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Converting Roughs to Save Water and Money

By Steve Beeman

Editor's Note: While this article focuses primarily on the highly relevant topic of water use and conservation, it seems obvious that, at a time when golf participation and revenues have been flat or falling, converting roughs to native areas is a logical way to reduce ongoing maintenance costs.

Water use has always been a concern for golf courses in Florida, and it is becoming an increasingly critical issue. Golf course superintendents will have to allocate irrigation resources to those areas of turf that are in play, and away from turfgrass rough that rarely sees a golf ball. Out-of-play turf acreage diverts water, money, chemical, and human resources from those parts of the golf course where the game is played.

In discussions with golf course superintendents around the state, I learned that there are fairly consistent costs associated with maintaining rough. Besides irrigation costs, the common expenditures include mowing (including equipment maintenance), fertilization, herbicide and pesticide. Depending on the price and availability of water, the annual cost to maintain an area of rough varies between \$2,000 and \$4,500 per acre, with an average in the \$3,000.00 range.

Golf courses with proportionately large acreages of rough must devote almost as much time, money, and people to those areas as to the fairways, tees, and greens.

A good example of the contrasts between golf courses with limited rough and those with excessive rough can be found in one place, at PGA International in Daytona Beach. The Champions Course has 170 acres of rough, while the Legends Course has only 40 acres. Superintendent John Lammrish CGCS has been steadily converting out-of-play rough on the Champions Course to native grasses and other natural areas for the past several years.



Bridgewater GC in Lakeland. Native grass beds reduce water use and maintenance costs in the roughs. Photo by Joel Jackson.

A golf course in the median range of rough acreage is Venetian Bay in New Smyrna Beach (superintendent, Scott Eberly) with 104 acres. Examples of golf courses with minimal out-of-play rough include Old Memorial in Tampa (superintendent, Trent Inman CGCS) with 18 acres and Old Colliers Golf

Club in Naples (superintendent, Tim Heirs CGCS) with 35 acres.

The easiest and most logical places on a golf course to convert turfgrass rough to native plants or natural areas are the slopes, lake banks, and flats around tee boxes, where no golf ball should ever travel. Lake banks are especially attractive for conversion

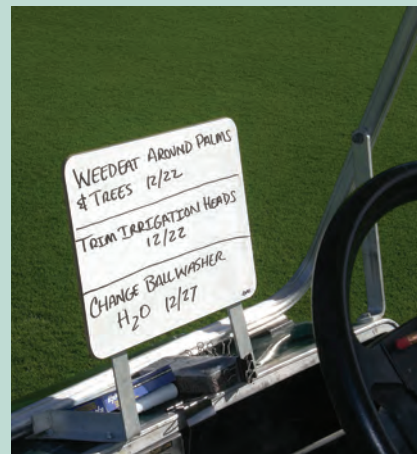
SUPER TIP

Portable 'To Do' Board for \$10

By Fred Fulford

The job board in the photo is a small dry-erase board. They cost about \$3 through any national office-supply chain. The markers and the eraser fit in the bracket base below the board. The brackets are scrap aluminum from the mechanic shop. Total cost is about \$10 or less, depending on how much you want to spend on markers.

I put sticky-backed Velcro on the brackets and board to make it removable and keep it in a small trash bag in the glove box in case of inclement weather. This proved to be a easy, inexpensive way to keep up with the constant flow of ideas and "To Do" jobs that come from an enthusiastic superintendent like Kyle Sweet.



A portable job board is a handy visible note pad and "To Do" jobs reminder list. Photo by Fred Fulford.

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because they can be difficult to mow, fertilize, and treat chemically and because the establishment of native plants provides a natural filter around water bodies. Areas between greens and the next tee are also prime candidates for conversion, as are mounds and berms that border fairways or separate one hole from another.

Conversion from turfgrass rough may involve planting trees, shrubs, ornamental grasses, or ground covers. Native plants should be used wherever possible since they can survive with little or no irrigation, and the idea is to save water. Another option is to create sand or shell waste bunkers or mulch beds.

