

Collar Problems and How to Prevent Them

Putting green collars receive constant abuse that often goes unnoticed until their appearance and playability decline.

BY DARIN S. BEVARD



Carpets can be used to protect warm-season collars during growth regulator applications, but this strategy is labor intensive and increases the time required for applications.

Putting green collar (or apron) management has been challenging for many golf courses in recent years. Most golfers do not realize the constant abuse imposed on the narrow strip of turf that separates the putting green from its surrounds. This abuse can lead to turfgrass decline that is unsightly and detrimental to playability.

More important, golfers often perceive collar problems as a shortcoming of maintenance practices or neglect. In some instances this may be true, but in most cases it is not. Understanding the factors that affect collar performance offers the opportunity to allocate resources for additional maintenance programs to reduce turfgrass problems

on collars. It may also help golfers and course officials realize the challenges facing collars throughout the growing season.

COMMON PROBLEMS

The primary causes of collar decline must be identified and understood before collar problems can be prevented.



Traffic from rollers and mowers needed to prepare actively growing creeping bentgrass greens can lead to decline of warm-season collars at times of the year when these grasses are dormant or growing slowly.

Keep in mind that the factors discussed below are often found in combination with each other. Awareness of the following factors allows preventative strategies to be developed.

Mechanical Stress — Mowing. As our ability to maintain healthy grass on putting greens has improved in conjunction with faster green speeds, collar problems have become worse. Greens are mowed more frequently and putting green mowers and rollers often turn or change direction on the collars. Often, the areas most difficult to manage are located between the edge of a green and another close obstacle such as a bunker, water hazard, or steep drop-off because there is limited area to turn mowers. Sharp turns are made to avoid the obstacle to the detriment of the grass on the collar. If strategies are not used to disperse traffic or protect the grass, thinning or even outright decline of the collars can occur over the course of the growing season.

Problems can also develop where warm-season grasses are adjacent to creeping bentgrass greens. Many superintendents have decided to maintain a warm-season grass collar to

maximize available putting green area for hole locations. When you assume an average collar width of 30 inches over 18 average-sized greens, this



Making wide turns and varying the area where turns are made can prevent wear patterns from developing on collars.

translates to roughly the same square footage as two to three additional greens. However, problems from the stress of mower and roller traffic occur when warm-season grasses are dormant or growing slowly — often referred to as the shoulder seasons — but the creeping bentgrass putting surface is actively growing and still requires regular maintenance. Furthermore, bermudagrass or zoysiagrass adjacent to a green may be thin and slow to green up in the spring if it greens up at all.

Sand Abrasion. The worst collar damage often occurs because of sand abrasion from bunker splash, topdressing overlap, or sand accumulation during core aeration. Often, sand abrasion acts as a “double whammy” and adds to collar stress where space to turn equipment is already limited. Sand blasted from bunkers can settle into collars creating an abrasive environment that effectively emulates sandpaper on grass as traffic traverses the affected area. Sand topdressing applied to a green that overlaps into the collar or sand that is deposited on a collar during the aeration process can also cause problems, especially

during hot, humid weather when cool-season grass is susceptible to decline from sand abrasion.

Growth Regulator Overspray. The expanded use of growth regulators has also been problematic on bermudagrass and zoysiagrass collars adjacent to creeping bentgrass greens. Repeated applications of growth regulators containing flurprimidol or paclobutrazol at rates and intervals used on greens to suppress *Poa annua* and reduce clipping yields can stunt and thin zoysiagrass and bermudagrass collars. Growth regulator applications seem to cause the most problems when warm-season grasses are entering or exiting dormancy and when recovery during the growing season is slow.

If warm-season collars are continually exposed to certain growth regulators, the grass will be caught in an annual cycle of damage and recovery. Just as warm-season collars recover by the end of summer, their growth naturally begins to slow during the fall. Applications of growth regulators to maintain cool-season putting surfaces during the fall — in addition to the mechanical stress imposed by rolling and mowing greens — can damage warm-season collars as they begin to enter dormancy and their ability to recover from injury is diminished. Therefore, warm-season collars may get weaker each growing season until their quality becomes unacceptable.

POSSIBLE SOLUTIONS

Each situation is unique, but one or all of the circumstances discussed in this article could impact the quality of collars over the course of a growing season. However, knowing some of the primary stresses that lead to collar decline will help develop preventative strategies.

Select the Best Mowing Height.

