

Grape

Trial Sheet BioStart Programme Unlocks the Vineyard's Soil Biology Potential



The results of the fourth year of a BioStart trial at Accolade Wines, showed that the soil and foliar biostimulant programme plus compost continued to lift vine health and performance in a premium Pinot noir block (Abel clone) at Mud House Vineyard in Wairau Valley, Marlborough.

BioStart Trial Programme

The following biostimulants were applied:

Mycorrcin – a soil biostimulant that activates beneficial soil microbes to make more nutrients available for plant growth and fast crop establishment.

Foliacin – a foliar biostimulant that improves leaf retention and photosynthesis levels and improves vine resilience.

Digester – a soil biostimulant that activates the soil microbes that breakdown organic matter from cover crops residues which recycles nutrients faster and improves soil structure.

Starting in the 2018/19 season, the trial continued for three years with **Mycorrcin** applied at bud break and with all weed sprays (2–3 per year), **Foliacin** applied regularly with all cover sprays throughout the season from bud break (7-9 application/season) and **Digester** applied in autumn.

Compost was applied under vine at 7 T/applied ha in autumn 2021.

The grapes were harvested in March 2022 & independent microvins were made by Dr Tanya Rutan at the Bragato Research Institute, Blenheim.

Results

1. Soil Structure: An assessment of the vineyard soils in October 2021 showed that the BioStart programme had improved soil structure and that the compost had become incorporated into the soil in the 5 months since application. (Fig.1)



Fig 1. Biostart/compost treated on left, untreated on right

Untreated

BioStart and compost treated



2. Yield: There was a 9% yield increase (0.55 kg/vine) in the BioStart treated vines due to a 5% higher bunch weight and 1 more bunch per vine. **Note:** The 2021/22 season had high rainfall in Feb/Mar causing Botrytis pressure.

2021/2022	Weight/vine (g)	Bunches/vine	Mean Bunch Weight (g)
Untreated	6,062	43.3	142.8
BioStart	6,612	44.5	149.9
<i>Difference</i>	<i>550</i>	<i>1.3</i>	<i>7.1</i>
<i>% Difference</i>	<i>9%</i>	<i>3%</i>	<i>5%</i>



3. Juice Quality: Analysis of the juice from the BioStart treated vines showed greater ripeness than the untreated juice at the same stage. The BioStart treated grape juice had lower titratable acidity and malic acid levels, while both Brix and YANs were higher.

Treatment	Brix	pH	TA (g/L)	Malic Acid (g/L)	YAN (mgN/L)
Untreated	20.1	3.02	9.67	3.44	114
Treated	20.7	3.04	8.91	2.77	140

Conclusion

The regular application of the BioStart programme over four years and the addition of compost improved soil structure and biology and foliar health, resulting in better root growth which led to improved vine nutrition and productivity as well as improved juice quality.