

Powered by Acti-Cell Technology® (ACT)**Soil-Plus® Saves \$1,500.00/month in Watering Costs!
(Phoenix, Arizona) USA****ABSTRACT**

THE GREEN SPOT NURSERY faced high irrigation costs at their east Phoenix facility due to high mineral salt contamination in the soil-less planting mix they had used to propagate thousands of plantings and trees they were growing for resale. The owner could see that soil salts had accumulated to the point that the irrigation water quickly ran off the surface of the organic mix because of the extreme mineral deposition left behind from the use of hard water. The mineral and sodium deposits were also reducing water absorption into the soil-less mix and as a result he was losing valuable irrigation water due to run-off and the plants were becoming drought stressed from a lack of available water in the summer heat.

BACKGROUND

Growing nursery stock in the Southwestern United States is a difficult task as intense summer heat combined with hard water conditions can make growing conditions unbearable. A typical water analysis reveals unusually high levels of sodium, calcium and magnesium mineral salts which readily form an insoluble complex with other mineral and nutrient compounds such as phosphorus and iron that are also commonly found in the environment. Over time, these compounds can produce a concrete-like coating on a variety of surfaces which forms a hydrophobic layer that blocks water movement. This precipitate is a major problem for Southwestern soils and is usually dealt with by introducing harsh mineral acids such as sulfur and sulfuric acid. While such treatments have met limited success, they are also destructive to soil life forms by denaturing and destroying the cell-walls of beneficial bacteria thereby further destroying natural soil fertility.

APPLICATION

The owner commonly used a fertilizer injection system to provide soluble plant nutrients to produce balanced plant and root growth. After determining the mineral and salt problems in the growth medium, the owner began to blend Biofeed® [SOIL-PLUS®](#) with the fertilizers in the nutrient injection tank. SOIL-PLUS® was added at a rate of 2-5 gallons per 100 gallons of fertilizer and the watering program was continually monitored and evaluated to determine the reduction of run-off and absorption into the planting mix.

RESULTS

Within 2-3 weeks it was evident that the run-off was reduced as the owner was forced to change the watering cycle from 3-4 times per day to 2 times per day and within 4 weeks the irrigation cycle ran just once per day. When the plants were sold it was clear that the soil mix was several times heavier due to the higher absorption of water.

The total dollar amount in water savings was an average of \$1,500.00 per month, and the quality of the resulting plant material was very high in quality.