

## Bactivate Almond Program

Client: Anonymous  
 Location: Victoria, Australia

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### The Challenge

Bioactive Soil Solutions worked with a Victorian Almond Farm to assess whether the Bioactive range of products could provide a long-term economic benefit to the business. The objective of the project was to demonstrate yield and/or quality improvements in the growth of young trees and nut performance to provide an economic long-term gain for the farm.

The aims of the program were to quantify

- Increased overall plant health.
- Reduction in the loss of nuts from weather extremes such as frost, lack of rainfall, and prolonged heat events.
- Improved yields.
- Ascertain growth improvements in younger trees.

### Trial Areas

The farm trial areas were conducted in two areas

- Mature almond trees planted in 2008
- Young almond trees planted in 2017

### Products Utilised

- Bactivate Bioboost
- Bactivate Seaweed
- Bactivate Plus Liquid

### Mature Tree Results

During the season Bioactive staff visited the farm to start to collect data and also visually assess the growth patterns of the trail trees. During the season the following were observed

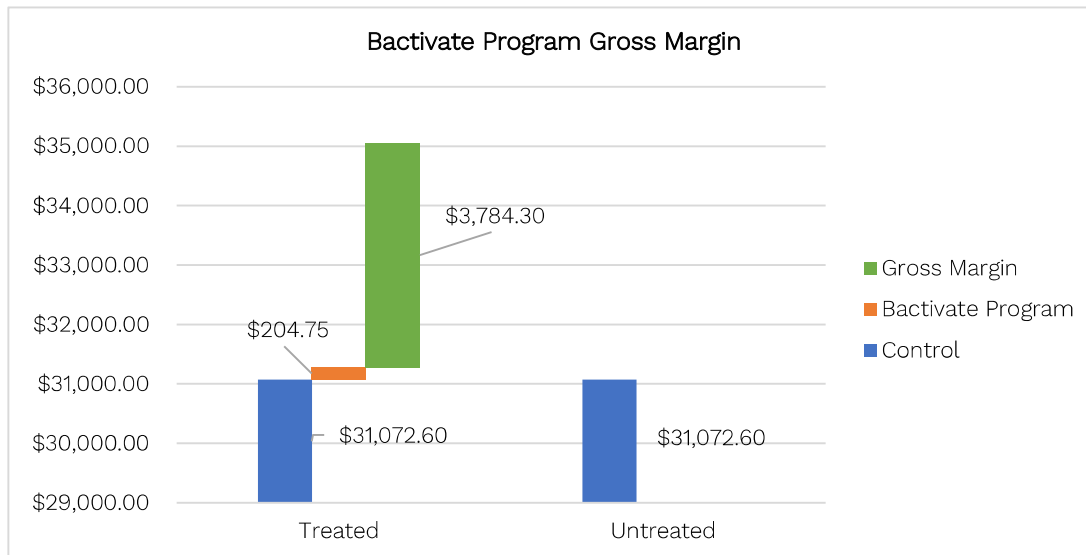
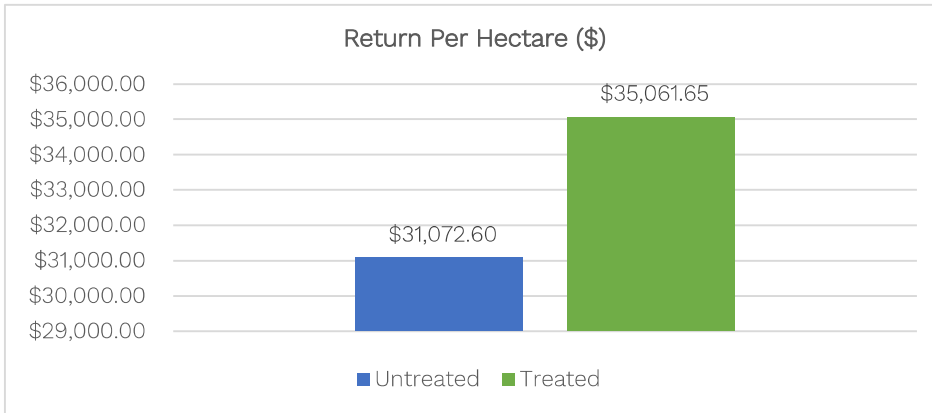
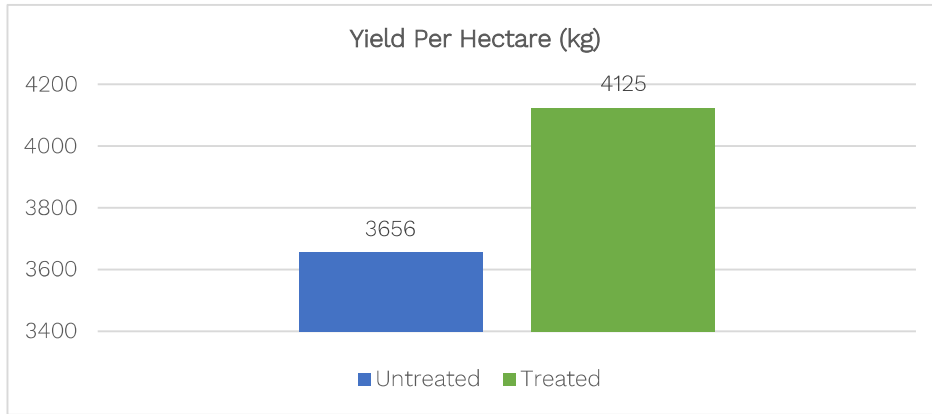
- Improvements in canopy area in treated area visually.
- Preharvest nut counts higher in treated areas.

