

# NEW IDEAS MAY SOLVE OLD PROBLEMS

All options should be on the table.

BY KEN FLISEK



The ability to make adjustments as you go is an important skill as part of the business of managing golf course turf. There are always better ways of getting the job done.

One of the benefits of being a golf course superintendent in the Mid-Atlantic Region is that the winter months provide an annual opportunity to step back and think about what did and did not work during the past season. Over the last several years, I have focused more efforts on finding new ways to improve efficiency and make better use of our capital and labor resources. The current economic climate has forced all businesses to do just that, and golf course operations have not been spared. I would like to share a few of the changes we implemented to improve operational efficiency while maintaining the conditions requested by our golfers.

## COLLARS

The Club at Nevillewood is a Jack Nicklaus Signature Course built in 1991. The greens and collars were constructed to USGA guidelines. I do not know the exact reason, but during the summer months, the turf on the collars around our sand-based greens always became less dense. Virtually every hole at Nevillewood has a deep bunker or water feature on at least one side of the green complex in close proximity to the putting surface. This setup makes it difficult and dangerous for walk-behind or riding greens mowers to operate in the limited space. The abrasion from mowers that turn on the collars and from rollers that change directions was the main reason for the annual decline. I know some turf managers instruct their operators to turn mowers on thin sheets of plywood, lattice, or carpet to control wear, but we do not have the time or manpower available to implement this practice on a daily basis.

I also observed, contrary to what I learned in college, that the appearance, playability, and wear tolerance of the collars was noticeably better as the percentage of annual bluegrass increased. I began to wonder if there were better grass species for these high-traffic areas

than Penncross, which was the original variety seeded into these sites.

Three years ago, we began enlarging the greens back to the original design to gain as much useable space as possible for hole locations. The process began by gradually lowering the collar height of cut over a 12-month period to the height used on the greens. As the area expanded, bluegrass intermediate rough was converted to collar. All foliar fertilization, aeration, venting, and fungicide applications performed on the greens were also routinely performed on the collars. The bluegrass held up surprisingly well at these lower mowing heights (less than 0.5 inch), and I am confident that this was, in large part, a function of the additional inputs utilized in these expanded areas. Because we only widened parts of the greens, the original bentgrass/*Poa annua* mixed stand presented an aesthetic effect that did not match the color of the bluegrass. I preferred the color contrast of the dark bluegrass next to the bentgrass/*Poa annua* putting surface, and I decided the best way to achieve the desired uniform appearance was to overseed at least part of the collars.

Given our history, seeding with bentgrass was not an option. The bluegrass seemed to work fine, but I knew that establishment from seed would be next to impossible, and using sod was not an economic option. Despite the warnings of several local superintendents, I decided to overseed the collars with ryegrass.

We are now in our third season following the initial overseeding and have not experienced any problems to date. The collar height of cut was lowered each year and is now maintained at .375 inch. This height provides a nice transition between the putting surface and the 1.5-inch intermediate rough surrounding the greens. The ryegrass collars provide increased tolerance to wear and the desired color contrast between the putting surface and the green surrounds. Aesthetics have improved for the golfers and it is



Part of the green expansion project at The Club at Nevillewood included converting the green collars to ryegrass to improve wear tolerance.

now easier for the maintenance crew to distinguish the green/collar interface. As a result, there are fewer instances of scalped collars. The final slit seeding treatment occurred in 2009 to complete the conversion.

### APPROACHES

I doubt that most architects intend to have an arbitrary straight line defining the transition from fairway to the approach turf. The fairways at Nevillewood are very wide, as evidenced by the 32 acres of fairways on 18 holes, and, by design, the approaches also are wide. In fact, on a few holes we have collection or bail-out areas adjacent to the green, which results in an approach being as wide as 30 yards.

Several years ago we tried mowing approaches at 0.25 inch, and this mowing adjustment resulted in spending more to maintain this area of turf. In

addition, we found that with mowing at a lower height of cut, our golfers were presented with fewer shot options when they were in close proximity to the green. Most average golfers find it difficult to chip from a tight lie, and they prefer to grab the putter. Therefore, we inadvertently increased the size of every green on the golf course. Our maintenance standards now clearly state that the approach is a part of the fairway, and it will be maintained at the same height.