I must stress that native areas, whether planted, mulched, or waste bunkers, are not maintenance free. Once established, trees and shrubs require very little maintenance but the initial cost is fairly high. Native grass plantings should be cut back once or

twice a year, and may benefit from limited irrigation during drought periods. The clippings can be left in the plant beds as mulch. Waste bunkers will require some chemical control for weeds and mulch beds will periodically require mulch or pine straw replenishment.

An important factor in the decision to convert turfgrass rough to natural areas, besides water conservation, is balancing the initial cost with long-term savings and determining how much time will be required to recoup the conversion expenditures. Once that payback period has elapsed, the perpetual savings of time, money, and water will increase maintenance efficiency.

Converting an acre of turfgrass to trees or shrubs is the most expensive planting option, in the range of \$15,000.00 to \$25,000 per acre. The long term advantage is that eventually this option will probably not require

any maintenance. Planting native grasses can cost between \$3,000.00 and \$5,000.00 per acre, which represents a payback time of only one to two years, but also requires annual pruning.

This cost is extremely small, however, compared to turfgrass maintenance and supplemental water is rarely required. Establishing mulch or pine straw beds costs around \$20,000 an acre and about \$5,000.00 per year in material replacements. Waste bunkers cost around \$70,000 per acre to construct and \$1,000 to \$3,000 a year to treat for weed control.

Every golf course manager has to weigh the options regarding maintenance budgets, short- and long-term limitations on water, playability, and aesthetics. For many it may make sense to convert out-of-play turfgrass to something else. Others will not be able to justify the initial costs. For everyone, though, water is still the 500-pound gorilla in the closet.

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SUPER TIP II

Quick Tip – No Slip

In these challenging economic times, most golf course managers are striving to decrease expenditures. That's one reason I selected this Super Tip. From start to finish, this tip takes less than 15 minutes to complete and comes with a price tag of about \$10.

On numerous occasions my equipment manager, Guillermo Gomez has instructed the crew on how to correctly remove the hydraulic quick-connects from our tractors and properly store our gang units. Sometimes employees still perform the task incorrectly, resulting in back pressure in the gang unit's hydraulic system and subsequent leakage of hydraulic oil from the fittings.

The resulting oil spill presents a potential slip-and-fall safety hazard.



Placing disconnected hydraulic hoses in this handy hose cup prevents spills and slip hazards. Photo by Darren Davis.

To rectify the situation Gomez affixed a 4-inch PVC cap to the frame of the gang unit with a 1/4 by 1-1/2- inch bolt. When the employees disconnect the hydraulic hoses they have been

instructed to place the ends into the PVC cap. Should there be any leakage, the fluid would be contained in the PVC cap and can easily be cleaned up with a mechanic's shop towel.

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Balancing The Budget

By Wayne Kappauf, CGCS

Balancing the budget is a concept that everyone in business uses and is expected to achieve. It simply means balancing revenues against expenses or not spending more than you bring in.

The United States government can't seem to do it, the state government can't do it and neither can local government. Big corporations can't do it and many don't even try. For that matter most of the people in America can't do it in their own households.

Golf course superintendents, however, are expected to do it and most of us do. We do not do it by printing more money, taxing our members and adding surcharges on greens fees. We do it by keeping in touch with what is going on around us, by making the most of

what we have and finding better ways.

When I was single I ate steak; when we had kids we ate hamburger; when the kids grew up I went back to steak; when the stock market crashed I went back to hamburger (actually ground turkey).

We all have to adapt to our surroundings and situations. Superintendents are among the very best. We invent ways to do more with less. We create work schedules that allow us to be more productive. We research and find better products that give us the best bang for the buck.

We find the best way to stretch a pound of nitrogen and a gallon of water. If we cannot afford to boom spray, then we spot spray and educate our clients about an occasional weed or two. Instead of cutting the entire flower budget we make sure we take care of key areas and pay extra attention to detail and visual impact.

Superintendents know the game of golf and what it takes to produce

memorable rounds for their players. We know how to prioritize what comes first and what can wait until the budget crisis is over. We would love to have a perfect golf course but the word "perfect" is more suited for a "perfect sunset" or the "Miami Dolphins' perfect season" than it is for a golf course. Superintendents get that and understand what they have to do to make their operations successful.

