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Rethink Tomorrow

director of agronomy for Western Golf Properties, a Lake Forest, Calif.-based management company.

"The prices seemed to peak last fall, but they've leveled off over the last few months and even dropped for some. I do expect those prices to climb



Cohoon

back up to a higher level based on the increased demand of the growing season."

Greg Pattinson, superintendent at the Captains Club at Woodfield in Grand Blanc, Mich., has seen similar price spikes.

"Potassium nitrate has more than doubled from last year. My fairway fertilizer that I purchased in bulk this year increased 9 percent versus the per-bag cost that I paid in 2008."

A significant increase in even one item can burden superintendents, many of whom have already been asked to trim expenses.

"The amount of money spent on fertilizer certainly isn't a huge number in the overall scheme of things," says Jeff Spangler, senior vice president of science and agronomy for Scottsdale, Ariz.-based Troon Golf. "But in today's economy, every dollar is important."

So, resourceful operators search for ways to save money, if not reduce the amount of fertilizer they use. They're doing this through such measures as buying in bulk, looking for bargains or reducing highly maintained areas.



Pattinson

PRECISION IS KEY

Western Golf Properties is not reducing its fertilizer use as much as it's seeking the best value based on the needs of each property, Cohoon says. The company asked its national fertilizer providers to keep the firm aware of pricing in the rapidly fluctuating market to allow for the purchase of material "when it made the most sense."

"In addition, we work with soil-testing laboratories to tailor our fertility programs based on each course's specific conditions," he says "In this way we limit the fertilizer use to exactly what each area of the course needs."

Lance Johnson, CGCS with the city of Westminster, Colo.'s two golf courses, is reducing the amount of fertilizer, mainly in rough areas, and reducing the total nitrogen applied in fairways to help offset some of the increase in product cost.

"We'll probably avoid the use of potassium and phosphorus in fairways due to the continued high costs of those nutrients," he says. "We're prepared to absorb some extra costs in fertilizer by reducing seasonal staff if necessary later in the summer."

Johnson uses agricultural grade products for bulk fertilizer applications and fertigation, which saves his club money.

"We'll continue to fertigate more, focusing on applying these applications to fairways on a regular basis," he says. "We'll continue the same fertilizer programs on greens, tees and approaches as in previous years."

Robert Hertzog, superintendent at Valencia Country Club in Valencia, Calif., says his facility also is reevaluating the timing and quantities of the fertilizers it uses.

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“Are we applying at the right time for maximum uptake and are we applying any excess? Those are the questions you have to ask on every application. We have gone to applying less and less in a granular form and more and more through spraying soluble nutrients in smaller quantities.”

Matt Deuel, superintendent at Las Posas Country Club in Camarillo, Calif., reports he’s been cutting back on fertilizer for the past three years in light of increasing prices.

“I don’t see this year being any different,” he says. “We’re using more foliar fertilizer and injecting fertilizer. We’ve been laying out granular fertilizer maybe three times a year, but we may cut back to twice in 2009.”

BARGAIN SHOPPING

Some old-fashioned bargain shopping sometimes is the best way to save money, even for a golf course. Hertzling began carefully examining his fertilizer purchases two years ago when prices started to jump.

“We’ve been looking for close-out specials because many fertilizer manufacturers and

distributors have inventory they want to move and are willing to sell it at a lot lower margin,” he says. “We’re also using more raw materials and going back to the basics of applying a nitrogen source, then applying phosphorous and potassium based on soil tests.”

He also uses a soluble spray program of micronutrients to maintain the color of the turf and plant needs.

Pattinson, who says his fertilizer use was on the lean side to begin with, took advantage of bulk buying to save money this year.

“Last fall I bought in bulk bags for the first time in preparation for the 2009 season. When fertilizer prices started to skyrocket, I took advantage of the bulk discounts. Davey Golf, the company I work for, understands the overall savings in early-order and bulk purchases.”

He also is using longer lasting products such as Polyon and Expo that give him extended release while reducing the number of applica-



Johnson

tions he needs to make. The result? A savings in product and labor costs.

Johnson, too, is a believer in bulk purchasing, as long you have a proper storage area.

“I’ve also found that distributors have been very helpful in holding our orders in their warehouses and will deliver when we’re ready for the product,” he says.

Pat Lange, superintendent at Red Tail Golf Club in Devens, Mass., is another superintendent who’s has taken advantage of bulk buying and early ordering.

“That allowed us to save a little money, and I’ve also avoided buying what I would call premium fertilizers for my rough and natural areas and instead bought less expensive brands. This has saved us a few thousand dollars off the fertilizer budget.”

Companies such as Troon Golf and Western Golf Properties have an advantage over individually managed courses because they have a significant number of clubs in their portfolios, which allows them to maximize their buying power to realize lower prices for bulk purchases.



