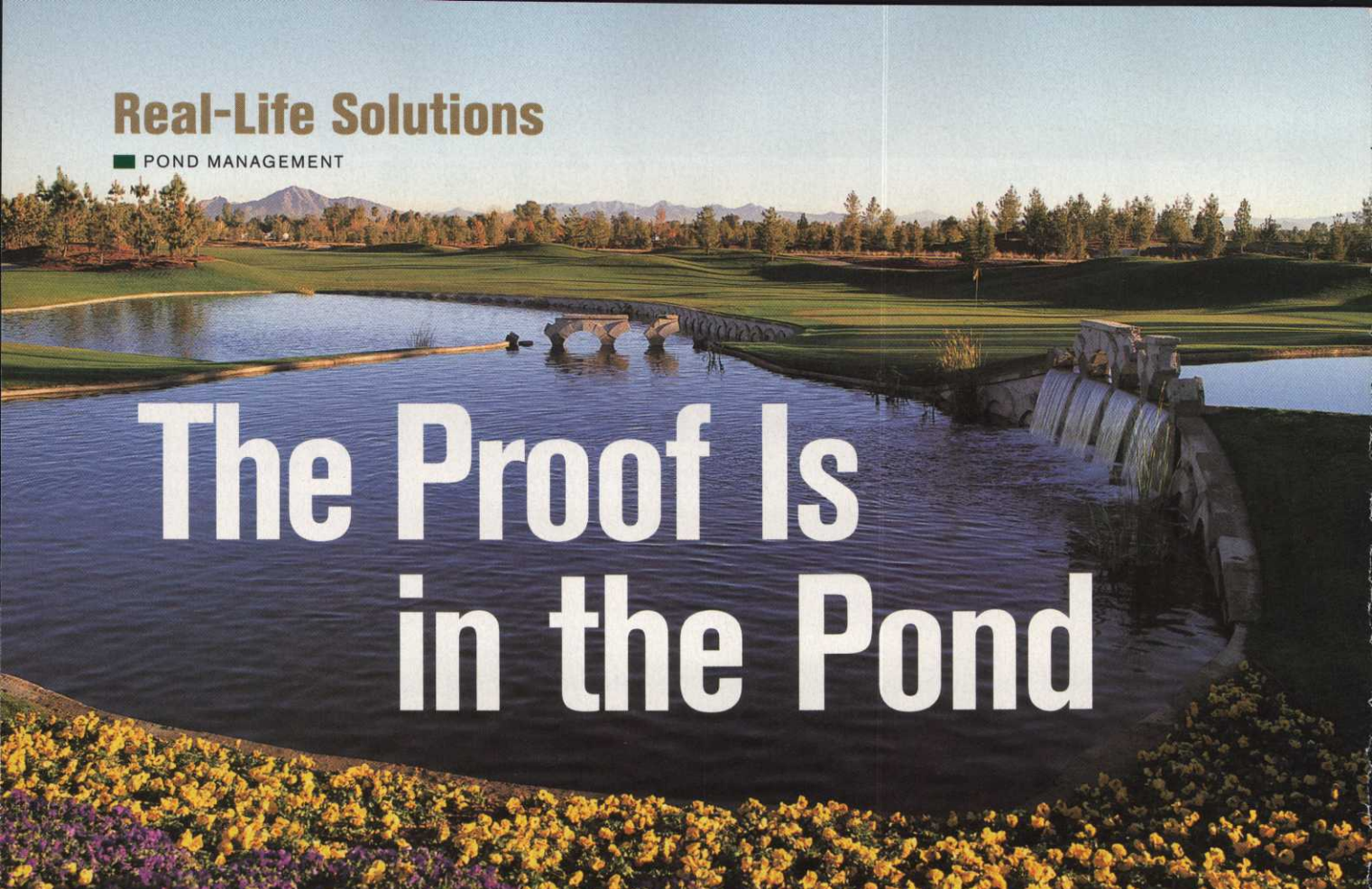


# Real-Life Solutions

■ POND MANAGEMENT



# The Proof Is in the Pond

**Golfers often see a healthy pond as a reflection of your operation.**

**Here's how to manage ponds using different solutions**

**BY PETER BLAIS**

**P**onds are an essential part of many golf course operations as a source of irrigation water, an aesthetic feature and a hazard to be negotiated by players.

