Fairway Regrassing — Can You Afford Not To?

The agronomic benefits of fairway regrassing have long been understood. However, detailing the economic benefits is a critical part of explaining the need for fairway regrassing at your facility.

BY PAUL JACOBS AND PATRICK GROSS

Some grasses are more costly to maintain than others. There are older turf varieties that are more susceptible to diseases, insects, drought, and winter injury. There are also many golf courses with a mixed stand of turf where the different grasses struggle to survive at various times of the year. The costs to keep these older grasses alive and in good shape can rapidly add up, especially when discussing large turf areas such as fairways.

For decades, the USGA Turfgrass and Environmental Research Program has funded the development of new grasses to improve specific traits such as disease and drought tolerance or winter hardiness and color retention. The improvements in these traits have produced newer grasses that are much more reliable and require less time and money to maintain. However, many facilities still hesitate to regrass fairways, most often because they see regrassing as a cost rather than an investment. This article will walk through the economic benefits of regrassing to improved varieties — cool season or warm season — and show how doing so is an investment that can pay for itself by reducing the operating cost of maintaining fairways in both the short and long term.

CALCULATING RETURN ON INVESTMENT

The benefits offered by new grasses are very well understood and backed by research. When discussing a fairway regrassing project, oftentimes the biggest hurdle to overcome is course closure. Most facilities are hesitant to proceed with a regrassing project

Three weeks after seeding, Corning C.C. had already mowed their new bentgrass fairways twice. Four weeks after seeding, they were open for play.

One method to reduce the impact of fairway closure is temporarily allowing golfers to play regrassed holes as par-3s until the new fairway turf is established.

When a nonselective herbicide is applied to eradicate existing grasses, the golf holes should remain closed so that golfers do not track the herbicide onto surrounding turf.

The Valley Club of Montecito chose to convert nine fairways per year using big-roll bermudagrass sod, which accelerated establishment and reduced course closure.

because they feel any amount of course closure will be detrimental to the golfer experience and the facility's bottom line. Truthfully, this is a short-sighted argument. To fully understand the financial implications of a fairway regrassing project, the cost of course closure is just one of many factors to consider.

To help facilities better understand the value of regrassing, the USGA Green Section recently developed a model to calculate the return on investment (ROI) for a fairway regrassing project. The model calculates how the initial cost for regrassing can be offset by comparing current maintenance costs with proposed maintenance costs after regrassing. In most cases, maintenance costs are reduced after a fairway regrassing project due to reduced inputs such as water, labor, pesticides, and fertilizers.

To calculate the ROI, there are several costs that need to be understood. These include conversion costs, maintenance costs of the existing grasses, and proposed maintenance costs after regrassing. Examples of conversion costs include seed, sod or sprigs, herbicides, fertilizer, labor, and fuel. Examples of maintenance costs before and after regrassing include mowing, water, fertilizer, fungicides, plant growth regulators, seed for reestablishment or overseeding, and labor for hand watering.

To show how quickly a regrassing project can pay for itself, we will present a couple of examples from courses that have recently regrassed fairways and are quickly realizing the cost savings and improved playing conditions.

CONVERTING COOL-SEASON FAIRWAYS TO IMPROVED COOL-SEASON GRASSES

In the northeastern U.S., fairways typically include bluegrass, perennial ryegrass, creeping bentgrass, and even colonial bentgrass. Most often the grasses on fairways have been there since the golf course was originally constructed. As such, they are more prone to damage from pests and general decline than many of the newer varieties available today. Certainly, older grasses can be kept alive, but they are not as reliable and cost more to maintain.

Since many superintendents do a great job of keeping older grasses alive, converting from one cool-season grass to another can be a tough sell. However, the reduction in maintenance costs can pay for the cost of conversion more quickly than you think.

Corning Country Club in Corning, New York, had fairway turf that was a mixture of bentgrass, *Poa* and ryegrass. The fairways were prone to both winter injury and summer decline. Additionally, the mixture of grasses was not aesthetically pleasing in the spring when the different grasses were growing at different rates. To improve reliability and reduce maintenance costs for fairways, Corning Country Club decided to regrass their fairways with Luminary creeping bentgrass in 2016. The process took place in stages, regrassing two or three fairways each fall. At the time this article was written, they still had nine fairways to complete, all of which were planned to be converted the following season because the results of the initial phases were so well received by golfers.