The next few years are going to be interesting. Balancing the budget will continue to be an issue. While we should all be confident that the economy will turn around, I think we would all agree that balancing the federal budget could take years.

Superintendents will not have that luxury of time. Our employers expect that budget balanced every year. We will have to come up with even more ideas to do more with less. I think we will. I look forward to eating steak again soon but for now hamburger helper sounds pretty good. ■

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Common Cents

Surviving Difficult Economic Times

By John Foy

Just a short time ago, the golf industry in Florida was riding the crest of a wave. At most courses and especially during the winter season, the tee-time sheets were completely filled; and even though new-course construction had declined compared to what was going on in the 1990s, things were prosperous.

Over the past 10 to 15 years, tremendous strides have been made in course conditioning and presentation. However, additional costs were incurred to provide the level of conditioning and quality expected and now considered a standard by American golfers.

For many years, the accounting firm of Pannell, Kerr, Forster, has tracked and reported on course operating costs of their clients across the country. While we know that costs have been increasing, it is eye opening to learn just how much they went up in the past 15 years. In 1992, the average maintenance cost per hole for clubs across the U.S. was reported to be \$34,671. By 2007, the average cost per hole for all country clubs was reported to be \$107,190.

In 2008, worldwide demand for basic materials required for the formulation of fertilizers and pesticides, plus skyrocketing petroleum costs, resulted in dramatic jumps in the cost of basic and necessary tools for maintaining healthy turf and producing consistent, good quality overall course conditioning. While the prices of some materials have subsequently declined, for budgeting purposes, a lot of manufacturers and suppliers have suggested figuring on a 25% to 30% increase in the cost of materials for 2009.

On top of all of this, the major downturn in the national and global economy has had a major impact on the golf industry. This is especially true in Florida because so many courses around the state are directly connected

to the real estate development market, which has essentially collapsed. The sad reality is that the wave has crashed onto a very rocky shore, leaving many courses with reduced revenues.

The following are some general suggestions for dealing with a course maintenance budget crunch, or in some cases, crisis:

Written course-maintenance standards and proactive communication with course officials and golfers

First, it should be reiterated that each facility is unique; and over the years we have found that regardless of the budget, the most successful operations share a common characteristic: they have clearly defined and written course maintenance standards, which cover the basic and necessary management programs and practices that need to be performed on a daily, weekly, and annual basis.

Written course-maintenance standards are an integral tool for communicating and educating course officials and golfers about where the dollars are being spent on the golf course. In turn, when it is necessary to reduce the operating budget, the course maintenance standards can be used as a basis for identifying possible cost savings or cuts.

Cost *savings* are defined as items that will result in fewer dollars being spent without having a marked impact on standards and overall conditioning of the primary play areas. Cost *cutting* is where reductions are made that result in a reduction in the standards and overall conditioning.

Focus on sound agronomy and the basic practices for maintaining healthy turf

Managing above- and below-ground growing environments is essential for successful turf management. So, continue to invest in proper aera-

tion and topdressing programs, as well as vegetation control, especially around putting green and tee complexes. Turf grown in a poor environment is less reliable and more expensive to maintain. The same is true for turf that is grown in unfavorable soil conditions. Cutting costs here will result in poor turf performance and a much larger cost down the road.

FERTILIZATION

A return to the basics in fertilization can save hundreds and in some cases thousands of dollars a year. With regard to nitrogen, the use of less expensive, readily available sources such as ammonium sulfate will require that bulk applications on fairways and perimeter rough areas be made on a more frequent basis; but it is still possible to provide very acceptable turf quality, and the turf really doesn't know the difference in the source of the nutrients.

Also, broadcast spray applications of the micronutrients iron and manganese will maintain a very acceptable green color character without excessive growth. Stay focused on the basics of soil pH, phosphorous, and potassium levels. Unless a truly poor quality irrigation water source is being utilized, there is really no justification for regular applications of various soil amendments.

Some cost savings can also be realized with using basic soil testing rather than routinely having extensive analysis run that does not provide a great deal of truly meaningful information.

