Water Conditioners:
Proven by Science

Growing bigger plants with higher yields always makes good commercial success, particularly when that is achieved naturally and sustainably. Recent exciting science has been conducted that is showing the benefits of taking the minerals down in size when growing plants, not only in bad bore sources but even when using good rainwater. ***Hydrosmart*** *makes a water technology that has for many years been applied by commercial growers and gardeners to solve salinity impacts, or for calcium and iron removal and prevention from irrigation systems.*

"The hydroponic study shows that plants are able to deal most effectively with minerals that are fully dissolved"

Overview

Taking a new direction, Hydrosmart management has pursued the need for greater scientific research into its non-chemical water treatment. Policy makers, councils, large scale agricultural corporations and commercial users are responsibly seeking new ways of solving their ever changing water issues if possible and doing so without using more energy, chemical and consumable driven approaches such as reverse osmosis to get usable water. As such, Hydrosmart management commissioned two new scientific trials. One of these was a biological study on salinity and high mineral levels (Suntec Labs NZ); the other was a lab trial on calcium carbonate (Flinders University S.A).

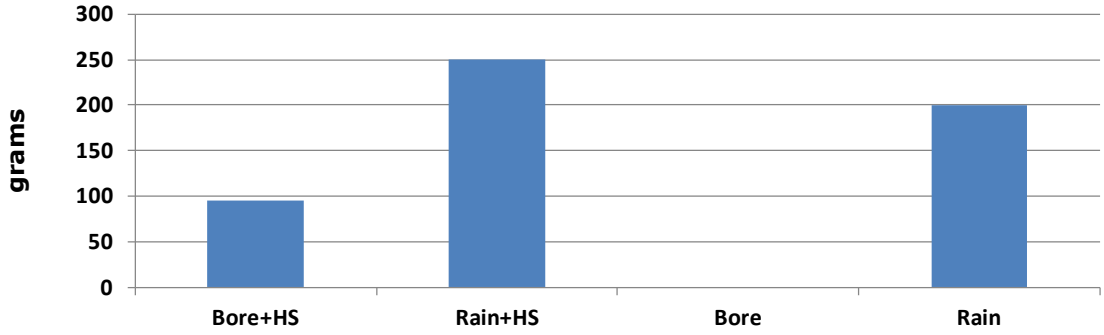
Plants grown with Hydrosmart did well, while those grown without Hydrosmart actually died. A recent study showed that Hydrosmart makes the calcium in borewater available as a nutrient, making plants stronger, healthier and able to cope with challenges. The hydroponic study shows that plants are able to deal most effectively with minerals that are fully dissolved. Hydrosmart increases the bioavailability of fertilizer while keeping the filters cleaner and lowering maintenance. All it takes is 5 watts power to run, hence about ten dollars per year to increase one's crop, which makes good commercial sense.

The trials

Suntec Laboratories N.Z used highly saline mineral rich water mimicking bad Australian bore water to grow two lettuce varieties in a controlled Hydroponic environment, this was to eliminate all soil and weather variables and provide clear biological comparisons of the technologies ability to produce plant growth benefits or impacts using salty Australian bore water. They commenced the spring crop in water at well over ideal salinity for lettuce, being at levels of 3,000 ppm TDS at trial completion the total dissolved solids TDS was at 4,760ppm.

Lettuce like sodium levels was at approximately 40 ppm with Total Dissolved Solids (TDS) of no more than 900 ppm. During the trial it became swiftly apparent that the two varieties growing in the Hydrosmart treated water were able to handle very high levels and in most cases grow right up until harvest time, producing living plants without capillary root blockages whereas the untreated lettuce had all died within a few weeks of trial commencement leaving no samples for comparison or analysis. At the commencement of the trials, Sodium level was 1,150 ppm and it was 1,449 ppm at its completion after several weeks. These figures are

Chart1: Fresh Weight Butterhead Planting



quite astounding for lettuce and show strong reasons to take the approach seriously when using saline water for plant growth.

Photos in this article show the different outcomes from using Hydrosmart's frequency treatment upon this water of well above 4,000 ppm with the same nutrient solution. The scientists also ran a control crop of rain water in channels using Hydrosmart and no Hydrosmart as a comparison from which to provide consistent baseline data. Observations were that the Hydrosmart treated rainwater also grew healthier lettuce than the untreated rainwater, showing better nutrient uptake and transmission of the resonated nutrient mix.

After the trial, Dr. *Bob Moore* at Flinders University commented, "The Hydrosmart technology has shown to have physical effects on the kinetics of mineral precipitation from an aqueous solution. Under the influence of ULF and VLF electromagnetic field modulation, calcium carbonate nuclei were greater in number (showing as a turbidity increase), and lesser in size, than in untreated control systems."

Hydrosmart has proved its efficiency at resonating and dissolving minerals that are present as compounds in the water. It removes calcium and iron scale from pipes, drippers and sprays and makes minerals bioavailable to plants. Therefore, it improves growth of plants and significantly reduces the negative impact of saline water. Hydrosmart also frequencies selectively target charged ions (minerals) near to water molecules. ■

Source:

Hydrosmart International Pty Ltd.
Web: www.hydrosmart.com.au

عادةً ما تشكّل النباتات الكبيرة بمحصولها المتزايد نجاحاً تجارياً جيداً، خاصةً عندما يتحقق ذلك بشكل طبيعي وعلى نحو مستدام. لذلك أجريت مؤخراً دراسات تظهر الفوائد الجمّة في تخفيض حجم المعادن في مياه ري المزروعات، ليس فقط عند استعمال مصادر مياه سيئة ولكن حتى عند استعمال مياه الأمطار الجيدة. يناقش هذا المقال مدى فعالية تقنية جديدة من Hydrosmart لحل الآثار السلبية للملوحة و لإزالة الكالسيوم والحديد في نظم الري. تثبت هذه التقنية نجاحها بتذويب المعادن الموجودة في المياه بشكل مركّبات، وبذلك فإنه يتحسن نمو النباتات.

Al Jammaz Group: Diversified Technology

AL- Jammaz Group steps forward to provide its technical support in water scarcity challenges in order to lift up the importance of safe and intelligent use of water in the kingdom of Saudi Arabia. The company has been successfully implementing projects in the Saudi irrigation sector for the last 34 years. AL-Jammaz group has been handling the **Rain Bird** Turf irrigation equipment and its spare parts and accessories since 1991. As a result, it became the only distributor in the entire kingdom market for both Turf irrigation and Central Control; Rain Bird produces well developed irrigation central control systems with high profile irrigation water control technology. It also provides IQ v2.0 Central control software remote programming, management and monitoring irrigation controller. IQ v2.0 is the perfect irrigation controller solution for park department, schools, utilities etc. single or multi controller site and support both ESP-LX SERIES and also traditional two wired decoder controller. Rain bird also offers the XFS sub-surface Dripline with copper shield technology; it is presented with different ranges of flow discharge to control less waste of water. This technology has been built to withstand harsh operating condition with unique features & specifications. Al Jammaz group pursues excellence throughout its business. Every challenge is met ethically with adaptability and resourcefulness and is focused on a successful future for the Group, its owners, employees, principles and partners. The company aims to build a diversified world class business group that impacts customers positively. ■