As the number of grass varieties continues to grow, there are different levels of competition and encroachment where they contact each other. The contact zone – where the putting surfaces and surrounding greens collars meet – is a high-profile zone and can create a challenge to maintain a consistent playing surface. Solving that challenge is the topic for this issue and your peers and USGA Green Section Agronomist Todd Lowe share some tips and programs that might help you.

**Bob Coffey, Cimmarone Golf Club**
Encroachment can be ugly, but we try to keep its control very simple. When we aerify, we aerify our collars and greens separately. When we do the collars, we use a GA-30 and then blow the plugs off into the rough. When we aerify the greens, we use a core harvester to pick up and remove all the cores. We also take an edger and run it around between the collar and the green to try to keep both grasses from moving toward each other. Currently, that’s all that we do.

**Carlos Arraya, Hawks Nest Golf Club**
Three days prior to aerating the greens in May or June, we apply a two-inch-wide pass of Finale® at the interface of the TifEagle greens and Tifway 419 collars. Though it does become discolored for a short time, it allows for a perfectly framed look. We then aerify, first making a perimeter pass. We raise and lower the aerifiers in this pass at all times to avoid any 419 patches. It does create a little tufting in weak spots but does minimize spreading any the 419.

Every two weeks we edge this perimeter line about a quarter-inch deep and blow off the debris. The Finale® application leaves the 419 stolon weak and loose and once the edger runs around we blow away any stolons trying to run into the greens. We apply greens topdressing by hand on the edge of this finale line which seems to irritate the 419 more than the Eagle. This prevents the interface zone from becoming inconsistent and helps a smooth transition back to TifEagle.

In August we also like to mow our perimeter pass 4 inches outside the green’s edge. The 419 hates this and the Eagle outcompetes the 419. We have done this since our grow-in four years ago and we have seen no encroachment or contamination. The size of the greens has remained intact with no issues (knock on wood). We just communicate the heck out of it when we do it to advise members and guests.

**Ricky Reeves, Miami Beach Golf Club**
At our course we now have paspalum wall to wall. This is how we deal with old bermudagrass intrusion around our collars. We will spray out the bermudagrass two or three times with RoundUp® about ten days apart, and then sod cut the area to remove the bermudagrass. Then we will add a pre-plant fertilizer such as Milorganite® or a 10-10-10 blend.

We also will add some Eco-lite® 1-2 lbs per 1000/sq.ft., and also add Lassenite® to help hold moisture. Lassenite® has helped out in a huge way with dry areas in general. We will aerify the area, remove cores and add the Lassenite® at about 50 lbs. per 1000/sq.ft., and then water heavily. This is also done in fairways and tee areas. We have also been experimenting with Lassenite’s® greens-grade product in small areas on our putting surfaces that seem to give us problems now and then.
James Sprankle, The Loxahatchee Club
A trend in today’s new course construction or regrassing projects is utilizing a mix of seashore paspalum wall-to-wall with an ultradwarf turf variety on greens. With bermudagrass throughout, encroachment of fairway grasses into greens is difficult to manage but some guys do a great job at it. At the Loxahatchee Club we have TifEagle greens with Sea Isle 1 on the remainder of the course. I am a stickler when it comes to attention to detail and a defined greens edge is something I consider a priority. A benefit of having paspalum outside of our greens is that stoloniferous growth is minimal, so preventing encroachment for us is not that difficult.

What works for us may not work for others, but this is how we have prevented encroachment. During the growing season we simply stick-edge the border of the green so that we have a defined border between the two grasses. During the winter we will perform this task every other week, just to keep our definition. The only caution with edging this border is not to create a ditch where the ball can come to rest and create a rules issue. To prevent this we use the same operator every time to maintain consistency. Once you have a clean, defined edge, any paspalum within the greens surface can be removed with chemical applications. We rarely see any encroachment but if we do notice it, we will mix MSMA, Confront and Illoxan in a one-gallon sprayer and apply to the TifEagle side of the border. Be sure to have a calm day, steady hand and a tight spray pattern or you may injure the paspalum outside of your border.