PEST MANAGEMENT

There is no question that we have heavy weed, insect, and nematode pest pressures on Florida golf courses. As a result, it has been the standard operating procedure to conduct large acreage broadcast pre-emergent herbicide and preventive insecticide treatments. While total elimination of pre-emergent herbicide treatments and preventive insecticide applications is not being suggested, focus efforts down the middle.

Also, the practice of a truly integrated pest management program is being mandated as a more economically and

environmentally sustainable approach to course management. Continually scouting and mapping pest activity, and then following up with localized site-specific treatments are basic components of an integrated pest management program.

To be effective and maintain an acceptable level of pest control through the primary play areas, golf course superintendents and assistant superintendents need to resume an active and committed role in the program. This is true even at facilities that still have the luxury of an IPM specialist or spray tech.

LABOR COSTS

Labor costs (payroll expenses and benefits) have

been increasing over the years; and again according to the Pannell, Kerr, Forster survey, it now consumes 60 percent to almost 70 percent of the annual operating budget. Along with reducing or eliminating overtime hours, hiring freezes and reducing staff have been necessary cost-cutting measures. With fewer people and labor hours available, a return to increased triplex mowing instead of hand-mowing putting surfaces, approaches, and tees is being mandated.

While care does need to be exercised to avoid excessive wear and creation of triplex rings around the perimeters of putting surfaces, reduced hand mowing will not require major compro-



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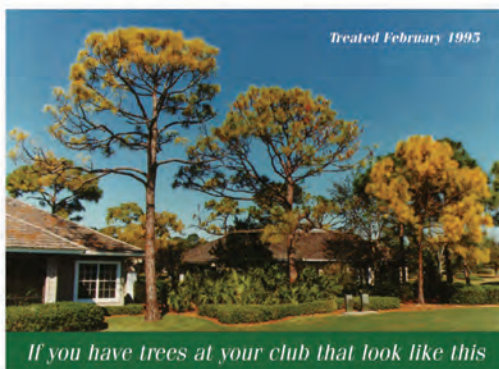
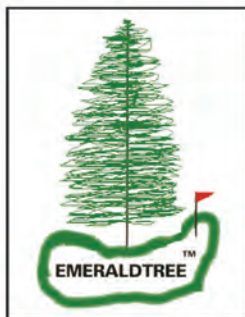
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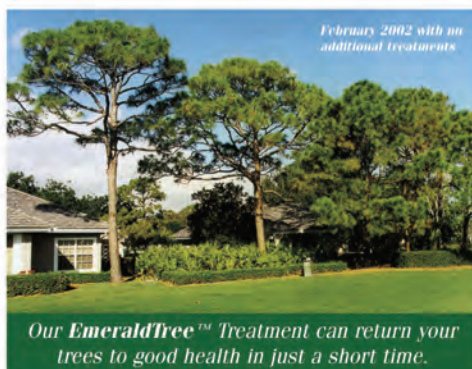
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mises in quality and conditioning.

Throughout the state, the practice of growth regulator programs on fairways during the growing season has been a common practice for reducing mowing requirements. However, at a lot of courses, the fairways are still being mowed three or even four days a week. Based on my experiences, a mowing frequency of two times per week provides an acceptable play character for average to high handicap golfers. The main tradeoff that must be accepted with a two day a week mowing frequency is an increase in clippings on fairways that are mowed early in the morning before the dew has burned off.

With roughs, a mowing frequency of two times per week has been the standard, and the use of growth regulator treatments is not considered cost effective. A rough mowing frequency of once a week is a cost-saving option, but maintaining a height-of-cut

in the range of 1.0 to 1.25-inch would be advised so that the roughs do not become excessively penal between mowings.

A few negative comments about less definition between the fairway and rough cuts may arise; but it is unlikely that the vast majority of golfers will complain about a lower bermudagrass rough height of cut.

Not changing hole locations and tee markers (except on par-3 tees) on a daily basis are a couple of other small labor-saving options that might be considered.

Getting the staff out of the bunkers is an area where much more significant labor savings can be realized. American golfers have become obsessed with having consistent and perfect bunker conditions, and this has resulted in excessive maintenance of a hazard.

At many courses, it has gotten to the point that more time and money

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