Michael VanErdeWyk, founder of Bioverse, a pond-treatment firm that has used its Healthy Ponds program to treat 200,000 ponds nationwide, writes on the company's Web site, "A thorough understanding of the ecosystem of the pond and the interactions that take place when you treat the water will assist you in successfully managing the pond."

To manage water bodies properly, superintendents need to take into account numerous factors including a pond's age, design, size, shape, location, biology (zones) and water-quality parameters (sunlight, water temperature, nutrients, pH and oxygen levels).

"In summary, balance is critical in the pond," VanErdeWyk writes. "A healthy pond contains balanced amounts of oxygen, nutrients and water clarity."

Unhealthy ponds quickly fill and refill with algae, leading to a variety of water-quality, irrigation, aesthetic and odor problems. Superintendents generally manage their ponds and combat algae using one or a combination of chemical, aeration and bacterial methods.

## **Chemicals**

It's well-documented that copper sulfates and copper chelates are effective in controlling algae, according to Andy Moore, director of business development with Aquatrols in Cherry Hills, N.J. Several companies manufacture copper-based products.

Last year Aquatrols introduced Radiance, a copper-based pre-emergent pond-management tool. Traditional copper-based products tend to stay in the immediate area where they are applied, according to company literature. "To achieve uniform distribution throughout the pond, the application has to be made at all points around and in the pond, adding

MIKE KLEMM

## **Challenge**

Ponds on golf courses just can't be left alone. They need to be maintained. Superintendents need to take into account several factors to maintain a pond successfully.

## **Solution**

A healthy pond contains balanced amounts of oxygen, nutrients and water clarity. Ponds should be managed using one or a combination of chemical, aeration and bacterial methods.

labor and time to the process. Copper used in these products usually settles to the bottom of the pond quickly, where it's relatively ineffective. Additional problems can develop if large amounts of copper settle to the bottom of ponds."

Radiance can be applied in one spot but quickly disperses throughout the entire body of water, according to Aquatrols. The formulation also allows the product to stay dispersed much longer. Radiance can prevent algae blooms for about a month.

Moore says that without a large inflow or outflow of water into the pond, applications are generally made every two weeks. Putting in low levels on a continuous basis prevents large algae outbreaks and places less copper into the ecosystem in the long run.

Applications should start when water temperatures rise above 60 degrees F and algae begins to grow. Treatments should cease when water temperatures cool below that level. Application rates are 1 gallon of Radiance per 1 million gallons of water initially, followed by a half-gallon per 1 million gallons of water every two weeks thereafter. A Northern superintendent may use 12 gallons in a 1 acre pond that is 6 feet deep. At \$30 per gallon, that amounts to \$350 to \$400 per golf season, Moore estimates.

"The preventive approach requires some education because people generally don't think about their ponds until they turn ugly," Moore says. "They are more in tune to doing a preventative fungicide application or pre-emergent herbicide application on turf. People haven't thought about their ponds in the same way."

### **Aeration**

Doug Cramer, president of aeration equipment manufacturer Air-O-Lator, says water quality is dependent primarily on how much oxygen is in the water.

"Oxygen is important because it feeds the microorganisms so they can degrade the solid matter," he says. "Chemicals are fine to treat a symptom [algae], but they don't treat the cause."

Fountains, aerators and diffused air systems are common ways superintendents artificially introduce oxygen into their ponds.

"Mother Nature tries to get oxygen into

the water naturally through sun, wind and babbling brooks," Cramer says. "On a golf course, that balance is upset because the ponds are containment basins with high volumes of organic matter, low oxygen and occasionally some runoff from nitrogen fertilizers.

