# Water Management... ...It Just Makes Cents!



Water Management
Environmental Stewardship
Water Savings
Sustainable Practices



### **3 STEPS TO PROPER WATER MANAGEMENT**

Assessment and Evaluation

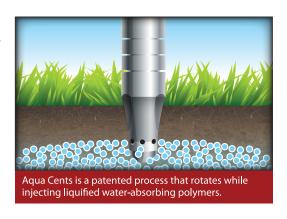


Most landscapes, whether residential or commercial, use far more water than necessary to keep turf and plants healthy and visually appealing. Aqua Cents<sup>®</sup> Water Management starts with:

- Baseline Assessment: Using an Aqua Cents® data-logger for remote sensing that determine exactly where your water is being used, or wasted, and how much it is costing you.
- Irrigation System Audit: Evaluate system performance and efficiency.
- Turfgrass Evaluation: Evaluate quality, color, density, traffic, root zone health, and overall viability.
- Recommendations: Provide summary and options, complete with costs, ROI's, and suggested "next steps."

Recommendation and Remediation

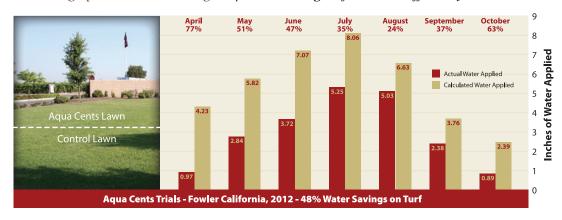
Aqua Cents® Hydrogels and patented injection provide an organic solution to help achieve realistic water savings. Aqua Cents® hydrogel is capable of absorbing 400x its weight in water and beneficial nutrients, and holding that moisture until the root system needs it. With the injection of Aqua Cents® you can achieve savings of 35% to 50% reduction in outdoor water use...delivering water and cost savings to property owners while contributing to overall water conservation in our communities.



In some cases Irrigation System Upgrades or Retrofits, utilizing more efficient matched precipitation nozzles, drip technology, and/or system adjustment can present the best option, or a combined approach to achieve optimum results.

Managing and Monitoring

Achieving optimum water savings requires *teaching turf to drink differently*.



An example of this can be seen with the pictured Turfgrass and corresponding Water Use graphic, showing a 48% water savings on the Aqua Cents lawn as compared to the control lawn. This was accomplished in the April-October growing season in the heat of the California Central Valley summer months.

## **Environmental Stewardship Through Effective Water Conservation**

To many American property owners, water is a mundane utility that becomes more costly only in terms of the monthly statement we must pay and potential fines associated with water restrictions during dry summer months.

Consider that while 70% of the Earth's surface is covered in water, less than 1% of it is drinkable, and must sustain an ever-expanding population throughout the next millennium.

San Francisco

56.0%

Denver

34.2%

Ventura

23.9%
Phoenix

18.7%

San Diego

67.0%

U. S. Market Trends - Water rates up to 28% and continue to rise.

23.0%

Aqua Cents® can help to dramatically reduce the demands placed on managed and natural water resources by making more efficient use of water that would otherwise be lost to gravity and evaporation.

#### The Science Behind Aqua Cents®





Environmentally friendy, hydrogels have been used in the green industry and agriculture for over 30 years.

When water is applied through rainfall or irrigation, a huge percentage is never utilized by turf. This is primarily due to forces of gravity pulling moisture into the aquifer and evaporation drawing moisture into the atmosphere.

Aqua Cents® hydrogel, delivered beneath the root system of turf, absorbs up to 400x its weight in water and beneficial nutrients. This absorption, and holding-capacity allow up to 96% utilization "as needed" by the root systems.



#### **A Moisture**

#### **Management Solution**

Aqua Cents® patented technology provides a state of the art delivery mechanism to bring the benefits of water and nutrient absorbing hydrogels to existing lawns.

Aqua Cents® Hydrogel can cut outdoor irrigation and water use by 35% - 50% of ET (evapotranspiration), and continue to deliver those savings over its expected 3-5 year life.

## Preserving the Benefits of Turf

Aqua Cents<sup>®</sup> is ... Technology on a Mission... striving to retain the benefits of green space, while cutting water use and improving water savings by 35 to 50%!

In some sections of the country, water use for turf irrigation may seem insignificant, but in other areas it can account for more than 50% of consumption during the summer months.

While removal of turf, or "cash for grass" incentives have been made available to drive outdoor water conservation, customer acceptance rates have been relatively low.

The fact is... Citizens have a Passion for Green Lawns and the many benefits they provide:

**W** efficient oxygen production

protection of groundwater quality

₩ improved recharge

significant ability to dissipate heat and reduce energy required to cool nearby homes and commercial buildings (natural turf has been shown to reduce home cooling requirements by 4%)

improved property values

great environment for recreation and relaxation





How does Aqua Cents® Hydrogel work? Aqua Cents® Hydrogel increases the utilizable water-holding capacity of soils by decreasing the water and nutrient losses due to seepage evaporation and surface runoff. In the soil Aqua Cents® Hydrogel stores water, as well as plant nutrients dissolved in water, thus, acting as a reservoir of water and nutrients available to root systems "on demand". Water and nutrients are slowly released to the surrounding soil and root systems.

How Long does Aqua Cents® last in the soil? Aqua Cents® Hydrogel retains the ability of repeated water absorption and release over a period of several years which makes them very cost effective for long term maintenance situations. As a water management tool, it is therefore particularly suitable for turfgrass.

Is Aqua Cents® environmentally compatible?
Is it safe?

The use of Aqua Cents® Hydrogels in landscaping and agriculture is environmentally safe.

In-depth Eco toxicological testing was performed in laboratories certified according to the rules of "Good Laboratory Practice GLP." No evidence for adverse effects of Aqua Cents® Hydrogels to animals, plants, soil or ground water was obtained. As a copolymer Aqua Cents® Hydrogels are classified as "inert ingredient" by the U.S. Environmental Protection Agency (EPA) under 40 CFR section 1800.1001 c.

How Does Aqua Cents® Hydrogel affect physical properties of soils, substrates and compost? Due to swelling of the hydrogel during water uptake, the soil volume changes, resulting in reduced soil compaction and increased soil pore volume. Thus, by loosening the soil, roots grow best and increase in length. At the same time, water infiltration is greatly improved. If rainwater infiltrates the soil quickly, less water runs off. With a lower volume of running water, less soil can be transported. The erosion of soil material is reduced by 50%. To reduce erosion means to keep the fertile topsoil.

Is Aqua Cents® Biodegradable? Aqua Cents® Hydrogel adapts itself to natural degradation mechanisms: Due to physical, mechanical and biological activities, the hydrogel gets liquefied. Higher molecular soluble hydrogel parts are attached to soil components. Thus, in the course of time, Aqua Cents® forms part of the humus fraction of the soil, without having any negative or toxic effects on the soil and microorganisms. The low molecular soluble hydrogel parts are mineralized. Together with naturally occurring humic substances, Aqua Cents® Hydrogel enlarges the organic soil matter fraction. Degradation products are non-toxic.



