

Mycorrcin Lettuce Trial

**Mycorrcin increased lettuce head weight
Harvested crop increased by 13%**

Murray Bridge, Australia, 2017



Trial aim

The aim of the trial was to measure the impact on yield from applying BioStart Mycorrcin to a commercial lettuce crop. Mycorrcin is a biostimulant that stimulates soil microbial activity and increases mycorrhizal colonisation and plant nutrient availability.

Trial design

The trial was conducted on a commercial lettuce crop grown in sandy loam soils in Murray Bridge, South Australia. Two lettuce varieties, Metalia and Santarinas, were transplanted a week apart on the 9th and 16th October 2017. One week prior to seedling transplanting, part of the areas for both varieties was treated with Mycorrcin at 9L/ha. The beds were 1.2m wide and ~336m long, containing 4 rows of lettuces per bed with an inter-row plant spacing of 30cm. Apart from the Mycorrcin application all other management practices were the same for treated and untreated areas.

Prior to the commercial harvest 40 lettuces were cut from each of the treated and untreated areas and weighed; eight samples of 5 lettuces selected randomly from the two beds of each variety.

Results

The application of Mycorrcin prior to planting the lettuce seedlings increased;

- The average lettuce head weight by 15 % and 14 % ($p < 0.001$) for the lettuce varieties, Metalia and Santarinas, respectively (Figure 1).
- This was equivalent to an increase in head weight of 83 and 77 g/head for Metalia and Santarinas, respectively.

The change in distribution of lettuce head size is shown in Figures 2 and 3 for Metalia and Santarinas, respectively. This shows there were more Mycorrcin-treated heads in the higher weight ranges.

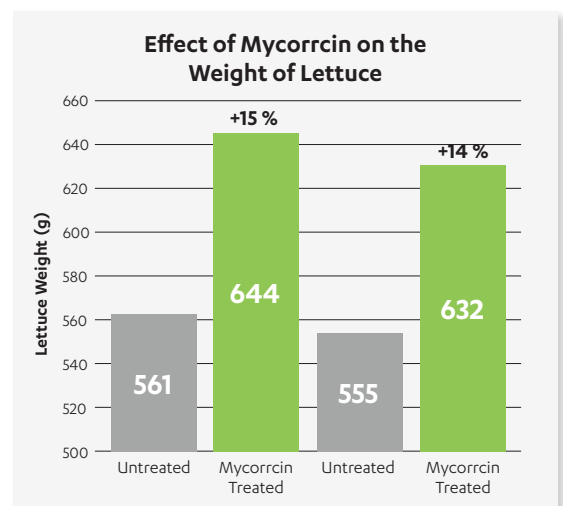


Figure 1

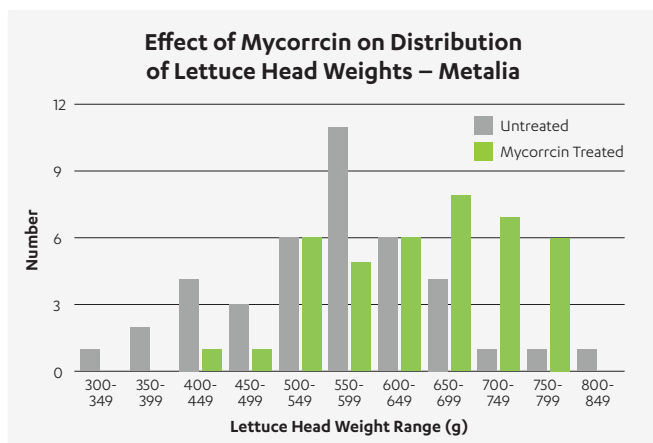


Figure 2

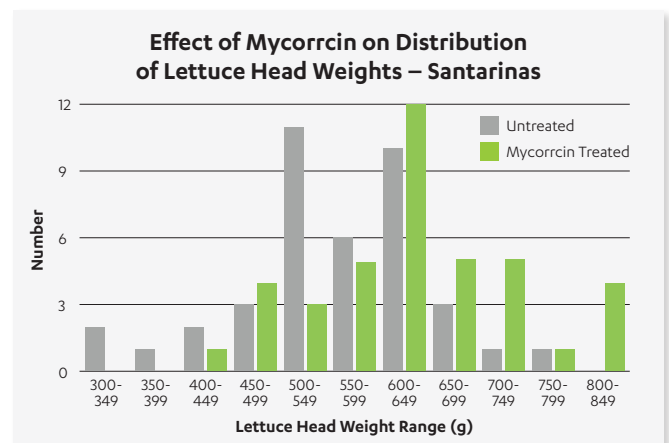


Figure 3

Field observations of the lettuces in the Mycorrcin-treated plots were that the lettuces appeared to be larger, more uniform in size, have less mis-shapen heads, and less incidence of leaf disease.



Treated Santarinas lettuce



Treated Metalia lettuce

Commercial Harvest – Santarinas

The Santarinas crop was harvested between 12 and 14 December 2017, with the Mycorrcin-treated beds harvested first. The Mycorrcin-treated areas produced 90 pallets/ha of harvestable lettuces compared to 80 pallets for the untreated beds, a 12.5 % increase (Figure 4).

The grower observed that the Mycorrcin-treated beds were cleaner and the lettuces had less disease.

Note that due to an adverse weather event the Metalia crop was not harvested.

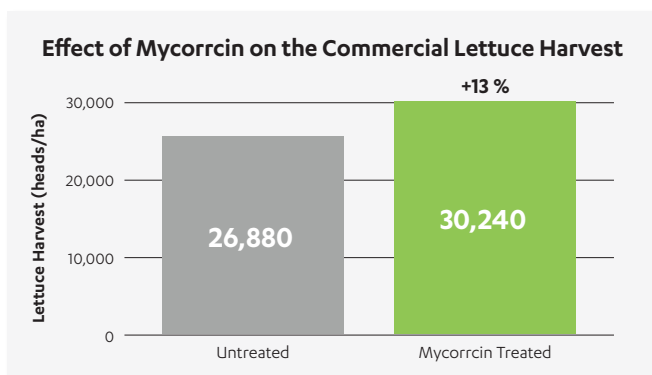


Figure 4

Return on investment – Santarinas	Untreated	Mycorrcin-treated
Total lettuce yield (heads/ha)	26,880	30,240
Gross Revenue (\$1.48/head)	\$ 39,782	\$ 44,755
Mycorrcin Cost (RRP \$17/L)		\$ 153
Net Revenue	\$ 39,782	\$ 44,602
Gross Margin Increase		\$ 4,820

Conclusion

Treating lettuce beds 1 week prior to transplanting increased lettuce head weight by 14-15 % which translated into a 12.5 % increase in harvested crop. An investment of \$153 in Mycorrcin lead to a \$4,820/ha increase in gross margin.



About Mycorrcin

Mycorrcin is a soil microbial stimulator which activates indigenous beneficial bacteria and mycorrhizal fungi in your soil. Mycorrhizal fungi colonise the roots and, in exchange for carbon, provide phosphorous, nitrogen and micronutrients to the plant which, in turn, improves plant health. Mycorrcin also stimulates new root growth, thereby increasing root mass which supports plant growth and survival during times of stress like drought. Mycorrcin is suitable for all crops and soil types and is generally applied from spring onwards.