There were a number of other anecdotal comments regarding the treated areas superior performance that were made by staff but these could not be quantified and thus will not be included in this report.

Harvest was conducted in 2019. Below are the results from the treated and untreated areas. Data was kindly sent by the farm management team. Gross analysis work was then added to this to determine that economic benefit to the business.

Planted	Yield (kg)/Hectare		\$ Return/kg	Hectare Treated
	Treated	Untreated		
2008	4125	3656	\$ 8.50	6.36

Return/Hectare		Difference Per Hectare	With Product Cost	Yield Percentage Improvement	Times ROI
Treated	Untreated				
\$ 35,061.65	\$ 31,072.60	\$ 3,989.05	\$ 3,784.30	11%	18.5



## Young Tree Results

Initially the tree circumference, height, and canopy width were measured. However, it was discovered that the trees were being trimmed as part of the normal management process. The February process reflects this and only tree circumference measurements were made. This will continue into the future.



Treated Carmel (18 Sept 2018)



Untreated Carmel (18 Sept 2018)

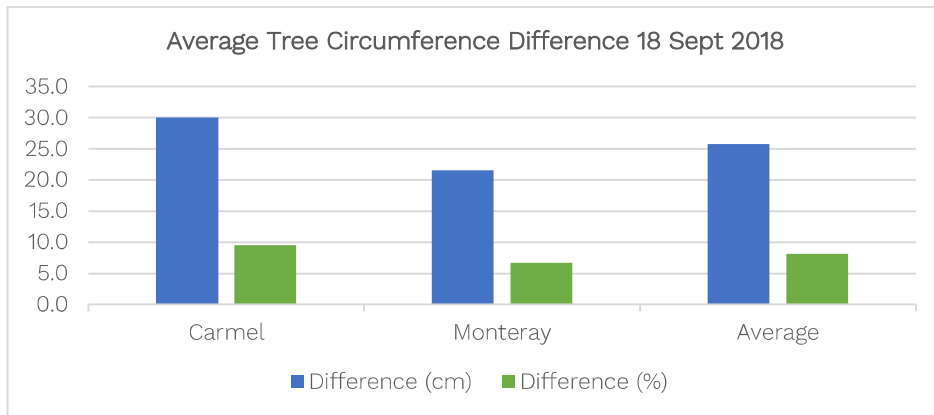
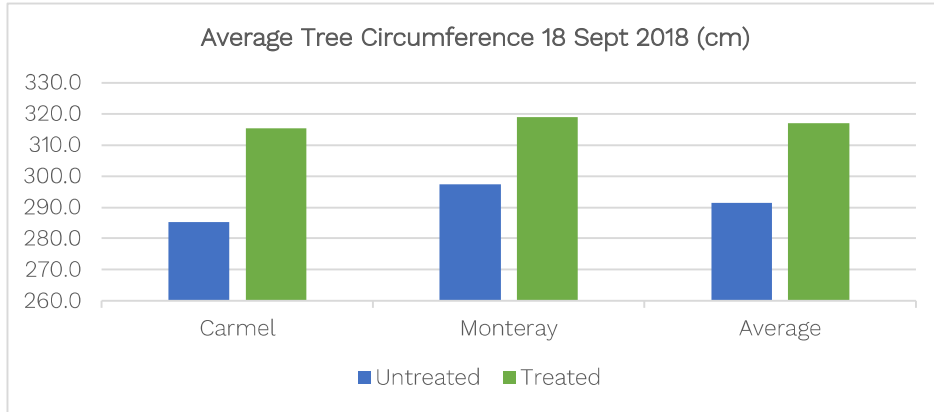


Treated Monterey (18 Sept 2018)



Untreated Monterey (18 Sept 2018)





Treated Carmel (19 Feb 2019)



