



## Effects of Salt Distribution and Crop Productivity in Celery

**Crop/Variety:** Celery

**Location:** Oxnard, CA (2014)

**Investigator:** Anthony Duttler, Product Development Representative, Aquatrols

# Demonstration Update

### Objective

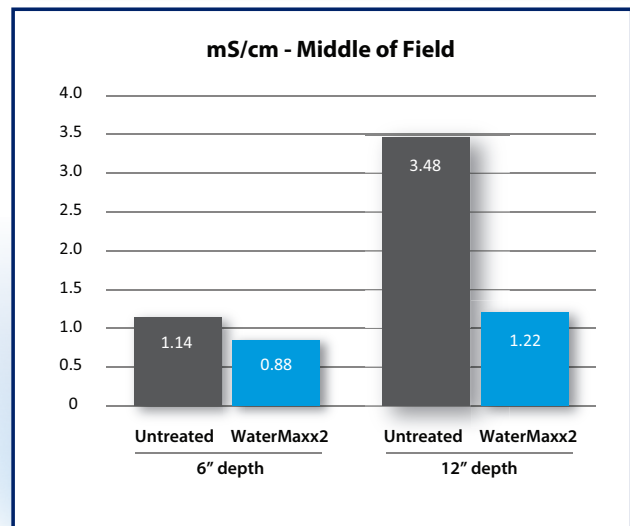
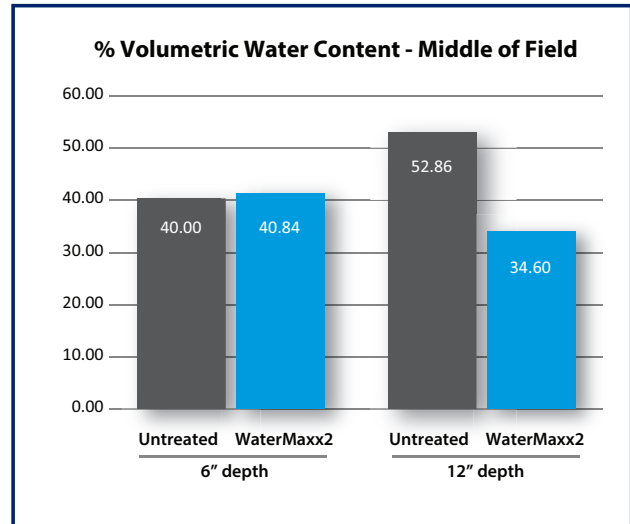
Demonstrate the effects of WaterMaxx2 on the distribution of salts, availability of nutrients and crop response in celery.

### Set Up

The celery field was selected because it contained heavy soils, high salt levels, irrigation water with high pH and a perched water table. There is a soil transition between 18 and 24 inches in the field which limited water movement into the lower portions of the profile resulting in saturated conditions and higher salt accumulation in the transition zone. Soil moisture and EC probes were installed in the field to monitor soil moisture and EC during the crop cycle. Lysimeters were installed to measure soil solution nutrient levels. Three lysimeter and moisture monitoring stations were set up in each of the treated and untreated plot areas in a staggered configuration diagonally across the field. Lysimeter data was collected after key fertility events. Prior to harvest, crop height evaluations were collected in both treated and untreated plots.

### Application

Two quarts of WaterMaxx2 were applied via the sprinkler system on April 20, 2014, following transplant. A second application of 2 quarts was made on May 16, 2014 through the drip system.



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Results may vary depending upon soil, climate and other conditions.



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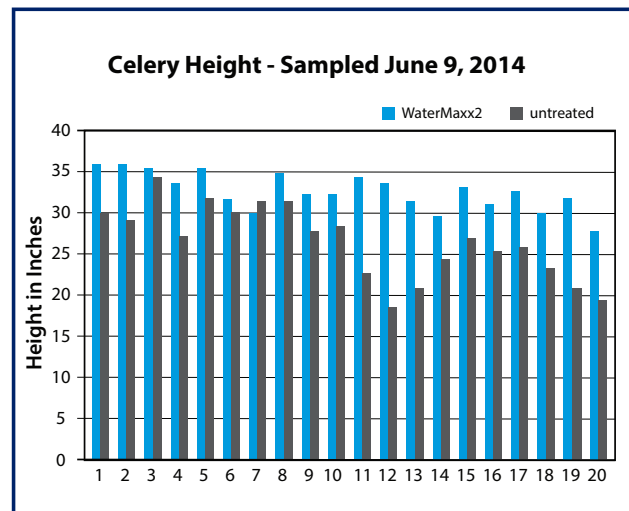
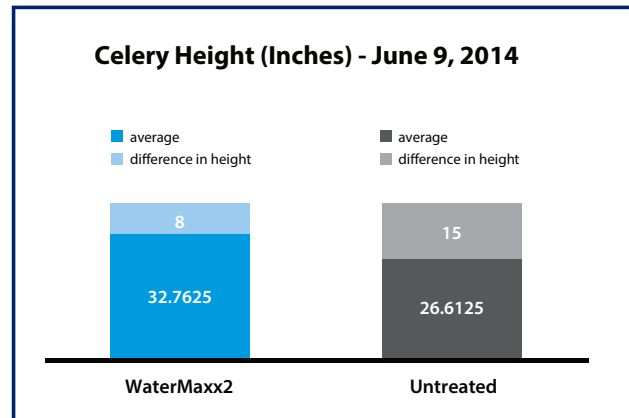
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## Results

Throughout the growing season, WaterMaxx2 improved the distribution and retention of moisture in the upper portion of the soil profile and reduced saturation in the lower portion of the soil profile. EC was lowered by WaterMaxx2 at both the 6-inch and 12-inch depth with the most dramatic results being observed at the 12-inch depth.

As WaterMaxx2 increases the distribution of moisture, the salts are more widely distributed throughout the rootzone. The combination of improved moisture availability in the upper portions of the soil profile and dispersion of salts resulted in increased crop height of 6 inches and reduction in crop height variability by 7 inches or 45%.

WaterMaxx2 significantly increased the consistency and value of the celery crop by improving the infiltration, distribution and retention of water and nutrients, creating a more uniform growing environment for the crop.



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