

# Kiwifruit | Trial Sheet

## Biostart Kiwifruit Programme



### Trial Description

The Biostart Kiwifruit Programme was undertaken in two Bay of Plenty Hayward kiwifruit orchards by Seeka managers from 2020–2022.

### Programme

**Mycorrcin** is a soil biostimulant that activates naturally occurring beneficial microbes present in your soil, improving root development, nutrient availability, and uptake, as well as plant resilience during drought and heat stress. Better soil microbiology also leads to soil aggregate formation, reducing soil compaction.

**Foliacin** is a foliar biostimulant that activates beneficial microbes living on the leaf surfaces (biofilm), improving plant growth and resilience, particularly in times of plant stress. It promotes green leaf retention, enabling greater levels of photosynthesis and growth.

**Digester** is a soil microbial stimulator that activates naturally occurring saprophytic microbes responsible for decomposing old plant matter. Digester promotes the breakdown of leaf litter, old roots, and prunings, recycling nutrients and organic matter from previous crops rapidly and completely. Thorough decomposition of the old plant material also removes the host material on which disease inoculum overwinters, reducing disease in the following season.

### Application rates

**Mycorrcin** – three applications, at bud break, flowering and post-harvest.

**Digester** – one application in late autumn/leaf fall.

**Foliacin** - five applications, starting at early shoot growth and reapplying at three to four week intervals.

### Te Puna Orchard Results

#### Increased Yield

In year one at the Te Puna orchard there was an 8% yield (3.5T/ha) increase in the Biostart treated area with +10% (998) more trays in the Class I category. In year two there was an increase in yield of 8% (3.4T/ha) in the Biostart-treated area with an increase of +14% (1201) trays in the Class I category.

#### Reduced Rejects

In year one there were 2% fewer rejects in the Biostart-treated area and in year two there were 4% fewer.

#### Fruit Size and Quality Maintained

Average fruit size and TZG were similar in the Biostart-treated and untreated fruit in both years.

**Figure 1. The impact of the Biostart Programme on a Te Puna Kiwifruit Orchard over Two Years**

Te Puna Orchard	Year One 2020/21		Year Two 2021/22	
	Untreated	Biostart	Untreated	Biostart
Yield kg/ha	44.4	47.9	40.9	44.3
Class I Trays/ha	10,021	11,018	8,305	9,506
Class II Trays/ha	617	611	960	1,001
Average Count Size	32.5	33.4	31.1	33.3
TZG	0.79	0.75	0.78	0.76
Rejects	11%	9%	18%	14%



## Katikati Orchard Results

### Increased Yield

In year one at the Katikati orchard there was a 4% (2.6 T/ha) yield increase in the Biostart-treated area which equated to +5% (720) and +39% (396) more trays per ha in Class I and Class II. In year two there was an increase in yield of 5% (1.9 T/ha) in the Biostart-treated area which equated to +8% (666) and +40% (297) more trays Class I and Class II.

### Reduced Rejects

In year one there were 2.4% fewer rejects in the Biostart-treated area and in year two there were 5% fewer.

### Fruit Size and Quality Maintained

Average fruit size was similar in the Biostart-treated and untreated fruit in both years while TZG was higher in the treated fruit in year one.

## Conclusion

These trials show that the Biostart biostimulant programme increases fruit yield and the number of Class I trays harvested over two seasons in two different Hayward kiwifruit orchards, without adversely affecting fruit quality or fruit size.



**Figure 2. The impact of the Biostart Programme on a Katikati Kiwifruit Orchard over Two Years**

Katikati Orchard	Year One 2020/21		Year Two 2021/22	
	Untreated	Biostart	Untreated	Biostart
Yield (T/ha)	65.5	68.1	40.1	42.1
Class 1 Trays/ha	15,081	15,801	8,825	9,491
Class 2 Trays/ha	1,017	1,413	590	887
Avg Count Size	33.3	32.7	31.5	31.3
TZG	0.47	0.62	0.54	0.53
Rejects	9%	6.6%	15%	10%