Sports Turfgrass Article

MAGNATION
WATER TECHNOLOGIES · MADE IN USA

Cost-effective way of treating water and saving recreational areas

KEEPING SCHOOL GROUNDS AND SPORTS FIELDS ALIVE DURING TIMES OF DROUGHT

It's widely known that the serious drought conditions in California and other western states have taken a critical toll on the agriculture industry. But did you know that many K-12 schools and universities throughout these regions have had to drastically curtail – and in some cases, eliminate -- their outdoor sports activities due to the sustained lack of rainfall? In Santa Cruz, California, restrictions were imposed on all residents and businesses starting in 2014, in order to cut overall usage by 25% (in June of the same year it became a statewide mandate). Businesses and organizations with large landscaped sites, including schools and city parks using outdoor irrigation systems, were required to limit themselves to one-third of the water that was needed to maintain their gardens, lawns or fields. As a result, fields were closed at UC Santa Cruz as well as local high schools. Athletic programs were put on hold. This may sound like an extreme scenario, but it is far from being an isolated case. Throughout California and other drought-ravaged states, the dwindling supplies of water for landscape purposes is responsible for the closure of parks, golf courses, playgrounds and sports fields.

Aesthetics aren't the only thing at risk when restrictions are imposed on landscaped grounds. When outdoor school and recreational areas are not adequately watered, the ground becomes rock hard and for those playing soccer or football, or even children playing at recess outside of their elementary schools, the results of falling on such hard ground can be injurious. For this reason, parks, recreation and grounds superintendents and maintenance managers are clamoring for solutions that will allow them to make their limited irrigation water go further. The following report highlights one such solution that is not only rescuing landscaped areas, but is also saving groundskeepers a substantial amount of money by eliminating the cost and labor of using wetting agents.

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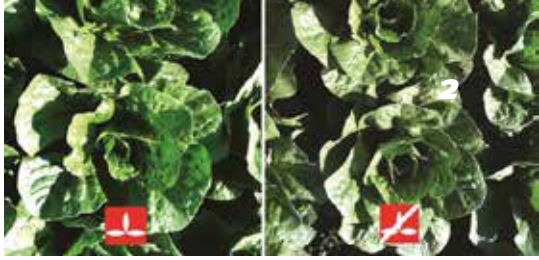

THE DISCOVERY SCHOOL, BAKERSFIELD, CALIFORNIA

In the Fruitvale School District, located in northwest Bakersfield, California, Brian Prine has been Director of Maintenance, Operations and Transportation, for almost 11 years. Brian oversees the irrigation of six different campuses in this region. When state requirements forced him to cut his watering time from 6 days a week to 3 days a week, the results were soon evident. The turf on some of the grounds and fields turned brown and, in localized areas, disappeared altogether. One of the campuses, the Discovery Elementary School, was particularly troublesome. The soil there was clay-based and the lack of water was slowly turning the ground to brick. Before the drought restrictions were imposed, Prine used to water the grounds 6 days a week in the summer. Now, he is limited to 3 days of watering per week. "I can't increase my watering," said Prine. "And because my campus is so big, I need the full watering time allotted to me. So I had to find a solution that could keep the soil and turf healthy, using half as much water." However, after doing some research, Prine was hard-pressed to find a solution that was within his budget. "I could use a 'liquid gypsum' product on the grounds that has been known to work. But the cost was beyond what my budget allowed. The cost of one year's worth of applications would be $7,860, and that's not even considering the added expenses of of time and labor needed to apply the wetting agent about every other month." Prine also heard about a water treatment product from a company called Magnation Water Technologies, which claimed to save water, support healthy soil and grass and eliminate the need for wetting agents. Figuring that it was worth a try, he put Magnation to the test on his most problematic campus. He found that the Magnation system could easily be integrated with his existing irrigation set-up at the Discovery School. The company claimed that the product can last for as long as 15 years without needing replacement. The cost? $3400. Compared to the $7860 for one application of a wetting solution that would only cover one year, it was well worth the trial, according to Prine.

THE REWARDS OF TRYING SOMETHING NEW

It's now autumn in Bakersfield, CA. And just in time for the return of students to the Discovery School, the grounds are today healthy and looking good. To ascertain just how well this new irrigation treatment is working, Prine and his crew take monthly samples from different outdoor locations around the school. After only using Magnation for several months, the results of the tests are impressive (see charts on next page). The sod roots in September were more than twice as long as they were in July, and the average ground moisture extended almost three times deeper from July to September. According to Prine, "It's clear to me that this product is doing what I was told it was going to. We have restored our soil and turf back to a healthy condition using half as much water, with the Magnation product. And it's much more time- and cost-effective than using any type of wetting agent to try to get similar results. The product is already paying for itself after only several months."

TURF AND SOIL TESTS DONE AT DISCOVERY SCHOOL, FRUITVALE SCHOOL DISTRICT

Moisture retention went up 251% with a 50% cut in watering schedule, and root growth went up 216%. This indicates the grass roots are more efficiently absorbing water and nutrients with Magnation.

