

Kale

Trial sheet

Increasing Kale Yield with BioStart Products



How it works

The establishment of newly sown kale crops relies on the rapid development of roots and stems, whereas continued growth of a kale crop requires a steady supply of nutrients.

Mycorrcin is a soil biostimulant that activates beneficial soil microbes that are key to healthy root development, leading to enhanced nutrient uptake. Multiple trials have demonstrated that applying **Mycorrcin** leads to improved root development in plants.

BioStart N is soil biofertilizer that contains a naturally occurring soil bacteria that converts atmospheric nitrogen into plant-available nitrogen. Application of **BioStart N** provides crops with a nitrogen supply throughout the growing season.

Kale Trials

This trial aimed to measure the impact of applying **Mycorrcin** and **BioStart N** to two kale crops.

The trial focussed on two kale crops sown on two commercial dairy farms in the Ashburton region, Canterbury. Sovereign Kale was sown at 4kg/ha on 15 October 2019 (Valetta) and 20 November 2019 (Mayfield).

The BioStart treated area received a single combined application of **BioStart N** (100 mL/ha) and **Mycorrcin** (2 L/ha) on 20 January 2020 in the late afternoon then the whole crop was irrigated immediately after application. All other growing management practices were the same for the entire kale crop.

The trial was assessed in June 2020 by sampling six replicates of 1 m² from each treatment area at grazing height. Fresh weight and dry matter content were determined for all samples.

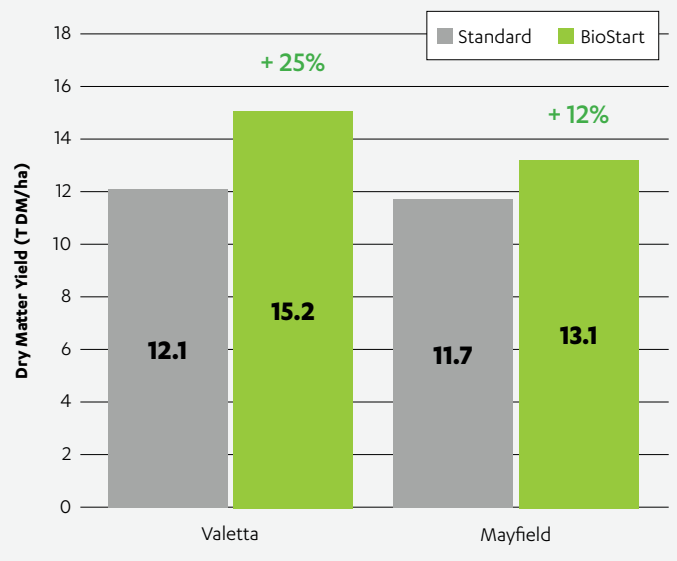
Trial Results

The application of **Mycorrcin** and **BioStart N** resulted in:

1. Increased dry matter

Dry matter was increased by Valetta Trial by 3 T/ha (25%) from 12.1 to 15.2 T/ha and in the Mayfield Trial by 1.5 T/ha (12%) from 11.7 to 13.1 T/ha (Figure 1).

Figure 1. Effect of BioStart Program on Kale Dry Matter Yield



In both trials, the yield increase was attributable to an increase in fresh weight of the crop, as well as the dry matter percentage of the forage.

2. Increased Profitability

The increase in gross return was \$706/ha in the Valetta trial and \$268/ha in the Mayfield trial (Table 1).

Table 1. Impact of BioStart Program on Gross Return

| | Valetta | | Mayfield | |
|--|----------|--------------|----------|--------------|
| | Standard | BioStart | Standard | BioStart |
| Kale Dry Weight (T DM/ha) | 12.1 | 15.2 | 11.7 | 13.1 |
| Crop Value (at 27¢/kg DM) | \$3,273 | \$4,103 | \$3,153 | \$3,546 |
| BioStart N + Mycorrcin + Application cost | | \$125 | | \$125 |
| Gross Return | \$3,273 | \$3,978 | \$3,153 | \$3,421 |
| Increase | | \$706 | | \$268 |