

Demonstration Update

Objective

Demonstrate the effects of WaterMaxx2 on improving water infiltration, distribution, retention on the growth and production of walnuts.

Set Up

This is the second year of a four year study. The trial was initiated in 2013 in a 12 year old walnut orchard in Fresno County. The orchard is irrigated with microjet sprinklers. The irrigation water source has historically been snowmelt, but in 2013 the grower mixed the snowmelt water with well water which contained some bicarbonate. The soil profile consists of 8 Inches of sandy loam over lighter sandy loam, with a soil pH of 6.8. The grower uses a gypsum silo and solubilizer to treat water on a regular basis. When the trial was initiated in 2013, there was a severe infiltration issue which resulted in water accumulating at the soil surface and not penetrating below 8 inches. The grower hedge pruned and chisel plowed every other row in 2013.

Application

WaterMaxx2 was initially applied to one portion of the orchard at two quarts per acre on June 7, 2013. WaterMaxx2 was subsequently applied at one quart per acre on July 1 and August 1, 2013. Two quarts per acre of SperSal was applied as grower standard practice to the entire orchard on June 21, 2013 and at one quart per acre on July 1 and August 1, 2013. In 2014, WaterMaxx2 was applied on May 14 at two quarts per acre and on June 24 and July 24 at one quart per acre.

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Results may vary depending upon soil, climate and other conditions



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Managing Water for Better Walnut Production

Crop/Variety: Chandler Walnuts

Location: Fresno County, CA (2014)

Investigator: Anthony Duttle, Product Development Representative, Aquatrols

Results

After the WaterMaxx2 and SperSal treatments, the infiltration of water was improved significantly. No standing water was observed in the WaterMaxx2 treated portion of the orchard. By improving the infiltration and therefore distribution and retention of moisture in the soil profile, WaterMaxx2 resulted in improved responsiveness of water in the profile to 32 inches. WaterMaxx2 reduced the average volumetric water content at the 4 inch depth while improving the seasonal average volumetric water content at all depths from 8 inches down.

In 2013, new shoot growth was observed to be greater in the treated portion of the orchard. Therefore, in 2014, shoot growth was measured. The number of trees with shoot s that had over 3 feet of new growth were double that of the untreated trees. This indicates better growing conditions due to better water availability in the WaterMaxx2 treated block. Yield was not measured in 2014 due to the late start of the applications in 2014.

