

# Real-Life Solutions

■ WILMINGTON CC, WILMINGTON, DEL.

## Faith in Fertigation

**System improves cost, flexibility of superintendent's fertility program**

**A**lthough he oversees operations at one of the nation's premier courses — Wilmington CC in Wilmington, Del. — Dan Pierson figures he has plenty in common with other superintendents, even the ones at smaller, less well-known courses. “Whether we're fighting to get dollars or to get rid of dollar spot, we all have the same problems,” the certified superintendent says.

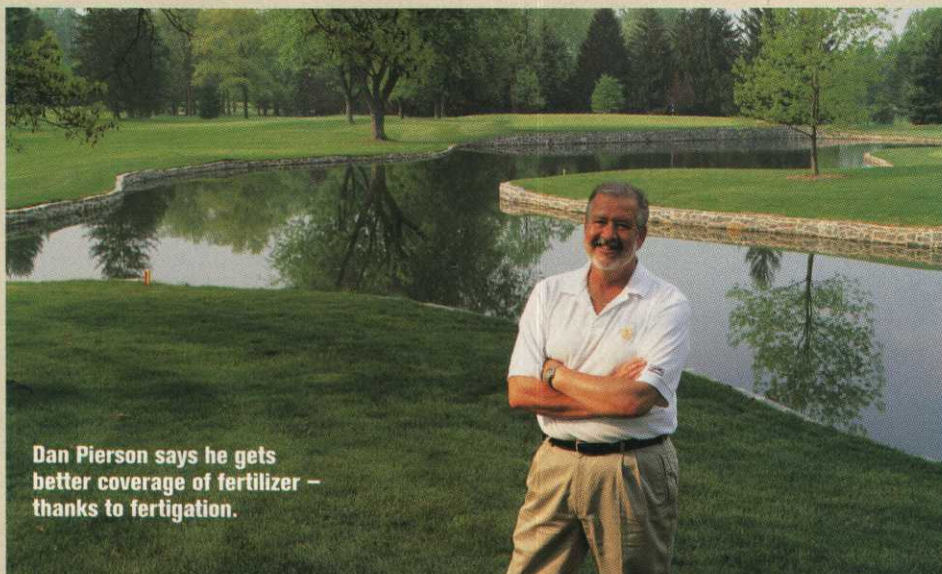
High on the list of many

### Problem

Finding a middle ground for a successful fertility program. Too little or too much fertilizer causes problems.

### Solutions

Implementing a fertigation system, which gives greater control over a fertility program. Also, taking annual soil samples and using the readings to keep a consistent program.



Dan Pierson says he gets better coverage of fertilizer — thanks to fertigation.

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superintendents' problems is fertility — how to get the right amount of each nutrient to the place it's needed, when it's needed, in a digestible form and how to practice fertility without disrupting play.

### The problem

Pierson struggled to find a middle ground for successful fertility on his course for the past two years.

“If you put down too much fertilizer, you'll be mowing a lot of grass and you'll have slower greens,” Pierson says. “That means unhappy members.”

Too little fertilizer or the wrong kind of fertilizer can also cause problems, he notes.

### The solution

Pierson attacks the fertility problem on two fronts. For starters, he pulls annual soil

samples and sends them to a laboratory for analysis. He then follows the advice of the lab's representatives.

On another front, Pierson implemented fertigation. In 1996, Wilmington CC installed a \$30,000 DGT-Volmatic fertigation system, which gives Pierson greater control over his program.

With the computerized system, Pierson analyzes conditions daily. He then writes a prescription on his computer, and the system draws the specified amount of the prescribed elements — including nitrogen, potassium, calcium and other nutrients — from three 1,000-gallon holding tanks in the pump house. The system draws fresh water from the irrigation pond and injects it with the elements.

An electrical conductivity

sensor measures salt content and nutrient concentration added to the irrigation water. The system adjusts automatically to concentration and ratio settings for up to five tanks. A pH sensor allows for adjustment to water quality with acid, as set by the operator in the system's computer settings. “This system is years ahead of anything else available,” Pierson says.

### Outlook

The move to fertigation dramatically decreased the cost and increased the flexibility of Pierson's fertility program. He gets better coverage of fertilizer because of the system. As a result, it's more economically feasible to regularly micro-feed nutrients on fairways and even primary roughs, not just greens and tees.

“Fertigation also greatly



improves plant use of nutrients," Pierson says. "As much as 95 percent of nutrients are available and used by the plant. We're using more calcium and potassium, but we're using as little as one-third the amount of nitrogen we used five years ago before we installed the fertigation system — and we see no visual deficiency in the plant. Obviously, this is better for course playability, plant health, disease suppression and the environment."

Since almost all seasonal feeding is done through the fertigation system, there's additional savings through reduced labor.

"Rarely do we send out



**The fertigation system has improved plant use of nutrients. "As much as 95 percent of nutrients are available and used by the plant," certified superintendent Dan Pierson says.**

the spreaders and tractors and use the extra water needed to water granular fertilizer in," Pierson says.

"Never do our members

have the disruption that can be part of that."

However, Pierson has problems with dollar spot because of the low nitrogen

regimen. "It's the most difficult pest we have to deal with," he adds, noting that he uses Curalan, "which is effective and economical," to combat dollar spot.

"We spend a lot of money each year on fungicides, and it's my responsibility to ensure the money is spent correctly," Pierson says, adding that he rotates several fungicides for resistance management.

Because there's less chance of nitrogen-friendly diseases such as pythium and brown patch, thanks to the fertigation system, Pierson switched from a preventative to a curative approach in disease management. ■

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