

# Pumpkin Trial Sheet Increasing Pumpkin Yield with BioStart Products



## How it Works

**BioStart Mycorrcin** is a soil biostimulant that activates beneficial soil microbes, which stimulates healthy root growth and development leading to enhanced nutrient uptake, faster crop establishment and greater yield.

**BioStart Foliacin** is a foliar-applied plant health stimulant that helps plants to withstand environmental stress.

## Pumpkin Trials

Trials showed that **Mycorrcin** and **Foliacin** treated pumpkin crops had a higher yield, higher individual pumpkin weights, fewer rejects and improved overall marketable pumpkin yield and profitability.

A trial was conducted on a commercial pumpkin crop in Pukekohe, Auckland. This trial showed that **Mycorrcin** and **Foliacin** used on a commercial pumpkin crop can:

### 1. Increase pumpkin weight and size

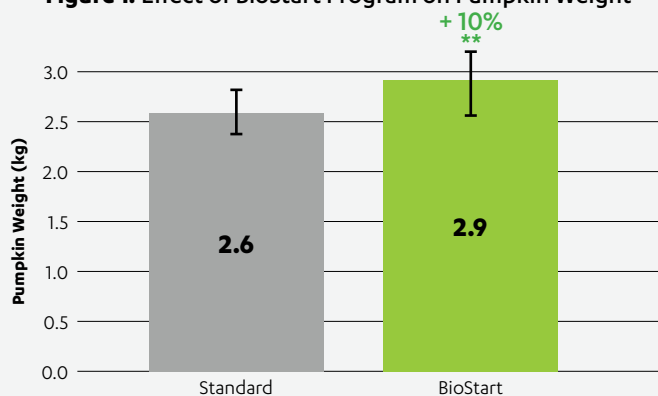
**Mycorrcin** was applied at 4 L/ha immediately prior to sowing, then 5 L/ha was applied at first true leaf stage (three weeks post sowing) and 1 L/ha was applied two weeks later. **Foliacin** was applied four times at 1 L/ha on weeks 8, 12, 14 and 17. Twenty-two weeks after sowing, six 25 m<sup>2</sup> plots were harvested from the treated and untreated areas. All plants received the same standard fertiliser program throughout the trial.

Pumpkin weights for treated and untreated pumpkins from four plots were measured and treated pumpkin weights found to be higher (see Figure 1) due to greater pumpkin size and uniformity.

### 2. Reduce Rejects

The number of reject pumpkins was lower for the **Mycorrcin/Foliacin**-treated crop (3.6 T/ha; 8% of total harvest) than the untreated crop (5.3 T/ha; 14% of total harvest) – a reduction by a third. The number of pumpkins per hectare was similar for the two treatments (14,400 for standard versus 14,800 for BioStart program), however, the BioStart program produced 23% (2,067) more marketable pumpkins/hectare than the standard program.

**Figure 1. Effect of BioStart Program on Pumpkin Weight**



**Table 1. Impact of Mycorrcin and Foliacin Program on Reject Rate and Number of Marketable Pumpkins**

Weight	Reject (<1.4kg)	Marketable (>1.4kg)	Total
<b>Standard Program</b>	5,267	9,133	14,400
<b>BioStart Program</b>	3,600	11,200	14,800
<b>Difference</b>	-1,667	2,067	400
<b>%</b>	<b>-32%</b>	<b>23%</b>	<b>3%</b>

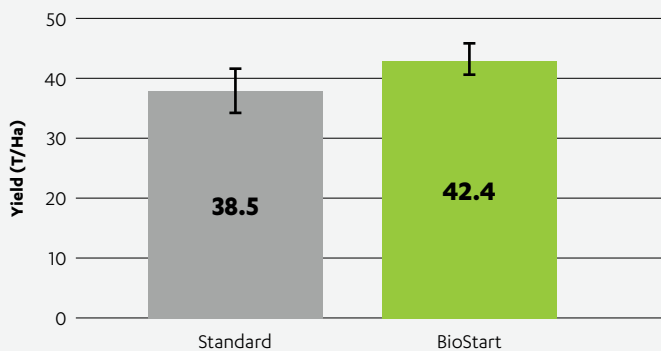




### 3. Increase overall yield

Total pumpkin yield was measured and the **Mycorrcin**/**Foliacin** treated crop areas showed an increase of 10% (38 to 42 T/ha) over the untreated areas.

**Figure 2. Effect of BioStart Program on Pumpkin Yield**



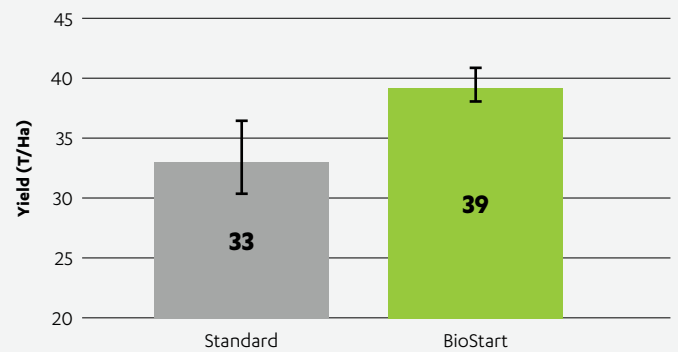
### 4. Increase in marketable yield and profitability

The application of **Mycorrcin** and **Foliacin** increased marketable yield and therefore gross profit per hectare by \$2,980 (15%; Table 1).

**Table 2. Impact of BioStart Programme on Pumpkin Returns**

	Standard	BioStart
<b>Marketable weight (T/ha)</b>	33.2	38.8
<b>Return - Pumpkins</b>	\$19,940	\$23,281
<b>Input Cost - Mycorrcin</b>		\$360
<b>Gross Return</b>	\$19,940	\$22,921
<b>Increase</b>		<b>\$2,980</b>
<i>Pumpkin Return \$600/T</i>		

**Figure 3. Effect of BioStart Program on Marketable Pumpkin Yield (T/ha), Auckland 2007**



### Conclusion

These results clearly show that regular applications of **Mycorrcin** and **Foliacin** improve yield and therefore profitability in a commercial pumpkin crop.