DEPTH (IN INCHES) OF MOISTURE AND SOD ROOTS

	JULY ONSET CORES		SEPT. CORES	
TEST SITE	ROOT	MOISTURE	ROOT	MOISTURE
1	1.38	1.38	3.62	7.56
2	1.5	1.5	3.38	6.13
3		7.63		7.63
4	1.63	1.63	3.38	4
5	0.94	0.94	1.41	7.56
AVG DEPTH	1.36”	2.62”	2.95”	6.58”
CHANGE			**216%**	**251%**

MOISTURE SCALE RATINGS (1-10)

	TEST 1	TEST 2	TEST 3
TEST SITE	JULY	AUG	SEPT
1	9	9	10
2	9	9	8
3	9	10	10
4	9	8	8.5
5	2.5	8	10
AVG MOISTURE	7.7	8.8	9.3
CHANGE		**14.29%**	**20.78%**

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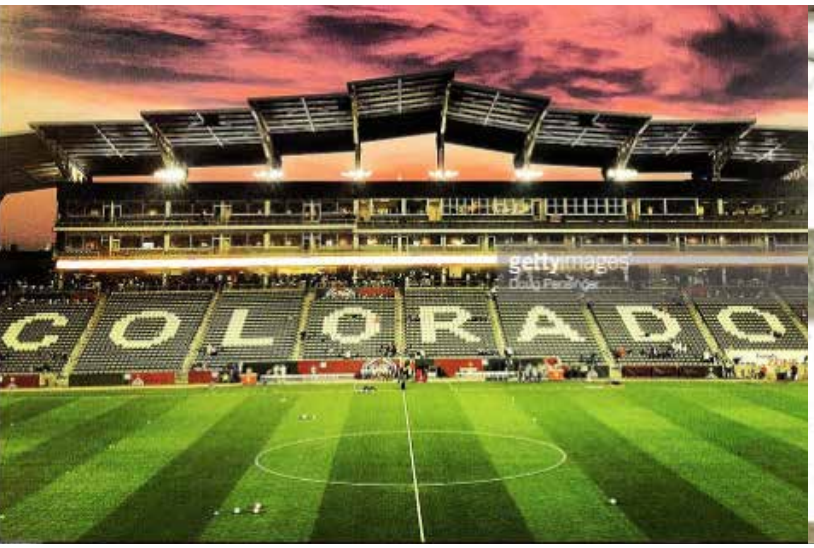
DICK’S SPORTING GOODS PARK, COMMERCE CITY, COLORADO

To verify the results that Prine experienced at the Discovery School, we traveled to a completely different location to investigate another recent customer of this seemingly incredible water treatment system. Commerce City, Colorado is home to Dick’s Sporting Goods Park, also known as DSG Park, a soccer-specific stadium that hosts the Colorado Rapids professional soccer team. In addition to the stadium, DSG Park offers 25 soccer fields; 23 of them use natural grass that must be consistently maintained and kept healthy. Phil McQuade, the current Director of Turf at DSG Park and Stadium, has been employed by the complex since it opened in 2007, and was looking for a solution to help maintain healthy coverage on these fields.

“We’re located in a particularly high-wind area and because of this we often experience dry spots in the turf. Since people who use these fields expect the grounds to be in top shape, we needed to find a sustainable solution to this problem.” McQuade discovered the Magnation products at a local trade show and decided to experiment. “Surrounding the stadium, we have four pods with six fields in each pod. These fields are regularly used for soccer, lacrosse, football, you name it. We decided to test out the product by installing a Magnation unit in the irrigation system to just one of our pods. That was in April of this year, and now we (myself, my assistant and our irrigation consultant) are definitely seeing a reduction of dry spots. Not only have the areas of dryness shrunk, but the turf is now coming in thicker.”



Convinced by the tangible results they got on these six fields, McQuade just purchased an additional unit to install for another pod of fields. "We think there is a definite benefit to using this water treatment," said McQuade. "We're also testing an area inside the large stadium; a couple of berms that are south-facing and right by a building. They are constantly being baked by sunlight all day. So we wanted to see what would happen if we put Magnation on the irrigation heads in that section." McQuade and his colleagues installed Magnation on one side of this problematic section, but not on the other, and again found evidence of how well this treatment worked. McQuade sums it up by saying, "Everything being equal on both sides, the one side treated with Magnation appeared to have less dry patches and the turf was denser. I honestly believe that the Magnation treatment helps water penetrate the soil and therefore we're getting deeper roots and healthier turf."

