



Are BUNKERS really necessary?

Bruce Jamieson takes a look at bunkers – their role on the golf course and how to make the most of them

The definition of a bunker given in the Rules of Golf states, "... A bunker is a hazard consisting of a prepared area of ground, often a hollow, from which turf or soil has been removed and replaced with sand or the like. Grass-covered ground bordering or within a bunker is not part of the bunker. The margins of the bunker extend vertically downwards, but not upwards."

While Director of Agronomy with the PGA European Tour it was often said to me by greenkeepers that professional golfers seem to want the bunkers prepared in such a way that it actually reduces the penalty of being a hazard. Conversely people who organise golf tournaments point out that the bunkers on the golf course serve several functions and they should, if designed properly, demand that the player demonstrates his skill in avoiding them in the first place.

Bunkers are not just hazards they are used by some golf course architects to define the landing areas on the fairways, define distance, and visually enhance the appearance of the course. This can be seen on many courses, where bunkers are presented at 180 metres off the tee and are reasonably easy to play over, with more positioned at 275 metres which, although out of range for most players, define the landing area. Bunkers can also be used to protect certain areas such as the green on a short par-5 to ensure that if the player attempts to hit his second shot onto the green the ball must pitch on the putting surface.

"Prepared area of ground" indicates that bunkers should be raked, edged and weeded. A well-prepared bunker should tempt the player into trying to play the recovery shot on to the green or landing area but requires that he has the skill to execute it. If the depth of sand is excessive and the ball plugs the player will then be denied the option of playing a recovery shot and be forced to extricate the ball. Thus if the bunkers have excess sand in them or a sand that does not produce the desired type of playing surface all golfers will complain that they were unfairly penalised.

Today's sands are not always selected for their playing qualities but more often than not for their visual appearance, and this appears to be more prevalent on inland courses than the traditional links.

A considerable amount of research has been carried out by the Sport Turf Research Institute (to name one) on the ideal type of sand and the application that best suits the requirements of golf. Ideally it should fulfil certain criteria: (a) compatibility of sand to rootzone material of the greens; (b) the range of particle size; (c) the free drainage of the sand; (d) the firmness or stability of the sand once settled; (e) minimum surface crusting following rain; (f) depth of sand, (g) the lie of the ball once landed.

(a) The sand should be compatible with the rootzone material of the greens which may seem obvious but it is surprising how many new golf courses have a layering problem forming on the greens near the bunkers.

(b) The range of particle sizes should not be too narrow as they then tend to behave like a box of marbles and will never settle or compact. Sand should not contain stones or particles over one millimetre as these could both damage the club or cause injury to the player. Furthermore, larger particles and small stones can damage expensive mowing equipment on and around the greens.

(c) The sand should be free draining but using sand containing a high percentage of fine particles will result in flooding during heavy rain. ("Relief from casual water" applies according to the Rules of Golf).

(d) The firmness or stability of the sand once settled is important as a player will leave deep foot prints in soft sand when he enters and exits a bunker which in turn ensures that the cost of maintenance will be higher as wash down will occur more readily during heavy rain. The type of particle whether it is rounded or angular will have an influence on the stability of the sand and it should be recognised that hard silica sands are preferable to soft calcareous ones, as the calcareous sand will breakdown under constant weathering.

(e) Surface crusting after rain should be kept to a minimum. If the sand contains more than 3-5% clay, or if a calcareous sand has been

heavily weathered, surface crusting will be a problem ensuring that maintenance costs are high with raking being implemented several times as the bunker dries out.

(f) The depth of sand in the bunker is usually requested to be maintained at maximum depth of 50 mm in the faces or slopes and 100 mm in the base of the bunkers, in order to ensure that the sand was not deep enough for the ball to plug in it during a PGA European Tour event. (Preparation Guidelines of the PGA European Tour)

(g) The lie of the ball after landing in the bunker should ensure that the sand should be firm enough to absorb the impact of the ball but not so hard that it will bounce out of the bunker. Sand which is too soft should be avoided as the ball will plug or become embedded upon impact. Ideally, after landing in the bunker a ball should settle between 4-9 mm into the sand in order to test the player. Sands which do not allow the ball to settle present little or no penalty to the better player.

As it is expensive for a club to replace all the sand in the bunkers, it is important that it is not initially selected for its colour or price unless it produces the desired playing conditions when mixed with the existing material.

As golf course maintenance techniques have improved dramatically and changes in machinery designed to save labour, a higher quality finish on all playing surfaces, has evolved. Bunker raking machines can now be fitted with an assortment of attachments to edge, move the sand and rake it. Unfortunately with the advent of new machinery, new maintenance problems have arisen, resulting in damage at entry and exit points where design of the bunkers did not anticipate the use of machinery on the steep banks. Now winter months are taken up with bunker repair work, therefore losing some of the labour costs saved during the summer months.

Bunkers are an essential part of the game of golf, influencing the strategy, aesthetics and maintenance of the course while giving definition and protection.

■ Bruce Jamieson is the former Director of Agronomy for the PGA European Tour. He now runs his own golf advisory service and can be contacted on 01256 760870.