Through the green, a player should ensure that any turf cut or displaced by him is replaced at once and pressed down

ith this statement regarding etiquette in the Rules of Golf, the debate begins on fairway divot repair. The passage clearly indicates that golfers are responsible for the repair of divots resulting from their golf shots. However, this is not always as simple as it sounds. Although golfers may replace divots, is this really what is best for fairway conditions? What is the best method for handling divots? If golfers do not fix or replace divots, who does? The confusion surrounding these questions is the result of several factors. These include grass type (warm-season versus cool-season grasses), weather conditions, and maintenance resources. The intent of this article is to provide guidelines for fairway divot repair for warm- and cool-season fairway turf.

Should a divot be replaced, or should the turf be thrown away and the scar filled with divot mix? From an agronomic perspective, opinions vary dramatically. However, an unrepaired divot provides a void that often is filled by weeds such as crabgrass and goosegrass if left unattended. The ugly appearance of an unrepaired divot is also undesirable.

From a playability and etiquette perspective, I believe a divot that is large enough to be replaced should be replaced, unless the scar can be filled immediately using divot mix. The lie of the ball may not be perfect, but divot repair will prevent a ball from finding the scar from a large divot. The maintenance crew may eventually remove the divot if additional repair is necessary, but during a round of golf, large divots should be replaced.

COOL-SEASON GRASSES

In areas where cool-season grasses are maintained, fairways are composed mainly of perennial ryegrass or creeping bentgrass. Varying amounts of *Poa annua* or other grasses such as Kentucky bluegrass also may be present, but maintenance is usually targeted for creeping bentgrass or perennial ryegrass. Divot-scar repair for each of these grasses can be quite different.

Perennial ryegrass has a basal-tillering growth habit. This often results in a divot that falls to pieces because it is not held together by stolons or rhizomes. Many times there is little left to replace. Thus, the best option is to fill the divot scar with a seed/soil mixture. This will level the divot scar

Fix It, Seed It, Fill It, Leave It

Proper repair of fairway divots depends upon turfgrass species, time of year, and whom you talk to.

BY DARIN BEVARD



Plastic bottles or buckets attached to golf carts and filled with divot mix have proven to be a popular method that allows golfers to aid in the process of repairing fairway divots.



(Above) Filling divot scars with a seed and soil mix provides leveling of the hole as well as the opportunity for reestablishment from seedling turfgrass.

(Opposite page) Green-colored divot mix is becoming increasingly popular. Although there is an added expense, the aesthetic benefits are appreciated. and allow reestablishment of the turf from seed. Perennial ryegrass seed will germinate and grow rapidly to heal the scar, especially during the spring and fall when weather conditions are favorable.

Creeping bentgrass maintains a stoloniferous growth habit. A divot taken from creeping bentgrass often results in the infamous "beaver pelt," a rather large divot that should be replaced for playability reasons. In fact, during the spring and fall, these large divots often will survive and reroot. During the hotter summer months, the chances of survival are reduced, and the scars will likely fare better when filled with a divot mixture containing creeping bentgrass seed, soil, and sand.

Fairways composed of Kentucky bluegrass pose a dilemma for divot repair. A combination of divot replacement and divot-scar filling will be needed. The slow germination of Kentucky bluegrass seed makes this grass slow to heal divot scars when filled with soil and seed. Filling the scars with a divot helps level the surface and allows the grass to heal the blemishes via rhizome growth. Adding Kentucky bluegrass seed can only help with healing, but again, its slow germination reduces the benefit of seed in the divot mix.

Realize that fairway divot scars in cool-season grasses will heal more rapidly during the cooler spring and fall months. During the summer months when hotter, drier weather is the rule; the growth rate of cool-season grasses can drop significantly. Often, germinating seedlings cannot survive the environmental stresses present during the summer. The overall result is more visible divot scars during July and August and the perception that divot repair is being neglected, which is usually not the case!

WARM-SEASON GRASSES

The divot issue is less complex with warm-season grasses. Zoysiagrass and kikuyugrass rarely yield deep divots in the first place. Any divot that is taken usually breaks into small pieces. Thus, filling the divot scar with sand is the best option. With bermudagrass, larger divots are taken more frequently. However, filling the divot scar with sand, even in instances where the fairways have been overseeded with perennial ryegrass, is still the best option for divot repair. When growing conditions are favorable, these aggressive warm-season grasses will fill any blemishes. If larger divots are taken and the scars cannot be filled with sand, the divot should be replaced for playability reasons.

THE DIVOT MIX

Divot mixes for cool-season grasses generally contain a combination of sand, seed, and soil. Some superintendents even add starter fertilizer to aid in germination and growth. The divot mix should contain enough soil and/or organic matter to maintain adequate moisture to aid germination. A combination of straight sand and seed requires more frequent watering for germination, which is undesirable. The soil content of the divot mix should be low enough that it still flows freely for easy use and does not smear under wet conditions. Do not skimp on seed. Too much seed is better than too little.

In warm-season turf, straight sand is usually used to fill divot scars. Seed is rarely included. In the case of bermudagrass, many of the fairway grasses are vegetatively established and the addition of seed in the divot mix will produce undesirable bermudagrass contamination.

Any divot mix can be dyed green for aesthetics. This comes at an additional cost, but provides a more uniform appearance for the fairways.



WHO IS RESPONSIBLE?

Who is responsible for repairing divot scars? In short, everyone has some responsibility in the matter. The etiquette of golf calls for golfers to replace divots and repair any damage to the course. Thus, whenever possible, golfers should participate in the process during their round of golf. The golf course superintendent or the golf professional staff must provide the players with the necessary tools to help with divot filling.

The most popular method to date has been the use of bottles or buckets attached to golf carts and filled with divot mix. For this to be successful, the bottles must be filled frequently. A station that allows golfers the opportunity to refill bottles during their round of golf should be provided. Without a reliable supply of divot mix, golfers can become frustrated and lose interest in the process. The use of divot bottles by walking golfers is not as easy. Walkers should make the effort to replace divots to the best of their ability to maintain good playability.

Ultimately, the condition of the golf course falls on the shoulders of the golf course superintendent. Some maintenance efforts may be needed to help with the effort to fill divot scars, which is a simple but labor-intensive activity. Fairways are comprised of 20 to 30 acres or more at most 18hole golf courses. Thus, proper budgetary resources for labor and materials are needed to carry out this activity. If these resources are provided, the maintenance staff can help to repair fairway divot scars.

Outside groups such as high school golf teams can contribute to fairway divot repair efforts in return for the use of a golf course for practice and matches. Members at some courses have also helped with this task. Whoever repairs divots should make sure it is done neatly to eliminate concerns about playability and potential inadvertent Rules infractions.

CONCLUSION

The debate among golfers over divot repair will always be with us because of the confusion about grass types, weather factors, and labor resources. Agronomy is not always compatible with playability regarding the repair of divot scars. All golf courses should implement a plan to address fairway divot repair based upon their individual needs and resources. When divot scars are neglected, weeds can encroach, unfortunate golfers can face difficult shots, and the general appearance of the course can suffer.

DARIN S. BEVARD has been an agronomist in the Mid-Atlantic Region for five years. Fairway divot repair is one of many topics frequently discussed on Turf Advisory Service visits. Ultimately, the condition of the golf course falls on the shoulders of the golf course superintendent. Whoever repairs divots should make sure it is done neatly to eliminate concerns about playability and potential inadvertent Rules infractions.