CHALLENGING THE STATUS QUO

With such compelling testimonies from the users of this unique water treatment system, one can't help but be curious why – especially during these times of severe drought conditions – Magnation has not yet gained a higher level of ubiquity. According to Mike Jenzeh, the co-founder and CEO of the Oakland, CA-based company, "Change happens gradually, especially with products that are disrupting the status quo of the way things have been done for decades. But, when you have something that is proven to work again and again in a variety of applications; when the evidence collected from hands-on experience by agricultural experts, landscape managers, golf superintendents and the like, becomes undeniable, then people are more willing to give it a try. We're not quite at the tipping point yet, but word is spreading fast and more and more people are turning to us. We have demonstrated that we can help a wide range of water issues, and the proof is in the results."

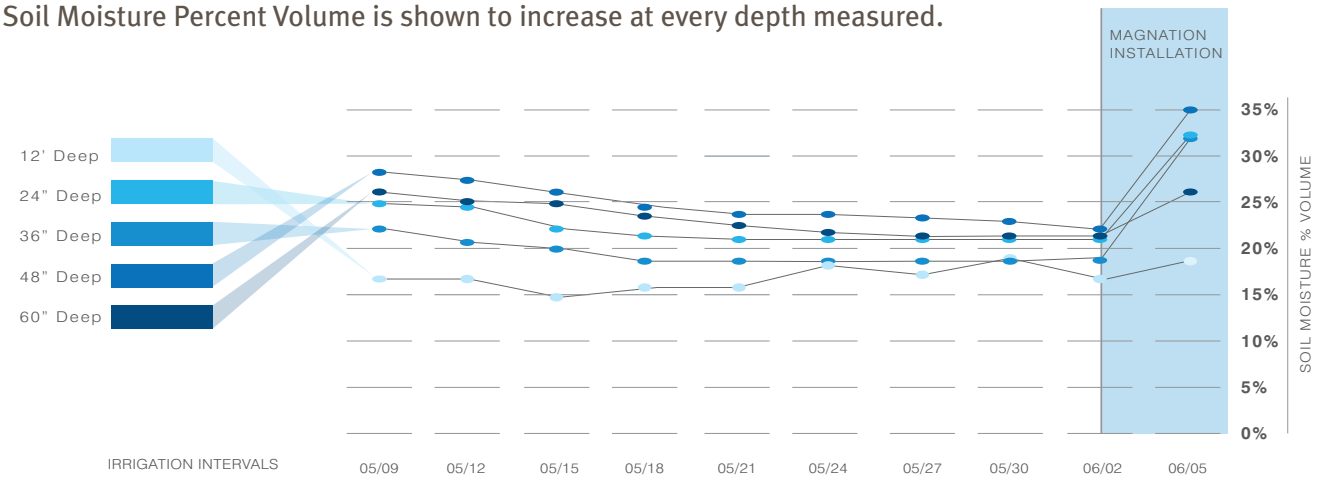
Although this "different" way of addressing landscape and agricultural irrigation problems is finally gaining recognition, Magnation is a David among many Goliaths in the water treatment industry. However, if you recall the outcome of that ancient confrontation, it's not too much of a stretch to imagine that, with such a demonstrable method of tackling BIG irrigation problems during desperate times, Magnation has just the right slingshot for saving water and helping to save our gardens, parks and recreation areas.

MAGNATION®
WATER TECHNOLOGIES · MADE IN USA

MAGNATION INCREASES SOIL MOISTURE RETENTION AT 12”, 24”, 36”, 48” AND 60” DEPTHS

CONDUCTED BY MAGNATION CUSTOMER IN CHOWCHILLA, CA, 2013

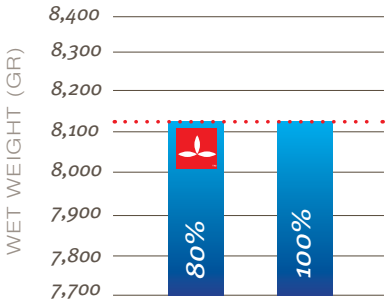
Magnation installation shown in right column, below. Using PureSense® meter by Magnation customer, Soil Moisture Percent Volume is shown to increase at every depth measured.



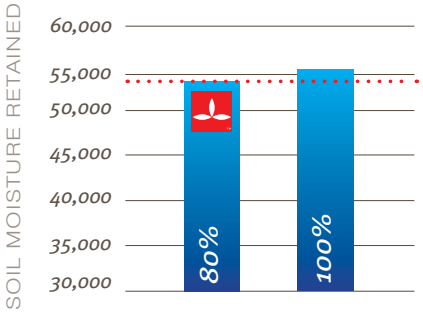
REDUCED IRRIGATION BY 20% WHILE RETAINING SOIL MOISTURE

CONDUCTED BY OLDS COLLEGE, TURFGRASS MANAGEMENT, CANADA, 2014

Experimental plots with the Magnation unit received 20% less irrigation water and showed no significant difference in wet weight yield or soil moisture when compared to the control plots.



Wet weight of clippings after 7 weeks of treatment



Average soil moisture percentage retained between irrigation periods

Control (left) vs. 80% treated with Magnation (right)

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For up-to-date information, connect with us!