"Most of our products ride on a flotation platform, and the modular unit sits down inside the float, making it more user-friendly to service," he adds. "People frequently go out in a row boat, lift the unit out of the flotation device and service it. It's designed to be worked on easily."

Superintendent Nels Lindgren has installed one Air-O-Lator unit and plans to add three more at Loch Loyd GC in Kansas City, Mo.

"We have a water feature that has aerated itself over the past 13 years," he says. "Water went over a series of waterfalls, and the ponds stayed aerated. But we got into a water-restriction deal, and the residents came into control of our 100-acre lake. So now we run less water through the water feature, meaning less aeration, which is why we are going with the aeration equipment."

### **Bacteria**

Bacteria, enzymes and other microorganisms are becoming an increasingly popular way to manage ponds. Bioverse's Healthy Ponds program is a good example. It's an all-season system that incorporates testing, balancing and treating, according to VanErdewyk.

"We have a patented dispensing system that meters bacteria and enzymes into the pond to break down the organic waste and nutrients, consume the nutrients, reduce sludge and odors, and improve the water quality and clarity," the Bioverse CEO says. "We offer cold- and warm-water formulas. We also offer a mosquito-control formula, a biolarvicide that kills mosquito larvae in the pond."

The cone-shaped dispenser is 12 inches in diameter at the top and 18 inches in height. Into the dispenser goes a mixture of different strains of bacteria as well as micronutrients, vitamins, minerals and buffers that make the conditions right for microorganisms to thrive, along with a time-released gel that

**"Chemicals are fine to treat a symptom [algae], but they don't treat the cause."**

DOUG CRAMER  
AIR-O-LATOR

**Read another  
Real-Life Solutions  
on page 86**

*Continued on page 70*

## Real-Life Solutions

*Continued from page 69*

holds those vitamins and nutrients in place while creating a large surface on which the bacteria can grow. The dispenser needs to be refilled every 30 days. One dispenser treats one surface acre of water.

The expense varies depending on the climate, VanErdewyk says. On average, the cost is about \$1,000 per surface acre during the first year. The cost goes down roughly 30 percent in the second year because the polypropylene dispensing system does not have to be purchased again.

Bacteria and enzymes are permanent, long-term solutions to algae problems, VanErdewyk says.

"You may not get the immediate results [like with copper products] and have your pond clear in a few days," he says. "It may take four to six weeks before you see substantial results."

But the wait is worth it, according



A healthy pond contains little algae and appears picturesque on a golf course.

MIKE KLEMM

to superintendents who have used the product.

"We use it in conjunction with aeration, which adds to its success," reports Drew Annan, who employs the system on his 11 ponds at Forest Highlands GC in Flagstaff, Ariz. "It has reduced our weed growth moderately and our algae growth severely."

Bob Schneiderhan, superintendent at Chalk Mountain GC in Atascadero, Calif., is in his third year with the Bioverse program, and says it is an environmentally responsible solution.

"In our case, the algae was regenerat-

ing every five to seven days when I was treating it with copper," he recalls. "If you knocked it down every time it bloomed, that would have been even more costly than the bacteria system."

"Our pond is next to a fresh-water runoff pond that runs into the Salinas aquifer," Schneiderhan adds. "When I realized the copper sulfate would require repeated applications, that's when I became concerned enough to find an alternative." ■

*Blais is a free-lance writer from North Yarmouth, Maine.*

**Filling a Radiator with Diesel Fuel...**

**\$299.00**

**Diesel Fuel**

**Using SVW To Train Your Crew...**

**\$95.00**

**"We Teach Common Sense!"**

Superintendent's Video Workshop: Helps reduce risk of personal injury and maintenance mishaps • Teaches personal responsibility  
Promotes professionalism • Provides written documentation of training  
Choose from 26 titles – most also available in Spanish.

Order online at [www.svwonline.com](http://www.svwonline.com)  
or call 800-938-4330

SVW/EPIC of Wisconsin, Inc. • 3014 E. Progress Drive • West Bend, WI