Riley

Troon Golf has taken a closer look at organic fertilizers, which, Spangler says, have held or in some instances decreased in price.

“Organic fertilizers, such as seaweed extract and composted chicken manure, were considered expensive compared to artificial soluble fertilizers,” he says. “But because artificials have increased so much in price, there’s now little difference between the two. So, we are considering buying more organics. It’s also very good from an environmental standpoint, naturally slow releasing, and there are a wide variety of options.”

Dustin Riley, CGCS at Oconomowoc Golf Club in Oconomowoc, Wis., will tweak his program a bit rather than reduce fertilizer use.

“I’ll be utilizing some older technology and less expensive fertilizers,” he says. “These fertilizers will not have the consistent, extended release characteristics of the new, more expensive technologies.”

“I’ll also make multiple, lower rate applications of the less expensive products to achieve a consistent release to the turf, hopefully avoiding highs and lows of the less expensive fertilizers.”

Spangler says superintendents and operators should be careful when adapting fertilizer programs so they don’t damage the long-term



Tips from the experts

Consultants Larry Stowell, Ph.D., and Wendy Gelernter, Ph.D., the founders of PACE Turf, offer fertilizer-related tips for reducing costs.

- Reduce fertilizer costs by keeping track of nitrogen levels in the soil. Stowell suggests you request analysis of total soil nitrogen and ammonium when you conduct your twice-a-year soil tests. Target a minimum of 3 ppm and a maximum of 20 ppm for total nitrogen, and a maximum of 7 ppm for ammonium nitrogen, he says. Soil guidelines and related recommendations are available at www.paceturf.org/index.php/public/free_stuff/.
- Further reduce fertilizer needs by accounting for the amount of “free” nitrogen you already have in your system. This includes soil organic matter, which can release significant amounts of nitrogen (particularly during warm weather). Based on the PACE Turf soil database, the average nitrogen release per year from organic matter is 1.5 pounds of nitrogen per 1,000 square feet on greens and 3.8 pounds of nitrogen per 1,000 square feet for fairways. Gelernter says, “If your organic matter levels are high – above 5 percent on fairways – then even more nitrogen can be released.”
- Focus on fairways and roughs for the biggest cost reductions. Since fairway/rough acreage is typically more than 95 percent of the turf on a golf course, “Even very small reductions in water use, fertilizers or pesticides can make a big impact on the financial bottom line, Gelernter says.”
- Decrease water and maintenance costs by reducing the turf acreage in out-of-play or underutilized rough areas. Stowell says, “We’re finding that in some drought-stricken areas, superintendents have begun to remove turf from non-landing areas in fairways and roughs. Of course, the support of greens committees, members and management was obtained, in writing, before these steps were taken.”

health of the turf, which, after all, is the product the customer's paying for.

"Rather than give up on key agronomic programs, which fertilization is, we look for other areas in which to reduce costs," he says. "Maybe we edge a little less or mow the fairways a little less. These are things that the consumer won't notice. You have to be careful when you tinker with the fertility programs of a golf course."

REDUCING HIGHLY MAINTAINED TURF

Another method to reduce the amount of fertilizer used is decreasing the amount of turf that must be treated, i.e., creating more natural areas away from the primary playing surface.

"Almost every one of our properties is reducing or looking to reduce the amount of highly maintained turfgrass," Cohoon says. "This is being done not only to be fiscally responsible but environmentally sensitive as well."

Riley concurs. "Everyone will be looking at reducing the amount of maintained turf for the

"My fairway fertilizer that I purchased in bulk this year increased 9 percent versus the per-bag cost that I paid in 2008." –GREG PATTINSON

long term," he says. "Creating low-maintained areas will affect my maintenance costs, not just fertilizer use."

Says Johnson, "Decreasing the amount of maintained areas is a good idea. It not only helps reduce fertilizer use, but also water use and manpower costs. All of these factors can contribute to our bottom-line budget. It's important when reducing maintained areas of the golf course to make sure you don't affect the playability or change how the golf course architect designed the course to be played."

Cohoon says superintendents and course operators must communicate any changes in the course to the patrons, as well as evaluate which parts of the course may be suitable for natural areas.

Some economic benefits derived from creating new natural areas may be tempered by the

need to apply herbicides to reduce tall weeds, Pattinson says, so any cost savings "may not be as great as first anticipated."

Hertzing cautions, "Taking areas out of play reduces water usage, reduces fertilizer usage and lowers maintenance costs. These are all great gains, but you have to make sure they're sustainable. If you take too much area out of play and at some point you need to reestablish these playing areas, what is that going to cost?"

He says to be conservative in the amount of area taken out of play and don't rely on creating natural areas to make up for poor water management and excessive fertilizer use on the rest of the course. **GCI**

John Torsiello is a freelance writer based in Torrington, Conn.



