

# CALIFORNIA LANDSCAPING MAGAZINE

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Inventing  
Water Savings

The  
Sound of Silence





# De Lany Invents Water Savings

By Joan Waters

Drive down the street of almost any well-kept neighborhood in the state and you see lawn — green, lush, trimmed, mowed and edged. For a lot of Californians, turfgrass is the front yard of choice. If they've got kids or pets, there's probably turfgrass in the backyard, too. Helping people keep those lawns in the face of rising water rates

has become a way for life for CLCA Certified Water Manager Tom De Lany. Especially since he invented and patented a technology called Aqua Cents, which he finds can significantly reduce the water needed to keep existing turfgrass installations green and growing. De Lany, a veteran advocate of water conservation, is CEO of All Commercial Landscape Services Inc. (ACLS) in Fresno, a landscape management company that has a water consulting division and is acting as an Aqua Cents partner, which is poised to become a standalone business and a real game-changer.

## What is it?

At the core of Aqua Cents is a patented machine called the AC3000. As an operator rolls it across existing sod or turf, it injects a gel-forming polymer solution directly into the root zone, about 3.5 inches below the surface. Because polymer can absorb up to 400 times its weight in water, it creates "tiny water reserves" in the soil that are released to the turf roots slowly over time. The whole injection idea came to De Lany in the middle of the night about three years ago, he says. At that time, the water management division of ACLS was raking polymers into the soil beneath new sod installations to keep the plant material hydrated. An unexpected offshoot of that practice was that months after installation, the turf needed a lot less water to stay green and lush. "We saw we were cutting water use easily by 50 percent," De Lany says. The hitch



was, the economy was grindingly slow and ACLS wasn't installing a lot of new sod. That's when De Lany had his light-bulb moment. "I literally sat up in the middle of the night because I knew I needed to figure out a way to inject the hydrogels into existing turf." And so he did.

## The machine

To build the polymer-delivering machine, De Lany turned to Andros Engineering in Paso Robles. The resulting AC3000, equipped with a nurse tank, pump, hoses and probes, is now in its fifth generation and has seen somewhere around 200 hours of service. "The nurse tank is where we blend the polymer with water and inject it as a wet-able substance," he says. It can inject about 2,000 square feet of turf in an hour. While probes drive the polymers into the soil at about 3,000 pounds of pressure, it's a fairly easy machine to operate, De Lany says, and would take someone with a CLT or equivalent experience only a few days to become familiar with its operation.

## What kind of polymers is it injecting?

Long known for their ability to absorb liquids, polymers have been used in agricultural applications for 30 to 40 years, De Lany says. The AC3000 uses a proprietary polymer formulation created specifically for Aqua Cents. De Lany reports it's been registered with the California Department of Food and Agriculture (CDFA) and has been certified as an inert ingredient by the U.S. Environmental Protection Agency. "We're very sensitive to the environmental effects," he says. "It breaks down into natural ingredients over 5 to 7 years, depending on the salinity of the soil and other events taking place in the soil." Ultimately, the polymers "are liquefied and form part of the soil." Testing in certified labs, he adds, has shown no evidence that there's any adverse effect on plants, animals, soil, microorganisms or groundwater.

## How well does it work?

A field trial conducted on existing sod by between Aug. 28 and Sept. 26, 2011 showed a 38.4 percent reduction in water use between the Aqua Cents-treated sod and a control plot. A second-year trial conducted from April through October, 2012 demonstrated a 48 percent and a 56 percent water-use savings. De Lany and his staff have been working with Ed Norum, an agricultural engineer with the Center for Irrigation Technology at California State University, Fresno, on trial guidelines and methodologies.

## How much does it cost?

Property owners can expect to pay about 35 cents a square foot to have their lawns treated with Aqua Cents. De Lany's calculations use an average lawn size of 3,000 square feet, which pencils out to an initial cost of \$1,050. At current water rates, it would take 19 months to recover that cost. "Over five years, the homeowner would pick up \$2,310," De Lany says. "... In San Jose, the average water bill before Aqua Cents is \$138 a month; and \$82 a month after."

## What happens next?

Aqua Cents injected its first residential lawn in early 2012; its first commercial project followed in July. While he's not ready to rent

the machines out or create franchises just yet, he is in talks with landscape contractors willing to create strategic partnerships in target markets. "Because watering a lawn can take up to 58 percent of water use in a household during the summer months, cutting down the amount you have to put on a lawn is a win-win-win situation — that's how I see it," De Lany says. "When you manage landscapes to a water budget, you've got a water efficient yard, that's a win. It makes you cost efficient and that's a win, and it's good for our business, too. That's a big win." For more information, go to [aquacents.com](http://aquacents.com).



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