Our mixture does not affect the TifEagle and it usually takes two applications to rid the paspalum from the Eagle. Our rates work on TifEagle for us. If you are interested in trial rates for your facility, please contact me at Jsprankle@loxclub.com or 561-262-5794.

Steve Wright CGCS, Boca West C.C.
We edge our putting green perimeters twice per month in the growing season and once per month in the winter “golf” season. Sometimes workers on the courses with bermuda greens and collars use this manual edger at Boca West CC. Photo by Steve Wright, CGCS.

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season. Each course has a couple of guys trained to do this work. We have multiple courses with combinations of bermuda-bermuda and bermuda-paspalum greens and collar interfaces. Guys on the paspalum courses prefer using a McClane edger with its guide wheels.

We also use an Accuform manual edger/slicer. The crew says it seems to slide much easier along the slot on the bermuda courses. The bermudagrass courses for some reason don’t require the same amount of edging. However I’ve heard that the guys with Celebration® collars edge weekly because it is so aggressive.

If we feel the need to spray out any encroaching grass on putting surfaces, we use a handy plastic T-shaped guide that we fabricated to help prevent any overspraying into the collars.
There is a battle that takes place along putting green perimeters. The battle is over space and it occurs between the more aggressive rough-type bermudagrass (usually Tifway bermudagrass) against the green-type bermudagrass on golf course putting surfaces. This battle between the two turf types is generally termed “encroachment,” as the rough-type bermudagrass slowly encroaches onto putting surfaces over time.

There are no selective herbicides to remove rough-type bermudagrass from green-type bermudagrass putting surfaces and several strategies have been implemented to suppress encroachment including mechanical edging and using alternative grasses within putting green collars. However, the most common means of managing encroachment is to physically remove contaminated putting green perimeters and to replace the turf with greens-type bermudagrass. This usually entails removing the contaminated turf with a sod cutter and simply replacing it with commercial sod. However, there are several downsides to using commercial sod including costs, excessive thatch, soil layering, surface grain and soil settling in sodded areas, creating uneven surfaces.

An innovative form of regrassing putting green perimeters was implemented for the first time at Quail West Golf and Country Club in Naples several years ago. Contaminated perimeters were killed with Round-up (2 to 3 applications) several weeks prior to removal with a sod cutter. The cavity was slightly excavated and then replenished with a heavier rootzone mix (70 peat:30 sand). Putting greens were then core aerated (5/8″ tines) and, instead of removing plugs, the cores were pushed into the new mix and rolled. The new perimeters generally require 6 to 7 weeks to completely establish and provide a much smoother and uniform surface than conventional sodding. Perimeter plugging also eliminates grain, since the plugs create a new stand of turf. Lastly, perimeter plugging saves money, since the grass is harvested on site.
Mark Black, director of golf course and grounds operations at Quail West, and his staff have learned a few things over the years and offer the following suggestions:

- A pre plant fertilizer is not necessary as it gets buried under the plugs
- Try to install the plugs approximately 3/8” below the existing green edge and topdress new plantlets back up to the existing green surface. Wait until they are actively growing before beginning the topdress program
- Keep these areas moist, especially during the heat of the day
- Resist excessive rolling until plugs are established
- Do not turn mowers on the plugs
- Once you see root development, begin grow-in fertilizer program
- Do not spray Primo on plugs until fully established
- Spike as necessary

The area sprigged with greens plugs begins to green up and fill in.

Photo by Todd Lowe.

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Perimeter plugging has been successfully implemented on both golf courses at Quail West over the past eight years. Black has been quite pleased with the results although he credits the original concept to his staff and particularly Crew Leader Lacho Martinez. The plan is to plug perimeters every three years at Quail West, so that Tifway encroachment is kept at a minimum. In addition to plugging, the perimeter/collar interface is edged weekly during the growing season and Tifway runners are physically removed. Although this practice is labor intensive, it provides a nice look to the putting greens and another level of detail that golfers appreciate.

After six to seven weeks, the perimeters are completely grown in and are edged weekly during the growing season. 

Photo by Todd Lowe.

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