We had wear issues that had to be addressed, and the most urgent need was the area directly in front of the green. This area was usually about 10 feet across and was exactly where the greens mowers and the approach mowers (triplex or walkers) turned. The greens and approaches always were mowed in straight lines. The approaches would be mowed in two diagonal directions, tee to green or side to side, depending on the day of the week and the wetness. Approaches generally were hand mowed in the summer months and often mowed with triplex mowers in the spring and fall.

In 2008, a new mowing regime was instituted that has eliminated the wear problem. The operator mowing the approach, again at the same height as the fairway, was instructed to make 12 passes across the front of the green, following the contour of the putting surface. Using a walk-behind mower, each of these passes is approximately 18 inches wide, which produces a contour mowing pattern of about 15 feet. The operators then completed the remaining mowing in straight lines, which can be as much as 15 yards. This change allowed us to vary the wear patterns dramatically. Machinery overlap was reduced, and wear was spread over a much larger area. This year we have fewer employees and have been forced to use triplex mowers on the approaches a couple of days per week, combined with walk-behind mowers the other two days per week. The

same mowing scheme is used, and we have controlled the wear issues very well, while sustaining playing quality.

## FAIRWAYS

Four years ago, the decision was made to replace our fleet of triplex fairway mowers with five-plex units. Mowers from three different manufacturers were demonstrated to determine which unit best fit the terrain. Once the manufacturer was selected, we still needed to determine how many machines to buy.

To keep up with members' demand for better playing conditions, the fairways were mowed four days a week. However, using this same schedule to mow all of the fairways before play on a busy Saturday morning would have required five new fiveplex mowers. At a cost of \$27,500 per unit, purchasing \$137,500 worth of fairway mowing equipment — knowing the machines would sit idle three days a week — didn't seem a wise use of the budget. Instead, an alternative mowing schedule was suggested. We switched the schedule to mowing nine fairways per day, seven days a week, which resulted in using only three new machines instead of five, and at a savings of \$55,000. I made it clear that these three mowers would need to be replaced sooner, due to everyday usage.

The strategy worked very well, with nine of the fairways mowed four times a week and the remainder mowed three times. We changed the mowing schedule each week, allowing all fairways to be mowed seven times over a two-week period. You might think that this type of mowing schedule would not provide the same uniform playing conditions throughout the course, and initially I was concerned. Even today, I often ask our members if they notice a difference, but even the best players continue to report that they do not.

In 2009, we were presented with significant economic challenges. Payroll accounts for more than 55% of



By instituting the use of triplex mowers, turns and resulting wear in the approach areas were eliminated.

the maintenance budget, and it was obvious that we would need to change many of the mowing routines and frequencies in order to get the work completed with fewer total labor hours. With fewer employees, it was even more difficult to schedule work on both the weekdays and weekends. My initial plan was to scale back fairway mowing and return to the old system of mowing on Monday, Wednesday, and Friday, and I communicated this change to the green committee and board. As the season progressed, we found savings in other areas of course maintenance, allowing us to continue mowing all of the fairways seven times over a two-week period. However, we still faced staffing challenges on weekends.

## WHERE WE'RE AT TODAY

Currently, we mow all 18 fairways on Monday and Friday, and nine holes on

Tuesday, Wednesday, and Thursday. With only three mowers, we still are able to mow all of the fairways before lunch, which allows us to complete the mowing before the heat of the day.

In addition, we have an issue with golf cart traffic wear. The outside fairway edges are contoured, resulting in additional wear from regular mowing and the cleanup laps. We began questioning if growth regulators actually exacerbated the problem in all of the traffic areas and on the edges of the fairways. We found that the unregulated turf on the entrance and exit points and on the cleanup laps held up better to traffic stress.

We still have periodic disease outbreaks since we stopped using growth regulators, but the turf recovers faster by not being under regulation. Granted, the past two years have not been environmentally stressful, but it is documented that we have spent less money on labor, fungicides, and growth regulators than in the past. According to the members, the fairways have been better than ever this season.

The money saved on growth regulators was reallocated to purchase a fertigation system. Now, in addition to judicious use of water, we inject surfactants and fertilizers to support turf health. Over the past two years we have experienced more consistent soil moisture levels, improved wear tolerance in the high-traffic areas, and better playability. All of this has been realized while spending less money than had been spent on growth regulators in the past.

Some of the changes I have mentioned have made the golf course less expensive to maintain while not compromising conditioning. I hope you can utilize some of these techniques at your golf course.

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