

# Cleanup and Out

Focus on the complexity of the putting green cleanup ring, collar, and approach during both renovation and maintenance.

BY BUD WHITE

The primary focus of golf course maintenance has long been on putting greens, given their impact on the game. That focus usually stops at the cleanup lap, but the quality of the cleanup lap, collar, and approach are critical to the overall playing condition of the putting green complex. These areas also receive the greatest amount of equipment traffic, making them the first candidates to show wear damage. Not surprisingly, they are often the most challenging areas to maintain.

In recent years, however, the cleanup lap, collar, and approach are receiving much greater attention. Golfers, especially low-handicap players, recognize the benefit of top playing qualities such as uniformity, firmness, and lack of grain in these areas and understand how these factors impact play onto and around the putting surface.

Despite receiving more attention of late, for many courses these areas continue to be problematic. This can be partly attributed to the increase in the topdressing of greens with spin-type applicators. Oftentimes sand accumulates at the collar's edge as a result of brushing sand into the turf-grass canopy or aeration holes following topdressing applications. More specifically, the circular patterns commonly used to brush or drag sand into the turf push sand that doesn't work its way into the canopy to the outer edges of the greens, where it accumulates in the collars. This often goes unnoticed at the time because the higher height of cut in the collars allows the turf to receive more sand. Eventually this creates buildups, or "artificial collar dams," blocking surface drainage off the putting surface itself. Given the amount of topdressing sand superintendents are applying to greens today for organic matter dilution and to main-



*Photo 1. Soil buildup in putting green collars can greatly inhibit surface drainage and interfere with playability.*



*Photo 2. Sand blasted from an actively played greenside bunker eventually leads to buildup in the collar.*

tain putting green quality, it is easy to see how a buildup of sand, potentially upward of an inch or more annually, can occur in collars if it goes unchecked. As mentioned earlier, the innovation of the spin-type topdresser has increased the ability to easily apply topdressing on the greens and collars, and thus greater amounts of sand are being applied than in years past.

A similar buildup of sand can often be seen in front of heavily played bunkers where sand is frequently blasted onto the green's edge and collar. Photo 2 is an example of sand buildup approximately nine inches deep that occurred over six years on the grass face of a greenside bunker. Like abnormal sand buildup from topdressing sand in collars, bunker sand



*Photo 3. Sand “caught” in the putting green collar following brushing. Over time, this accumulation of sand leads to raised collars.*

buildup along bunker faces and green edges often goes unnoticed as well. Just the same, it adversely impacts playability, maintenance, turf health, and design.

What are the options for leveling/ lowering collars should a buildup of sand occur? The first approach would be a slight lowering of the collar through intensive aeration and heavy rolling. Many superintendents have corrected modest buildups of  $\frac{5}{8}$ -inch or less in a narrow collar band by thoroughly core aerating the collar with  $\frac{1}{2}$ - to  $\frac{5}{8}$ -inch-diameter hollow tines and removing the soil cores. Lightly hand water the area to make sure soil moisture is adequate, and then roll with a one-ton roller. With soil cores removed, there is room for the soil to shift and compress. This slightly lowers the raised portions of the collars. I have observed  $\frac{1}{2}$ - to  $\frac{5}{8}$ -inch surface buildups completely removed by completing this operation twice in one growing season. Depending on the severity of the buildup, repeating for a third or fourth time in the following growing season may be necessary to adequately level the collars. After rolling, the area is lightly topdressed and brushed to eliminate

any scarring that may have occurred from rolling.

For collars needing a more drastic lowering in elevation because the sand buildup is so severe or the area is too

large for the aeration and rolling procedure previously discussed, the process involves removing the sod and regrading the soil beneath. Key questions to answer when developing a plan for this type of approach include:

- Is there encroachment of turf from the collar into the green that needs correcting?
- If so, is soil fumigation needed to help control the encroaching grass? Bermudagrass invasion into bentgrass greens is a common example that warrants soil fumigation.
- Does the turf in the collar need replacement, and is it the proper species or variety?
- Is the collar located on topsoil consistent with the green surrounds, or is it the same rootzone mix used on the greens?
- Does the cleanup band need leveling and sod replacement as well?
- Is the approach in need of renovation to improve surface uniformity?
- Are there sand buildups in the collars and green edges alongside bunkers that need correcting at the same time as part of this renovation process?

