

Making the Most of Water

Unconventional System Aids Organic Farmers

by *BENITA KENN*

In spite of the worst drought California has seen in centuries, statistics from California Certified Organic Farmers (CCOF), indicate that organic farming is currently booming in the Golden State, with a significant increase in certified organic farms over the past several years. Since 2010, CCOF has expanded by over 1.5 million acres (2,343 square miles) of certified organic land.

How organic growers are not only weathering this water crisis, but also thriving, is worth exploration. Part of the answer lies with the alternative farming methods that organic growers employ. Using heavy mulches to reduce evaporation from the soil surface; better soil contouring, which reduces unintended runoff and also helps reduce erosion; and the use of artificial swales (small depressions in the land designed to capture runoff and increase water infiltration) are some of the strategies used in organic farming to reduce the amount of water needed to grow healthy crops.

In addition to these inventive organic farming methods, an increasing number of farmers are integrating a simple, innovative, non-chemical water treatment solution into their irrigation systems. This helps reduce the amount of water needed, keeps moisture levels high in soil and enhances the health and vitality of crops. According to the growers, this method of treating irrigation water is extremely effective in addressing a variety of issues challenging both conventional and organic farmers.

“RAIN-LIKE” WATER

Simply put, the Magnation system creates “rain-like” water. What exactly is rain-like water? NASA sheds some light on “The Anatomy of a Raindrop” in a short video. It describes a raindrop as the accumulation of moisture in clouds, high in the Earth’s atmosphere. As moisture builds, it forms round droplets due to surface tension that makes the water molecules stick together (they stick together because they are more attracted to bonding with each other than they are to bonding with air). The water molecules in raindrops cling together forming drops, until they are acted upon by external force. In the case of rain, the external force is present when the rain begins to fall from the clouds. The drops are affected by air pushing against them as they fall, because the airflow on the bottom of the raindrop is greater than the airflow on the top of the raindrop and creates pressure on the drop.

The bigger the raindrop, the faster it falls, and the more it is affected by air pushing against its bottom. The continued force breaks the drops up into smaller drops. By the time the droplets hit the earth, the water molecules are smaller, more agitated and accordingly, more vibrant and useful to growing crops. Farmers agree, the very best water for irrigating their crops is rainwater.

It is believed that, in this same way, as irrigation water passes through the Magnation system, its molecular structure is broken down into smaller, more bioavailable clusters, allowing a greater amount of oxygen and nutrients to infiltrate the soil. Scientists and farmers alike have theorized about the many different principles of physics that apply to the transformation of the water when it passes through a magnetic field. The use of the Magnation water treatment has consistently resulted in more vitalized, softened, rain-like water that



PHOTO BY BILL GAFFNEY

Matthew Engelhart, organic farmer in Vacaville, California, is owner of Café Gratitude restaurants and a Magnation customer.

more easily penetrates soil, “spreads” across a wider area of ground, helps soil retain moisture, stimulates soil nutrients and enhances plant growth and health.

IN THE FIELD

Mike Thorp, an organic farm consultant based in Salinas, California, has been farming for almost four decades. Having worked on his own farms and for large agricultural businesses such as Tanimura & Antle, one of the largest lettuce producers in the United States, and Duncan Family Farms, based out of Phoenix, Arizona, Thorp has a long and varied history of experience in overseeing all aspects of creating, transitioning and maintaining organic grounds and crops. When he first heard about Magnation’s method of treating irrigation water, he was curious, but wanted to test it out for himself before deploying the system.

Thorp’s test was to compare an untreated area of planted baby spinach to the same size area irrigated with water treated by Magnation. Each area was between one and one and a half acres. The ground in the middle that separated the two parcels of land was disregarded. According to Thorp, “We did four of those kinds of trials during the course of one year, and we were able to get very specific results. On the areas that were treated with the Magnation unit, there was an 8-10 percent increase in crop yield. In addition, I observed that on really hot days the crops in the non-treated area were wilting and looking tired, whereas the crops in the treated area looked quite perky and healthier. I believe that the Magnation treated ground retained more water. On really hot days, the treated crops didn’t seem to be affected and the weight of the crops was good. So even after they were picked they retained their weight. I also believe that the shelf life of the crops was extended with the Magnation treatment. For the baby spinach ... we typically got about 8,000 pounds per acre on average with normal irrigation. From the Magnation treated areas, we would end up with almost 9,000 pounds per acre.”



PHOTO COURTESY OF MAGNATION

Crops irrigated with Magnation-treated water show increased yields, and the produce is healthier overall.

MAKING WATER MORE AVAILABLE

Paul Frey, President and Winemaker at Frey Vineyards in Hopland, California, attended UC Santa Cruz as a physics major and soon after college began to apply his knowledge of science at his family’s Vineyards. Frey Vineyards is America’s first organic winery and the first maker of certified biodynamic wine in the country.

Today, Frey is regarded as one of the world’s leading experts in organic winemaking. He constantly experiments with new techniques and keeps informed of all the latest innovations in winemaking and beyond. That’s how he discovered Magnation.

“Water is a polar molecule,” said Frey. “One side is positively charged and one side is negatively charged. It’s well known in standard physics that when you move a charge through a magnetic field, it will be deflected. That’s standard physics. So there is a rotation or force that is exerted on water molecules when water goes through a magnetic field. There are also theories that water molecules form together in clusters. One could say that a strong magnetic field could definitely have an effect on these clusters, though there needs to be further research on all the ways it does affect it. It’s well known that magnetics have been applied to water

to help hard water become ‘softer.’ It makes sense that using Magnation helps water become more ‘available’ for plants.”

TRANSFORMING WELL WATER

Magnation has demonstrated its effectiveness in growing healthy, chemical-free crops a variety of ways. The water treatment not only lessens the

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need for irrigation water by making it more efficient and “rain-like,” but also stimulates the water so impurities and non-essential mineral components are flushed away. Take, for example, Pat Herbert’s experience with using Magnation for his organic farm in Hollister, California.

Herbert has been farming his entire life, and his family has farmed in the area since 1868. When he was faced with no longer having access to federal water several years ago, he knew he would need to explore other options to irrigate his farm.

“Our main problem has always been the high Boron levels in the

ground water,” said Herbert. “Going all the way back to the 1940’s ... we’ve never been able to grow anything with that water.”

When Herbert heard about the Magnation Water treatment system, he was extremely doubtful that it would solve a problem that had existed for so long. “We first tried the treatment on our house well, and we tested it by planting some strawberries and peppers, which are typically very sensitive plants.”

For the first time ever, the Boron had no effect on

the plants, which grew healthy and strong. It was after that experiment that Herbert decided to drill a well for his farm; hoping that the water treatment would eliminate the long-standing Boron issues.

“Now we’re growing a lot of peppers – one of the most sensitive plants – and we have absolutely no problem with the water since using this treatment.”

NEED MORE INFORMATION?

For more on Magnation Water Technologies visit www.moreplant.com or call 888-820-0363.