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Renewable resources, such as wind, solar and biofuels, are being put into play by golf courses nationwide.

The economic downturn has lead golf course managers and superintendents to put a sharper focus on all operating costs that affect their bottom lines. During this process many learn that the issue of energy, which for so long was neglected, now needs to be addressed.

While water is the lifeblood for the turf itself, electrical energy is the spark that keeps the heart beating, as well as the source for lighting, computers, golf cart charging and heat for facilities. Finding ways to be more energy efficient and how to control costs in the future has opened the door to exploration and the use of renewable energy sources such as wind, solar and biofuels at golf facilities nationwide.

ENERGIZING IDEAS

BY DOUG SAUNDERS



When thinking about wind power, commercial wind farms typically come to mind, but advancements in smaller turbines allow for servicing commercial sites and can be a viable energy source for golf course operations.

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Wee Burn Golf Club's maintenance building roof is the site of an 86 kilowatt solar system. It will produce 92,000 kwh annually, or about 20 percent of the facility's power needs.



Learning about renewable energy systems

Taking the first step to understand how renewables can be a part of a green movement at your facility can be a daunting task. It's essential to gather information about electrical use throughout your facility. This data should be broken down so that you know how much power is used for the clubhouse, exterior lighting, the maintenance facility, pumps and cart-charging if applicable. Contact your power provider and ask about energy audits. Many utilities will have a list of area contractors who specialize in energy auditing.

Searching the Internet for information about solar, wind and biofuels can be an overwhelming task, but it can be simplified by visiting the Solar Electrical Institute of America's Web site, www.seia.org, which not only gives excellent information about solar power but the link to the DSIRE page which compiles a complete list of the various incentive programs that are available in each state.

Another good resource is the American Wind Energy Association (www.awea.org), which provides information on wind generation, detailed wind maps and information on incentive programs.

If your facility believes it has a good potential site, contact a reputable renewable energy company that has been around for several years. The increased interest in green technologies can create a good opportunity for golf courses to highlight their ongoing commitment to the environment while investing in a long-term solution to increasing energy costs.

Public concern about energy independence, climate change and increasing energy demands has driven green initiatives into the forefront of focus for federal, state and local governments. Finding ways to offset rising costs while making a green statement has led some golf courses to incorporate renewable energy into their operations.

HERE COMES THE SUN

On an early spring morning at the Island Golf Course in Plaquemine, La., general manager Glen Cloutre sits in his office mak-

ing the daily checks on his operation. One of the first items he tends to is monitoring the output of the 3,000 square feet of solar panels that grace the south-facing roof of the cart barn. As the morning sun hits the system, he's encouraged to see that it's pumping out kilowatts to offset his energy costs, just as it has nearly every day since the system was installed last October.

"Last spring we looked at all of our energy usage and felt that, picking at the low-hanging fruit of these costs, we should research incorporating a solar array," Cloutre says.

"We brought in a regional solar supplier to help us out in determining the feasibility as well as determining the cost of a system."

Island Golf Course's 32-kilowatt system consists of 160 solar panels mounted on the cart barn roof. It can produce 4,800 kilowatt-hours a month – enough power to offset electrical use by about 30 percent. More importantly, the supplemental power source has helped Cloutre avoid excess demand charges from the utility company.

"We pay 12 cents per kilowatt for electricity, but there's an over-use charge of \$5.10 per kilowatt for extra power use," he says. "Last year we were charged that rate for 1,872 kilowatts – almost \$10,000 – so finding some way to lessen that bill was important."

While the offset in energy costs are helpful, alone they make a \$220,000 investment hard to justify. But the recent changes in various state and federal tax incentives dramatically have changed the economic dynamics of renewable energy sources. The federal tax rebate is now 30 percent of the investment and the various state programs in Louisiana have helped the Island Golf Course offset \$110,000 of the investment.

The energy generated from the system is tied back into the utility grid. As the system generates power it's allowing the meter to run backwards, creating a net metering compensation. Through these various programs the Island Golf Course hopes to recoup its investment within six years.

These incentive programs are directly related to the other part of the energy equation that has to be considered. Electrical suppliers will have a difficult time adding more generation sources in the near future and are taking a more proactive look at renewable sources themselves. Many states and utility companies have set ambitious goals to generate a percentage of their power through renewable sources within the next few years. This shift has led to a variety of new ways to finance or lease renewable energy equipment as utilities try to meet these goals. Golf facilities can be an attractive site because of their location and acreage and they can be a visible example for their surrounding community.

Wee Burn Golf Club in Darien, Conn., recently completed the installation of an 86 kilowatt solar system consisting of 380 panels installed on the roof of its maintenance building. The system will produce 92,000 kwh annually – about 20 percent its power