Deterioration of collars and encroachment of unwanted grasses from collars into putting surfaces have been other



*Photo 4. Core aeration followed by rolling is very effective in lowering minor collar buildups.*



*Photo 5. Lowering collars can require extensive sod work to achieve a seamless transition.*

*Photo 6. Soil fumigation of collars and cleanup laps, combined with re-leveling, is a very detailed operation.*

obvious problems of the collar/green transition. If encroachment is a factor, then it only makes sense to correct this at the same time as soil buildup in the collars is corrected. Proper selection of turf for collars is the logical place to start for establishment and maintenance of a quality putting green and collar. Doing so will also help keep encroachment issues to a minimum. There are a few tricks, mentioned later in this article, during routine maintenance and mowing that will further prevent encroachment and ensure that the margins of the collar and putting surface do not move. Next, determine if the collar was installed initially on the rootzone mix used for the putting greens or if it is located completely on surrounding topsoil. Perhaps it is a little of both. Often the transition from the putting green rootzone mix to the surrounding soil is not well identified when collars are installed, and if collars are sodded partially on topsoil and partially on the rootzone mix, it creates a terrible maintenance scenario. Careful soil probing should be done not only to identify the original contour outline of the putting surface, but also to establish complete consistency of the soil growing medium for the collars.

Oftentimes the cleanup band of the putting green is in poorer condition than desired. To improve the cleanup

bands may require surface leveling (to smooth the transition from putting green to collar) and improving turf quality before optimum playability and surface smoothness can be restored. Collar renovation will include removing one to two sod widths of the cleanup band as well, with new sod replacing old turf after complete leveling and proper soil work is performed. This is the most effective and efficient way to improve the outer zone of the green complex and eliminate low areas, heavily compacted soils, and unevenness between the collar and putting surface.

During renovation, it is best to fumigate the soils within the project area, and this can be achieved without including the entire green. Photo 6 shows a completed collar renovation, including removal of sod and re-leveling two feet into the putting green cleanup area and three feet into the collar. The area is being properly leveled and graded, the new sod installed to improve playability and maintenance, and the existing bermudagrass contamination is eliminated by soil fumigation. Isolating fumigation to just the band of the collar that needs to be renovated can be accomplished without damaging the putting surface or other areas as long as they are not under plastic used to create a

fumigation tent. The preferred method of soil fumigation is methyl bromide, a gas that is heavier than air. As such, it moves downward into the soil instead of laterally, so proper fumigation does not cause damage beyond the plastic tenting.

Sand buildup in front of heavily played bunkers over time can be significant and generally becomes worse the closer the bunker is to the green. The buildup of sand can greatly affect playability and turf quality in these areas. To renovate requires stripping away the sod and removing sand until the collar and surrounds are lowered to as close to the original grade as possible; then the sod is replaced. The difficulty with this is that a large area must be impacted in order to achieve a seamless and uniform tie-in between the playing areas.

When approaches, as part of the green complex, are of poor quality and consistency, it makes sense to include them in the collar renovation project. It is most efficient to perform all the work at once so the results of the project will be better. The condition of the approach has become a major focal point for golf facilities in recent years, primarily in terms of improved uniformity and grain reduction as well as surface firmness for warm-season grasses. Approaches have always



*Photo 7. A mower dedicated to cleanup laps saves significant wear injury and helps prevent turf thinning if equipped with a solid front roller and set .020 inch higher than mowers used on the putting surface.*

been one of the most difficult areas in which to maintain year-round firmness because they almost always are on the downslopes of greens where surface water runoff from the entire putting area collects. This results in consistently higher soil moisture content and softer conditions than in surrounding areas. One method some golf facilities have used is to install a high-sand rootzone system complete with subsurface drainage into the approaches for firmer playing conditions. Proper irrigation system design is extremely important as well so as to avoid overwatering approaches. In one situation, I counted seven different irrigation heads watering the approach of a green. If soft approaches are a problem at your golf facility, it is a good idea to perform an irrigation audit to see if adjustments can be made.

### **RENOVATION COMPLETE! NOW WHAT?**

Your golf facility just spent a significant amount of money to improve all perim-



*Photo 8. Edging and paint dots to identify the green/collar interface can maintain original putting surface contours and virtually eliminate encroachment issues.*

eter areas of the greens, so how do you prevent this from occurring again? A detailed and focused maintenance program should be initiated and maintained with the cleanup band, collar, and approach specifically in mind. This includes additional aerations to counteract the faster buildup of sand in these areas or to provide compaction relief, given mechanical traffic is more concentrated. More intensive verticutting

removal of sand buildup is most effective in front of high-traffic bunker deposit areas as well. High-traffic bunkers will actually require two to three of these operations per year, but just in the buildup spots, which does not disrupt play.

