

# Mycorrcin | Technical Sheet

## Royal Gala Premier Star Apples

Hawkes Bay 2018–2022



### How it Works

Biostart **Mycorrcin** is a soil biostimulant that activates naturally occurring beneficial microbes present in soils. Activating these microbes stimulates new root growth and branching leading to better plant establishment, improved nutrient availability in the soil and uptake by the plant, and greater overall plant resilience.

**Mycorrcin** has been found to improve yield, produce flavour, reduce rejects and improve fruit size and uniformity in a range of crops.

### Trial Description

This trial measured the effect of regularly applying **Mycorrcin** to apple orchards when they are first established and through a four year period to the first commercial harvest in 2022.

The trial was located on a commercial apple orchard in Hawkes Bay, New Zealand.

Bare root plantings of Premier Star (Royal gala type) apples (grafted on to CG202 rootstock) were planted in August 2018. The planting density was 3.8 m x 1.5 m and trees were trained using a standard post and wire system. The soil type was Twyford silt loam (class 14), and all trees received the same standard fertiliser programme throughout the trial.

A **Mycorrcin** programme was started one month after planting and continued for four years using the following treatment programme.

#### Mycorrcin New Apple Planting Program

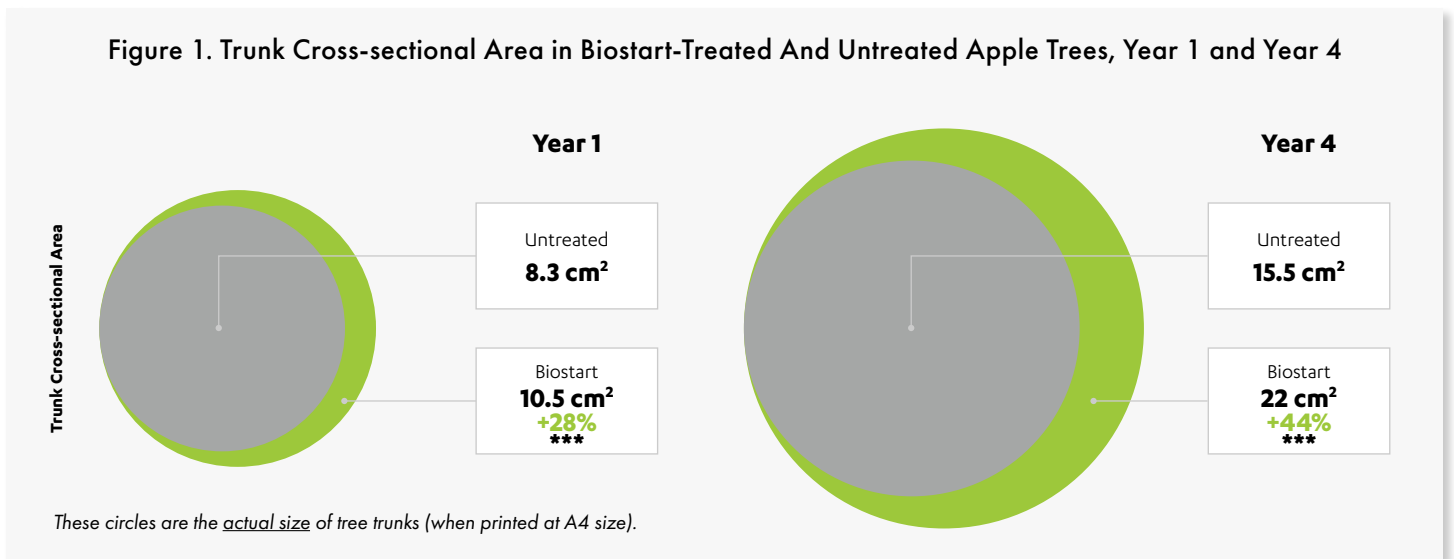
Product	Spring	Summer	
	Green tip	Early	Late
<b>Mycorrcin</b>	4 L/ha	6 L/ha	4 L/ha



*Mycorrcin-treated apple trees on the left and untreated apple trees on the right – planted at the same time.*



**Figure 1. Trunk Cross-sectional Area in Biostart-Treated And Untreated Apple Trees, Year 1 and Year 4**



## Results

### Trunk cross section, tree height and architecture

By year 4 the application of the Biostart programme had increased the trunk cross-sectional area by 44% (Figure 1.), tree height by 24%, and the total number of branches per tree by 25%.

Importantly, the Biostart-treated trees had 67% more branches between 0.7 and 1.1m of the trunk (from 2.5 to 4.2 branches/tree) which is the ideal place for productive branches to grow (Figure 2.). In addition, all the **Mycorrhcin**-treated trees had 2 or more branches between 0.7–1.1 m of the trunk, whereas 23% of untreated trees had less than 2 branches between 0.7–1.1 m of the trunk. The Biostart-treated trees were bigger and had more branches.

In January 2022 the two dominant branches of each tree were assessed for branch length and the amount of fruit on these branches counted. The Biostart-treated trees had a 27% increase in the branch length of the two dominant branches per tree (from 0.9 to 1.1 m/tree) and the fruit count was 25% greater (Figure 3.).

Overall, this means the Biostart-treated trees had a better architecture with more branches located in the right area of the trunk creating a high yielding tree shape.

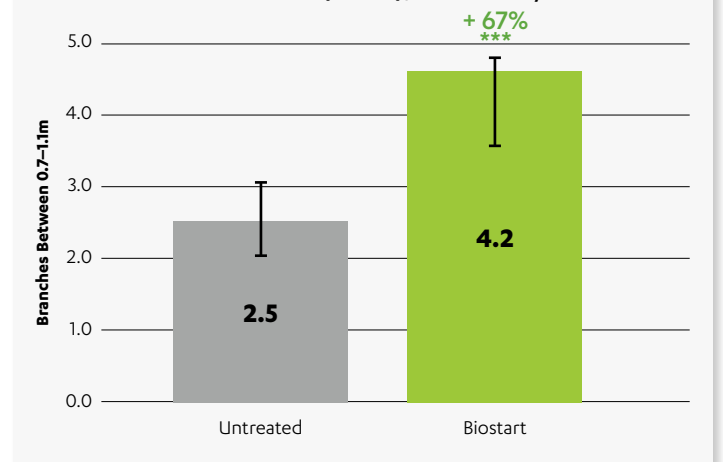
### Yield

The grower picked 3 kg more apples per tree from Biostart-treated trees, which is a 12% yield increase correlating to 8 MT/ha.

### Conclusion

Regular applications of Biostart **Mycorrhcin** to newly planted apple trees and through the early years of orchard establishment resulted in taller and better shaped trees with larger trunks that produced 12% more apples at the first major commercial harvest.

**Figure 2. The Effect of Biostart-treatment on Apple Branches Between 0.7–1.1m (Year 4), Hawkes Bay 2021**



**Figure 3. Fruit Number per Branch in Biostart-treated and untreated Apple Trees**