Once all the fairways are complete, the regrassing project at Corning Country Club will yield savings of approximately $20,000 per year — just under $1,000 per fairway acre — with a payback period of less than two years. The project will also free up approximately 50-60 labor hours per year because fewer plant protectant

Some grasses require significant inputs for disease and insect control. Using improved varieties with natural pest resistance can save money while providing better playing conditions.

applications need to be made. A complete breakdown of the financial implications of the fairway regrassing project is presented in Table 1. There are two major reasons why the Corning project has such a quick ROI: There was very little lost revenue due to course closure and there was a significant reduction in the number of plant protectant and fertilizer applications required to maintain healthy fairways.

Course closure is perhaps the biggest deterrent to regrassing projects. However, course closure is not always necessary. At Corning Country Club, the course never closed during the regrassing. The following are two techniques they used to keep the course open during their regrassing project.

- For the first two seasons, a few holes each fall were closed for only one week to allow the staff to eradicate the existing grasses and seed the new variety. Afterwards, golfers would play the holes as par-3s from temporary tees that were mowed into the rough. After one month, the fairways were reopened for regular play.
- For the next couple of years, the fairways being regrassed were closed for one week in the fall immediately following a herbicide application and seeding. Following that week, golfers were allowed to play the holes as they normally would, except that tee shots hit into the fairways had to be retrieved and played from the intermediate rough. The fairways were closed to cart traffic until establishment was complete.

Regrassing a few holes per season extended the project time, but superintendent John Hoyle, CGCS, feels that it was beneficial because it minimized the impact of course closure and allowed him to improve the conversion process each season. For a step-by-step description of regrassing cool-season fairways, read the USGA article "Regrassing Fairways."

The second factor that contributed to significant maintenance cost savings was reducing the number of fungicide and fertilizer applications. With the older grasses, fungicides were applied on a calendar-based program every two weeks. Annual nitrogen fertility was around 4 pounds per 1,000 square feet. After regrassing, fungicides are applied only as needed and annual nitrogen rates are less than half of what they used to be. Even with fewer fungicides and less fertilizer, playability and aesthetics have been improved. Additionally, they are spending less money to maintain fairways and less time making applications.

CONVERTING COOL-SEASON FAIRWAYS TO WARM-SEASON GRASSES

The Valley Club of Montecito in Santa Barbara, California, faced many challenges with the mixed stand of perennial ryegrass and *Poa annua* on their fairways. At the top of the list was a dwindling water supply and a sharp increase in the cost of water. Even if the facility could afford to pay for the water, there simply was not enough supply to keep the fairway grass alive during a dry year. In order to ensure the vitality of the club in the future, officials approved a plan to convert their 35 acres of fairways to Santa Ana hybrid bermudagrass.

The plan was to sod nine fairways each year over the course of two

The USGA Turfgrass and Environmental Research Program has funded the development of new grasses with improved traits such as superior drought tolerance and winter color retention.

Converting fairways to hybrid bermudagrass allowed The Valley Club to manage a severely limited water supply, save more than $175,000 per year in maintenance, and produce excellent playability.

years. For the work to be completed, the golf course closed on Memorial Day and reopened on the Fourth of July — a closure period of 38 to 40 days for each phase. Timing was critical in order to take advantage of warm temperatures for bermudagrass establishment.

Converting the cool-season fairways to a warm-season grass, in this case Santa Ana hybrid bermudagrass, resulted in a 30% to 40% reduction in water use at The Valley Club. There was an additional saving of $175,000 per year due to less fertilizer, seed, and chemical applications. Additional savings are anticipated as the cost of water continues to increase, which will accelerate the ROI. Golfers are enjoying the firmer, faster fairway conditions, and the maintenance staff is enjoying the lower maintenance requirement of hybrid bermudagrass in their environment.

CONCLUSION

Golf facilities get nervous about turf conversion projects, especially when it involves large acreages such as fairways. While many decision-makers recognize that improved turf varieties will provide agronomic benefits and enhance course quality, it is still difficult to convince facilities to commit to a fairway regrassing project because they are worried about disrupting play and temporarily impacting revenues. The best place to start is calculating the expected ROI of the project, which provides a clear analysis of current and future costs and helps to overcome many objections. Different conversion scenarios can also be evaluated as part of the exercise, such as doing the project in phases or regrassing all the fairways at once.

Your regional USGA agronomist can assist with this analysis and provide guidance on grass selection as well as examples of what has worked well in similar locations. USGA-supported turfgrass research has resulted in dozens of new turf varieties that overcome many of the old problems of disease and insect susceptibility and offer improved adaptation to cold and warm climates. The biggest hurdle is getting these new grasses established on existing golf courses. Working with your USGA agronomist to evaluate different conversion scenarios will hopefully move the discussion from "Can we afford this project?" to "How can we afford not to?"

PAUL JACOBS *is an agronomist in the USGA Green Section Northeast Region.*

PATRICK GROSS *is the director of the USGA Green Section West Region.*