

# Irrigation Reduction Programme

Lift soil moisture levels in red sand soils



**Use of a Mycorrcin and Foliacin programme in commercial citrus orchards on red sands in NSW has increased soil moisture retention in the top 66 cm of soil reducing the amount of irrigation needed by 1/3.**

## Programme

Mycorrcin is a soil biostimulant that activates beneficial soil microbes that improve soil structure (improving soil water absorption, retention and drainage), and stimulates healthy root growth leading to enhanced nutrient uptake and faster crop establishment.

**Application Rate:** 1 L Mycorrcin per month was applied through the fertigation system.

Foliacin is a foliar-applied biostimulant with a dual mode of action: it restores the foliar biofilm and activates the plant's immune system so the plant is resilient to chemical and environmental stress such as spray drift, drought and heat.

**Application Rate:** 0.5 L of Foliacin was applied with cover sprays.

Soil moisture levels were recorded every 30 minutes over December 2024 and January 2025 with 4 CropX soil moisture monitors in the Biostart-treated and Untreated blocks. Moisture monitors were placed across the block. The data is the average of the 4 monitors in each block.

## Results

10 months after the programme was started in the NSW orchard the soil moisture levels were increased at all the monitor probe depths of 20, 41 and 66 cm. Difference in soil structure and appearance were also noticeable.



Untreated

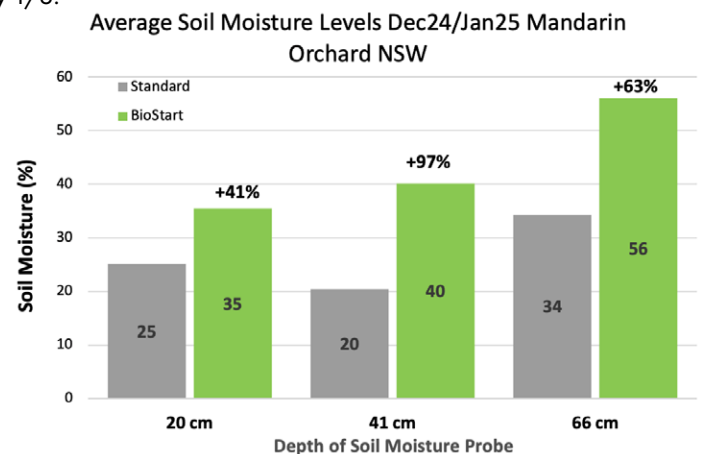


Treated

Over the 2-month measurement period the Biostart programme improved soil moisture retention as follows:

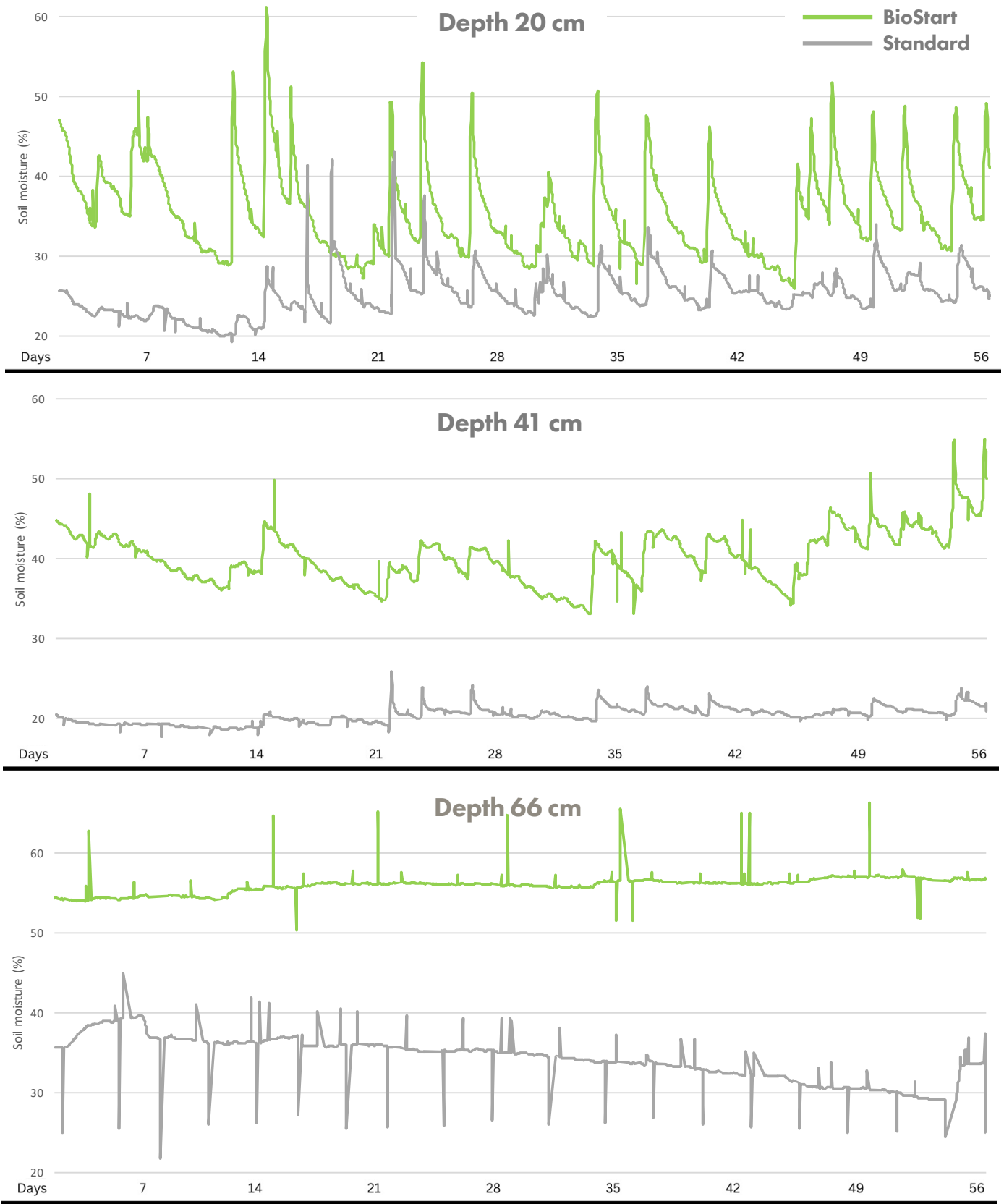
- At 20 cm depth: 25% untreated versus 35% treated, a 41% increase.
- At 41 cm depth: 20%, untreated versus 40% treated, a 97% increase.
- At 66 cm depth: 34% untreated versus 56% treated, a 63% increase.

The orchard irrigation management system recommended that the manager reduced the amount of irrigation applied to the treated blocks by 1/3.



# BioStart treated vs control soil moisture levels.

Irrigated commercial citrus orchard Dec 1 2024 - Jan 27 2025



**Conclusion:** In treated blocks the soil moisture levels at 20 cm remained higher after each irrigation when compared to the adjacent, untreated block. Significantly more water was stored at the 41 cm and 66 cm levels throughout. These improvements in soil moisture led to a recommendation to reduce irrigation application time by 1/3 after just 10 months of starting the Biostart citrus programme.