkers!

Feel sensation is important for bunker play whether making an explosion shot or chipping off the sand surface.

The particle size distribution of the sand is critical and top sands ranging from 1mm to 0.25mm and with at least 75 per cent of the sand within the 0.25mm to 0.5mm particle size diameter provide the optimum material.

It is important to provide good ball lie within the bunker and a degree of firmness enabling a better shot which means a lack of surface crusting and a good basic drainage within the bunker to avoid the plugging associated with wet sand and poor maintenance.

The use of rounded sand tends to produce a loose and fluffy surface and quite often the ball will sink level with the surface as opposed to penetrating about half this depth although ball lie, of course, apart from the type of sand does depend on the angle and velocity of the ball entering the bunker.

Golf clubs that are constantly faced with windy situations should consider a sand with a particle size diameter maximum of 1.5mm, although it must be borne in mind that sand with more than 1mm particle size diameter may well cause mower damage and blade blunting.

A further point to consider concerns the type of sand used in the construction of the green. Ideally the bunker sand should equate with this material so that it will integrate with the green's surface rather than forming a different layer on that part of the green which is adjacent to the bunker.

CHOOSING A BUNKER SAND

Guidelines suggested by the USGA

1. Minimum of 65% sand particle size between 0.25mm and 1.0mm.
2. Ideally 100% between this range.
3. Sharp angular sand preferred to round particle shape.
4. Light coloured, not white sand.
5. Minimal amount of silt and clay, determined through soil testing laboratory analysis.
6. Silica sand rather than calcareous sand.

STUDENTS AWARDS AT PLUMPTON COLLEGE

Plumpton College recently held its annual prizegiving ceremony to award all its students with their certificates and trophies. Below, Michael Kirkham and Andrew Paynter are receiving their prizes from John Austen of the NFU and the Principal, John Wilson at the ceremony.

Michael was the best Phase III Enterprise Management student and was awarded the cup sponsored by the Sussex Golf Union. He attended the college on a block release course being released from his position as Head Greenkeeper at the West Surrey Golf Club.

Andrew Paynter was the best Phase II Greenkeeping and Sportsturf Management student and won the cup sponsored by the Southern Section of the British and International Golf Greenkeeping Association. He attended the college on a day release basis, the rest of his week being spent as Head Greenkeeper at East Brighton Golf Club.

John Wilson college principal presenting Michael Kirkham with his award.

Andrew Paynter receives his from John Wilson with John Austen of the NFU looking on.