



# The

# MOWING

# on New Technology

## Mower manufacturers seek fuel-efficient alternatives

By Larry Aylward, Editor in Chief

**G**et ready for some *big* changes in the mowing industry. The Big Three mower manufacturers — The Toro Co., Jacobsen and John Deere — are working on some *big* ideas that could impact golf course maintenance operations in a *big* way.

And soon.

“Technology-wise, there hasn’t been a lot going on in this industry,” says Mike Koppen, group product manager for Raleigh-based John Deere Golf & Turf One Source. “I think we’re in the process of getting ready to make a huge leap.”

Toro has been testing equipment powered by a fuel cell and biodiesel fuel. Dana Lonn, director of the center of advanced turf technology at Toro, says the new technology is coming sooner than later.

“It’s not next year’s golf show that you’ll begin to see some things, but it’s also not five years away,” he adds.

This is good news for superintendents concerned about rising fuel prices. In the last few years, superintendents have watched their maintenance budgets run amok because they’ve had to spend more money to gas up equipment, not to mention delivery surcharges for topdressing and other items. Hence, Kop-

pen says elevated gas prices are surging higher on superintendents’ list of concerns.

Deere recently surveyed superintendents about their top needs for mowing equipment. Fuel efficiency was high on their lists along with reduced hydraulic components, lower noise levels and better diagnostic capabilities.

Mower manufacturers continue to explore options regarding electric technology. Electric-powered equipment offers more benefits, such as better control, less noise, no hydraulic leaks and less maintenance.



Mike Koppen

Charlotte, N.C.-based Jacobsen has long championed the electric technology. It introduced the E-Plex electric triplex greens mower several years ago and the E-Walk electric greens mower three years ago. Superintendents and other users of the mowers are impressed with them because they use no hydraulic fluid and operate quietly. But the electric technology is catching more superintendents’ attention these days because of the price at the pump.

Ryan Weeks, vice president of engineering and product management for Jacobsen, makes a compelling case for electric technology when he cites numbers revealing how much golf courses can save by using it. Consider a Southern-based golf course that mows greens 300 times a year with triplex mowers, Weeks says.

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Each mower uses about 5 gallons a day. At \$3 a gallon (which you know prices will rise to again next summer), that course is spending \$4,500 in gas on one mower annually. A triplex mower powered by electricity, on the other hand, would use about 50 cents for four hours of power, which would cost \$150 annually.

An electric mower costs more, but “who wouldn’t be willing to jump into a solution like that to save something to the tune of \$4,000 a year — per machine,” Weeks asks.

The rap on electric technology has been that it can’t power a mower like a gas-powered engine.

“But battery and motor technology have become a lot better and more efficient,” Weeks says. “This technology is where it needs to be.”

Last year John Deere introduced its 2500E Hybrid Tri-Plex Greens Mower. It operates on a traditional engine that drives an alternator, which powers electric reel mowers to drive the cutting units. Deere said the mower has 90-percent fewer likely leak points, runs more quietly and offers better fuel efficiency.

“Now we’re looking to take that technology to other parts of the golf course,” Koppen says.

Superintendents seem to be ready for the new technology, which is somewhat surprising because they have always been regarded as a conservative group that hesitates to try new equipment. But Koppen

understands why superintendents can’t be risk takers and try something that could end up impairing their operations. “Their jobs are on the line every day,” he says.

Still, Koppen says Deere’s research and development efforts are not being compromised. “We’re going full-speed ahead with our technology,” he adds.

Weeks says superintendents’ conservativeness has “caused us to be too conservative with research and development over the years, which has resulted in incremental technology advancements.”

“But going forward we plan to be a lot more aggressive about R&D and introducing new technologies to the industry,” he adds.

Education is also vital to follow up the introduction of new technology, Weeks stresses.

“We haven’t done a good-enough job in the past of making sure customers are educated not only about the features and benefits of the product, but also the value proposition that a piece of equipment offers,” he says. “We plan to be much better at that as we start to roll out some of the machines.”

Interestingly, Lonn says superintendents of municipal courses are more apt to try new technology because their local governments want to make good political statements to their constituencies.

Overall, Lonn agrees that superintendents are warming up to new technology.

“It’s not a groundswell, but certainly customers are much more open to it today than they were a few years ago,” Lonn adds.

Lonn says Toro has tested equipment powered by 100 percent bio-diesel fuel (B100) for more than three years.

“Our only hesitation in going to B100 is that we really want the engine manufacturers to stand behind us on this because they’re responsible for the warranty on engines on new machines,” he says. “But we’re not a big enough piece of their business to force them to do that.”

Lonn says Toro is considering whether it should go it alone with the technology. “We don’t think there’s much risk because we’ve had good

luck with B100,” he says.

Toro has been testing a fuel-cell-powered greens mower for a few years. “We’ve done quite a bit of testing of it and made some improvements to it,” Lonn said. “We continue to work very hard on it.”

But Lonn says the technology’s cost must drop before it can have a viable impact on the industry.

Speaking of cost, pricepoint will be an issue regarding the development of more fuel-efficient equipment because of the need for custom components. Koppen says the mower industry should work with the automobile industry to keep costs down.

“We can use a lot of components the [automobile industry] has already developed,” he says. “It’s expensive to go out and develop those components. But if we let that trickle down ...”

As far as something like an ethanol/gas-powered engine, Weeks says Jacobsen and other mower manufacturers are at the mercy of the engine manufacturers. “If the Kubotas of the world come out with such engines, I’m sure you’ll see all of us get into that relatively quickly,” he adds. ■



Dana Lonn



Ryan Weeks

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