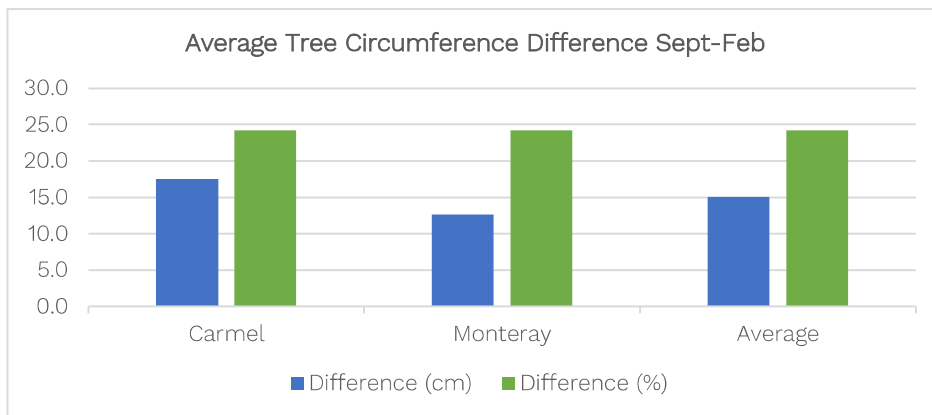
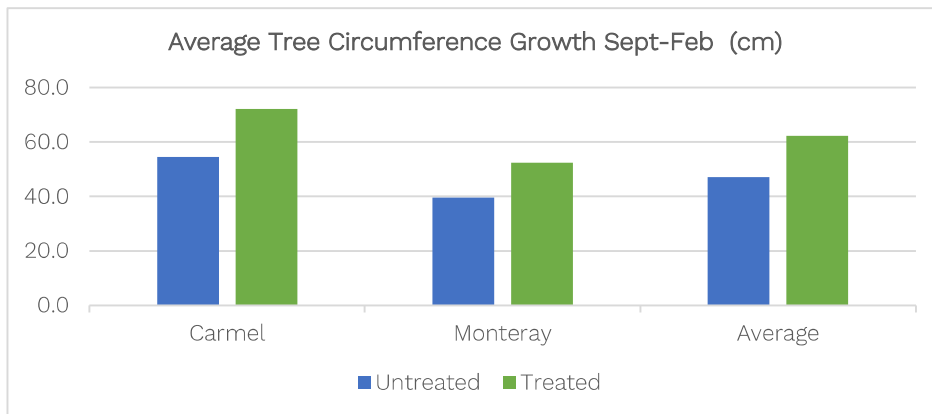
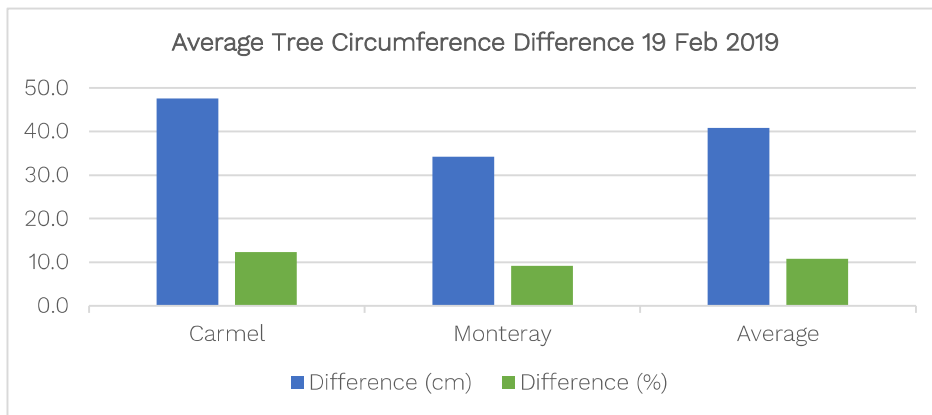
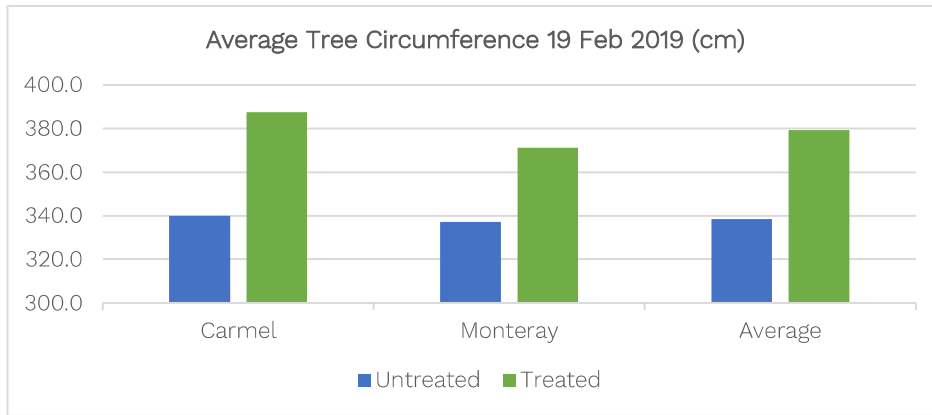
Untreated Carmel (19 Feb 2019)



Treated Monterey (19 Feb 2019)



Untreated Monterey (19 Feb 2019)



Visually the treated trees held more nuts. The canopy was also denser in the treated area compared to the untreated area. Unfortunately, areas were not harvested in separate, measured harvest areas. This resulted in data being corrupted and will not be presented with this report. Next year we will hopefully ensure that the process is correctly followed to provide more meaningful data.

Based on the tree circumference, there are clear improvements between the treated and untreated areas. This improves the production potential of the tree and this resulted in what the Bioactive team saw visually during the season. Given the lengthy time required for almond trees to reach maturity this would improve the ROI per tree leading to full production.