

Experiences from The Field and Quality Playing Conditions

Sand Bunkers

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THE RULES OF GOLF define a bunker as "an area of bare ground, often a depression, which is usually covered with sand." This definition projects the image of the old Scottish bunkers, or even those at the Pine Valley Golf Club, in Clementon, New Jersey. Sand bunkers are an important asset of any golf course because they affect its appearance, strategy, playability, and character. For a quality course you must have sand bunkers which reflect care in original placement, construction, and maintenance.

What makes a good-quality sand bunker? First and foremost, good sand. The September, 1974, issue of the USGA GREEN SECTION RECORD contained an article that presented golf course sand particle size specifications. Included in these specifications are guidelines for bunker sands. Briefly, the recommended size range for the majority of the particles is from .25 mm to 1.0 mm. Some finer sand is allowable, but the percentages of these particles should be kept to a minimum. Silt and clay content should be negligible, because bunker sand is normally washed sand. The coarse particles present a special problem because they tend to remain on the turf surface when they are sprayed onto the green by an explosion shot. They affect the sharpness of the reels and bedknives on mowing equipment, and they cause players to continually pick, brush, or otherwise remove these particles from their line of putt. This slows play and increases equipment repair costs. Therefore, the finer sands, which coincidentally conform to our specifications for top-dressing sands, are generally preferred because they can be worked into the surface.

Of secondary importance is the color of the sand. Most golfers seem to prefer the white sands, but they are not universally available at reasonable

costs. Good-quality playing conditions require sands of the correct particle size range. Color is of secondary importance.

SAND CONSISTENCY is also important. Too often several different types of sands are used in golf course bunkers. The goal should be to have all sand bunkers, especially those around the greens, contain a sand composed of the same general range of particle sizes. This will help ensure that playing conditions will be consistent.

Extreme softness or fluffiness is a frequent complaint about bunker sands. This is a difficult characteristic to determine because so many factors are involved — how long the sand has been in the bunker, its particle size distribution, its depth, its moisture content, how often and how deeply it is raked, and the shape of the sand particles. These are just some of the factors that determine the softness of sand in bunkers. It is sufficient to say that reasonably firm sands are preferred. Hard, packed, wet sands contaminated by soil do not play well. Conversely, soft and fluffy sands in which a ball imbeds represent the other extreme.

An important consideration with respect to providing good sand bunkers is how well they are maintained. Unfortunately, maintaining sand bunkers in peak condition is not easy, nor is it economical. It takes work.

A revolution in sand bunker maintenance occurred with the introduction of the mechanical sand rake. This machine allows the operator to rake large areas of sand much more rapidly than he could by hand. This labor-saving feature is welcome unless the operator is more interested in speed than in quality performance. The best-maintained bunkers receive a combination of mechanical raking, which smooths the largest area of sand, followed by hand raking, particularly around the edges and on the steep slopes. On

many courses, this procedure is a compromise between the speed of the mechanical rake and the quality of hand raking. The result is a good-quality job accomplished within a reasonable period of time.

OTHER FEATURES of a good sand bunker maintenance program include periodic edging and weeding to remove undesirable vegetation and to define a clear edge for the hazard. This is important. There must be a well-defined edge so that the player will know when his ball rests in the hazard.

Maintaining a 3- to 4-inch lip on the bunker in the direction of play is recommended for bunkers near the putting surface. The goal is to deter the player from putting out of the hazard. Sand should be raked flush with the back and side edges of a bunker. Lips are not required on fairway bunkers.

Good drainage is essential for all areas of the golf course, and sand bunkers are no exception. Sometimes rainfall and irrigation water accumulate in sand bunkers because of their shape, depth, and location; therefore adequate subsurface drainage is especially important. Nothing is more aggravating to a player than to find his ball lying in water or very wet sand days after a rain. Quality playing conditions for bunkers require an effective drainage system.

IN CONCLUSION, there are two basic considerations in providing good-quality playing conditions for sand bunkers. First, the sand should conform to a recognized set of guidelines, and, secondly, meticulous maintenance of sand and the area surrounding the bunker is essential. Sand bunkers should add to the beauty, character, and playability of a golf course, not detract from it! Maintenance personnel at the best golf courses are constantly reminded of the special attention required to insure quality playing conditions from the sand bunkers.