

ONE SOLUTION FOR SECOND-RATE SURROUNDS

Renovating the green surrounds and the intermediate roughs can immediately improve the appearance and playability of an old golf course.

by RANDY WITT, CGCS



Green surrounds that have become contaminated with other turf species and exhibit poor quality conditions provide an unfair penalty for missing the green by a few feet.

NEEDLESS TO SAY, the avid golfer's expectation and demand for flawless playing conditions now extends well beyond the putting greens. Serious and the not-so-serious players desire uniform stands of turf and a consistent lie throughout the golf course. A concern at many older courses is the inability to maintain a pure stand of turf over the years, especially along the border between the short-cut bentgrass playing surfaces and the higher-cut Kentucky bluegrass or perennial ryegrass turf. The intermediate roughs and the surrounds immediately adjacent to greens are high-play border areas where golfers agonize and complain the most over a difficult, clumpy lie.

The slow but steady encroachment of creeping bentgrass from greens, tees, and fairways into the Kentucky bluegrass intermediate roughs and green surrounds is especially troublesome at courses across the northern tier of the United States. Poor irrigation coverage, wear, and compaction from concentrated foot or cart traffic, and other factors weaken the bluegrass along the border of greens and fairways, and give the competitive edge to the bentgrass. Sometimes the intermediate rough was

originally fairway turf that was simply allowed to grow to a higher height of cut. Once bentgrass becomes well entrenched into a thin bluegrass, it has a negative impact on the playability and appearance of the turf. Bentgrass at a height of cut greater than $\frac{5}{8}$ " will become puffy, thatchy, and prone to scalping.

Another concern is *Poa annua* encroachment into Kentucky bluegrass. This often occurs during the cooler periods of spring and fall — the peak times for annual bluegrass seed germination. Annual types of *Poa annua* often die back in response to mid-summer heat and drought stress. The scattered dead patches of turf in the surrounds and intermediate roughs create an inconsistent lie for golfers.

There is no way to remove bentgrass from Kentucky bluegrass with selective herbicides. Attempts at renovating these sites using the non-selective herbicide Roundup followed by overseeding have rarely produced the desired result because Kentucky bluegrass has an extremely slow rate of establishment. The establishment rate of perennial ryegrass is excellent, but in the northern states the ryegrass is just as susceptible to winterkill as *Poa*

annua. The most effective method for addressing this problem is to physically strip the contaminated turf and renovate the surrounds and/or intermediate roughs with high-quality Kentucky bluegrass sod.

Improving the irrigation coverage to the surrounds and intermediate roughs is an important prerequisite to the renovation project. Multi-row irrigation coverage at least partway into the rough is an absolute necessity, and a perimeter irrigation system for the surrounds is strongly recommended. Bentgrass greens generally require different rates of irrigation versus the bluegrass surrounds. Providing the right amount of water to each playing surface is nearly impossible without a separate set of irrigation sprinklers around the greens. In fact, poor irrigation coverage around greens and across the roughs was likely a significant contributing factor to the bentgrass contamination in the first place.

The best time to tackle this project is fall, when play subsides. Heat and drought stress to the sod will be much less of an issue during September through November compared to mid-summer. In fact, the sod can be installed anytime during fall until the ground freezes.

The Renovation Process

First, mark the area targeted for renovation. We usually include the entire perimeters of greenside bunkers. A typical 5,000 sq. ft. green would generally require between 1,500 and 2,000 sq. yd. of sod. Use wheelbarrows, sod cutters, and try to use equipment no larger than a small skid steer loader to prevent damage to the existing grade in the surrounds. The use of larger equipment also increases the chance of damaging irrigation pipe or sprinkler heads around the greens. Once the old turf is stripped away, any depressions in the surrounds can be leveled, followed by an application of starter fertilizer. A four-person crew can cut and strip

around one green and replace the sod in about three days.

Sod the perimeters of the greens and bunkers first, then sod the rest of the surrounds. This ensures that a solid border of sod is installed immediately adjacent to the bunkers and the collars. Stake down sod across steep slopes and be sure to eliminate any gaps between the strips of sod. Keep in mind that the sod might shrink a little over the winter, especially during a dry winter with little snow cover.

Green banks and bunker banks will dry out quickly. Frequent irrigation is needed and the new sod is usually hand watered at first. Wetting agents can help keep water moving through the thin layer of thatch that often accompanies the sod, which reduces the potential for bunker washouts.

Once the sod becomes firmly rooted into the underlying soil, the turf can be mowed. Use push-type rotary mowers to minimize the potential for damaging the sod with heavier riding mowers. Self-propelled mowers operated across a slope can cause a great deal of damage to weakly rooted sod. Aerate the sod just as soon as the playing surface can accommodate the equipment. Coring the sod will encourage the roots to grow deeply into the underlying soil and further stabilize the playing surface on a steep slope.

Renovating the intermediate roughs will proceed more efficiently if big roll sod equipment is available from the sod supplier. A big roll sod harvester can be used to remove the old turf to a depth of at least one inch. Removing a little soil with the sod might help reduce the *Poa annua* seedbank. Remove between a six-foot and nine-foot swath of turf from each side of the fairway. The width of the intermediate rough will probably depend on the type of equipment available to mow the playing surface. The standard width of a big roll is 24 inches, but some suppliers can lay 48-inch-wide double rolls to further reduce installation time.

An average par-four fairway will require about 2,000 sq. yd. of sod for a 90-inch-wide intermediate rough. The cost for a contractor to remove and sod intermediate roughs in the Green Bay, Wisconsin, area during the 1999 season was approximately \$2.50 to \$3.50 per square yard. Try to obtain a blend of dwarf-type Kentucky bluegrass sod if the intermediate rough will be maintained at or near a one-inch height of cut. Older varieties of Kentucky bluegrass sod will thin out at a one-inch



Be sure to include the turf adjacent to greenside bunkers whenever a surrounds renovation project is undertaken.



Conversion from single-row to multi-row fairway irrigation is strongly recommended before the intermediate roughs are renovated. A typical single-row pattern of sprinklers down the center of a fairway will seldom provide uniform irrigation to the intermediate roughs.

height of cut, especially in sites where concentrated cart traffic exists.

Sound maintenance practices will keep the eventual encroachment of bentgrass into the new sod to a minimum for many years. However, this type of renovation may need to be performed every 10 to 20 years if golfers desire consistent playing conditions in the intermediate roughs and the green surrounds. Perhaps the enhanced ability of dwarf bluegrass mowed at one inch to compete with bentgrass in collars and fairways will keep the

encroachment at bay even longer. The bottom line is that few projects have the ability to significantly improve the appearance and playability of an older course more than a complete renovation of the surrounds and intermediate roughs.

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