After greens are topdressed and dragged/brushed, a pull-behind turbine or a high-velocity walking blower is usually more helpful than a backpack

.025 inch higher than the cutting height of the putting green. This slight increase in mowing height in the cleanup pass versus the putting surface itself is not detectable by golfers, yet the additional leaf tissue that is preserved reduces turf stress.

Carefully determine the proper cutting height for collars to make sure the height best fits the turf being maintained. This is particularly the case for



*Photo 9. Brushing in topdressing must be done with care to not move sand into the collar edge.*

or dethatching in the collars may be warranted to account for additional sand buildup that occurs. Vertical mowing followed by blowing is very effective at dislodging sand and removing it from collars. One of the extra core aerations per year in the green cleanup and collar area should be accompanied by hand watering and a heavy roller application (as discussed previously) to help maintain a seamless transition from putting green to collar. Additional core aeration and verticutting for re-

blower simply because of the extra air volume and force produced. This disperses sand as it accumulates in the higher-cut collar, thus preventing the buildups as pictured in Photo 9. This should be a normal practice as part of the cleanup for every topdressing and brushing operation.

For better turf quality in cleanup laps, equipping a mower with a smooth front roller and dedicating it year-round to cleanups is important. This mower is often set at a cutting height of .015 to

putting greens in the South to ensure the cutting height accommodates the environmental stresses common to the region. When bentgrass collars are maintained in the southern regions of the U.S., it is actually better to lower the cutting height during the summer, which reduces wear, heat buildup, and moisture retention at the crown, or growing point of the plant. This goes against conventional thinking, but many superintendents in the southern U.S. with bentgrass collars have low-

ered cutting heights on collars to .185 to .200 inch with a solid front roller during the summer, and they are producing much better turf health and success through summer stress than when mowed higher at .250 to .300 inch. Remember that it is necessary to lower the mowing height prior to the onset of heat stress, not during or after, to be effective.

To further reduce turf stress on the cleanups and collars, carefully train mower and roller operators where to turn. Skipping mowing cleanup passes as much as possible is a given, but also train employees to not always turn in the cleanup or collar as well. Turning mowers outside the collar is an excellent way to disperse traffic patterns into other areas and reduce mechanical injury to the cleanups and collars. Similarly, rolling is very successful when stopping or starting occurs on the putting surface and just inside the cleanup. With a careful operator, no damage occurs from stopping/starting on the green and no extra wear occurs on the cleanup or collar. This is one of the benefits of using side-to-side rollers.

Revisiting the topic of encroachment and to keep the collar/putting surface transition consistent, preventing the movement of this transition line due to mowing practices is critical. Encroachment can occur quite rapidly when triplex mowers are used. The operator, with the best of intentions, does not mow all the way to the collar in order to prevent scalping into the collar. Always erring on the side of the putting surface, the collar is allowed to creep into the putting area in very small increments. Encroachment a fraction of an inch at a time adds up, and the result can be smaller putting surfaces by several feet all the way around the green if never corrected. Also, and especially with triplex mowers, contours can be lost over time and putting green edges become more rounded. When this happens, the original footprint of the putting surface also changes significantly. Most superintendents regularly and consistently mark the correct green edge with a dot of paint so mower operators can accurately track putting green edges. Many keep



*Photo 10. Stopping rollers short of the cleanup lap will reduce mechanical stress to the turf.*

these dots in place year-round or as long as mowing is being performed. It is important that golfers understand the reason for these dots. If they do, they will appreciate the strong effort being made to maintain the original design and integrity of putting green perimeters.

Due to their proximity to the putting greens, collars and approaches must receive very specific maintenance on a year-round basis to meet the higher playing quality demands of golfers today. Uniformity in turfgrass growth is very important, yet most collars receive varied and inconsistent amounts of fertilizer inputs. Skips and overlaps of spray booms when applying fertilizer to greens typically occur in the edges of putting greens or collars and cleanups, so special attention is required by the operator. Consider switching fertility to regular slow-release or organic

granular fertilizers on collars so there is a consistent and uniform fertilization program geared specifically for their needs. In summary, extra consideration should be given to how much the putting green fertility program impacts the collars in a non-uniform way.

Upgrading maintenance outside the putting surface maximizes playability within and around the green complex year-round. It sets a new standard for playing surface quality, which is noticed and appreciated by all golfers. Carefully evaluating maintenance practices in the areas surrounding the putting surface is basic to providing the best conditions possible and bringing the quality of this zone to the same standards as putting surfaces.

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