Height of cut and growth habit have a major impact on the ability of creeping bentgrass collars to withstand mechanical stress. While it may seem counterintuitive, reducing the height of cut generally improves wear tolerance on collars. Collars are commonly mowed at 0.250 to 0.300 inch to encourage upright growth and increased plant density.



Excessive lateral growth of creeping bentgrass makes it more susceptible to mechanical damage and sand abrasion. Grooming, brushing, and reducing mowing heights are all strategies that can reduce lateral growth and promote density.

Grooming for Better Wear

Tolerance. Light brushing and grooming can also promote upright growth. Why is upright growth important? Excessive leaf tissue is often confused with good plant density. If creeping bentgrass is allowed to maintain a strong lateral growth habit, the horizontal orientation of the leaves makes them more susceptible to abrasion and mechanical injury. With more upright growth, traffic (in whatever form) impacts the tips of the leaves rather than the entire leaf surface. Consequently, this is one reason that perennial ryegrass and *Poa annua* often perform well in collar areas while creeping bentgrass struggles. The natural upright growth habit of ryegrass and *Poa annua* improves their traffic tolerance. This has led some superintendents to aggressively overseed their collars with perennial ryegrass in areas that are difficult to manage. However, some find the difference in

consistency of perennial ryegrass compared to bentgrass objectionable.

Minimize Mechanical Stress. More golf courses are investing in plastic mats or plastic lattice to protect collars from turning mowers. However, the use of protective barriers on collars during mowing is more labor-intensive and increases the time required to mow greens by as much as 20 percent because the mats must be moved as the green is cut. There is also a learning curve for turning a mower on plastic mats, but plastic mats and lattice offer considerable protection to the grass on the collars. Some superintendents only use protective mats from mid-June through the end of August, when ongoing environmental stress on cool-season grasses is highest.

Another preventative strategy is to encourage employees to make wider turns into the green surrounds or, when possible, vary the location of



Plastic mats can be used to protect collars from traffic. Despite increasing time for putting green preparation, the popularity of these mats is increasing.



This hedge restricts the available turning area for mowers, forcing operators to turn on the collar, which has declined due to mechanical stress caused by concentrated traffic.

turns rather than always turning on the collar. This strategy can help, but it has limitations when the available turning area is limited by bunkers or other obstacles. Also, this strategy may relocate problems to a different area by creating wear patterns in the surrounding rough.

For warm-season collars, it is necessary to limit traffic during the shoulder seasons. The use of mats or lattice is one option. Some courses with warm-season collars use triplex mowers to cut greens during the shoulder seasons because triplex mowers can distribute traffic from turning over a larger area of the green surrounds. Regardless of the strategy employed, the goal is to limit concentrated traffic on warm-season collars when they are not actively growing.

Reduce Sand Abrasion. Limiting sand applications on creeping bentgrass collars during summer heat will reduce abrasive stress on the turfgrass plants. One way this is accomplished is by suspending light topdressing applications under stressful environmental conditions. However, this eliminates the potential agronomic and playing conditions benefits associated with light topdressing.

Some superintendents actually choose to apply one or two passes of light topdressing with a drop spreader just inside of the collars. Broadcast spreaders are then used to apply topdressing to the rest of the green. The use of drop spreaders adds labor to the process, but it also limits the potential for sand abrasion on creeping bentgrass collars.

Reduce Growth Regulator Exposure. Growth regulator overspray is primarily a problem on warm-season collars and can create problems throughout the growing season. There are three options to address this: stop using the growth regulators that cause problems, use carpets or other materials to cover collars when growth regulator products are sprayed, or spray growth regulators in such a way that minimizes overspray onto warm-season collars.

The first option of stopping growth regulator applications has been employed often, but this eliminates a

valuable tool for reducing clipping yield and suppressing *Poa annua* in creeping bentgrass. The second option, protecting collars from overspray by using covers, is labor intensive but effective. The final option of spraying a “cleanup pass” of growth regulator around a green before completing the application in the middle of the green has been utilized successfully, but this method requires careful sprayer setup for the application. In short, there is no easy answer to the problems caused by growth regulators applied to creeping bentgrass greens with warm-season collars.

CONCLUSION

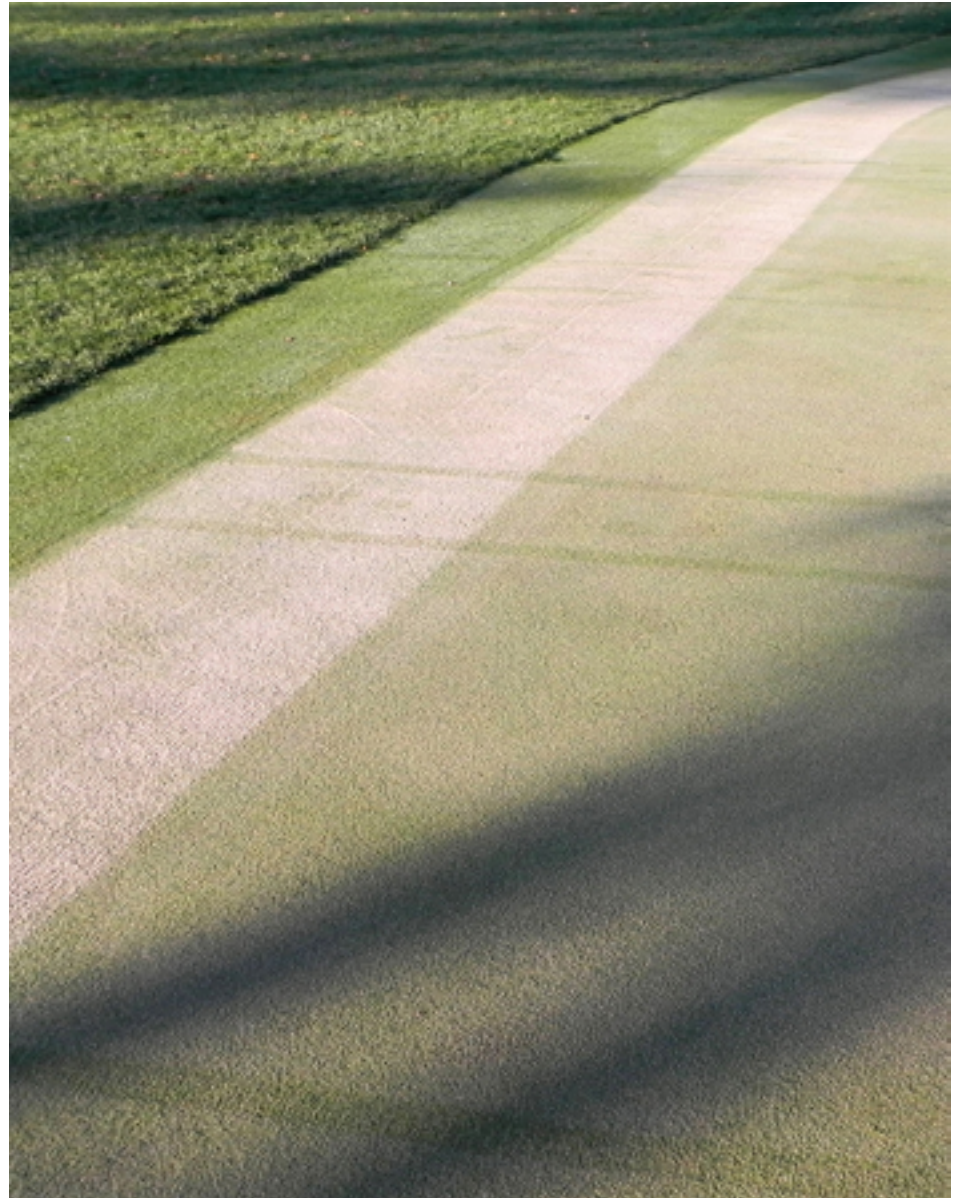
Collars receive far more traffic than people realize, and they play a vital role in the playability and appearance of a golf course. In addition to ordinary collar maintenance, collars are affected by golfer traffic and the management of greens, surrounding rough, and bunkers. The use of protective mats on creeping bentgrass collars to absorb the punishment of turning mowers, in conjunction with limiting exposure to topdressing sand during the heat of the summer, can help dramatically reduce collar stress. Protective mats can also be used on warm-season collars adjacent to creeping bentgrass greens during times when warm-season turf is not actively growing. However, using mats to protect warm-season collars from traffic does not solve the issues associated with growth regulator overspray, which can be a more substantial challenge.

With expectations for unblemished turf, especially around putting greens, it may be necessary to increase collar-management inputs to prevent collar decline. First, however, identify the factors contributing to collar problems

in your situation. Understanding the factors contributing to collar problems will help to formulate an effective management plan. If you have problem areas on collars and maintain the

status quo, expect challenges to continue.

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Sand abrasion on collars can contribute to decline. A drop spreader can be used to apply a “cleanup pass” of sand, which can prevent sand from being thrown into the collar during light topdressing applications.

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