

Boosting Biomass and Fungi - Case study



This Case study shows the effectiveness of EM at stimulating soil microbial biomass and specifically fungi in a Vineyard. EM is a combination of Beneficial filamentous fungi, yeasts, and bacteria which can boost the growth, yield, nutrition and stress tolerance in plants. But often the fungal element is overlooked and EM is considered more of a bacterial dominant brew, it is this Case studies purpose to show it will benefit both Fungi and Bacteria.

This case study was conducted during a Trial in a vineyard showcasing EMs ability to enhance the waste product 'Lees' which is a by product in wine production.

Trial details:

Location: Te Whare Ra Vineyard

Treatments:

1. Control
2. EM Soil & Crop plus Lees

Application Details: 10L per hectare applied alongside xL of Lees

Measurement Date: 6/09/2023 10 samples blended together and analysed in a MicroBIOMETER



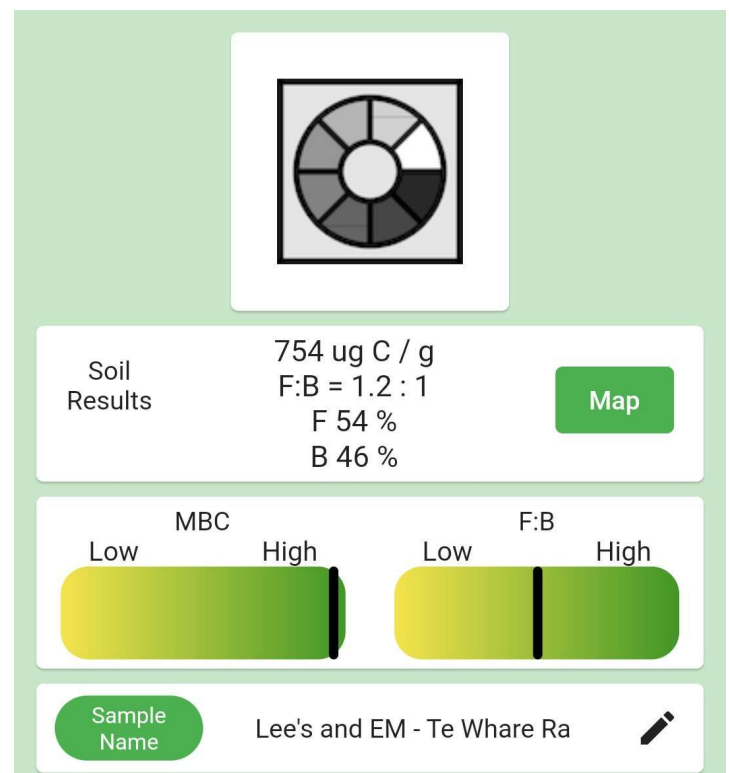
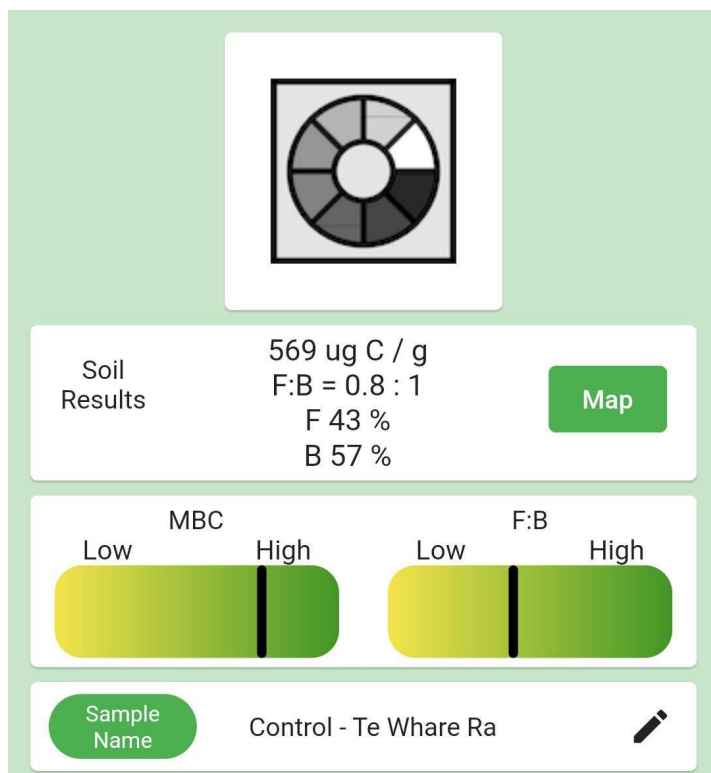
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Results

The results of the MicroBIOMETER showed that by applying EM into the soil the total microbial biomass was increased by 33% from 569 Microbial units of Carbon (MuC) per gram to 754 MuC per gram. Note: This is considered excellent for Agricultural soil - see page 3 for more details.

In addition the Fungal bacteria ratio changed dramatically. The control was 43% Fungi : 57% Bacteria where the EM treated row show a ratio of 54% Fungi : 46% Bacteria from a 0.8:1 ratio to 1.2:1. This shows that using EM will enhance the activity and boost the total number of microbes in the soil and significantly it will enhance fungal activity.



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Ranges for Soil Microbial Readings

	Low	Fair	Good	Excellent
Agricultural Soil	Less than 200	200-400	400-600	600+
Container Soil	Less than 500	500-700	700-1200	1200+
Compost	Less than 500	500-700	700-1200	1200+
Compost Tea	Less than 20	20-30	30-60	60+
Compost Extract	Less than 30	30-40	40-80	80+

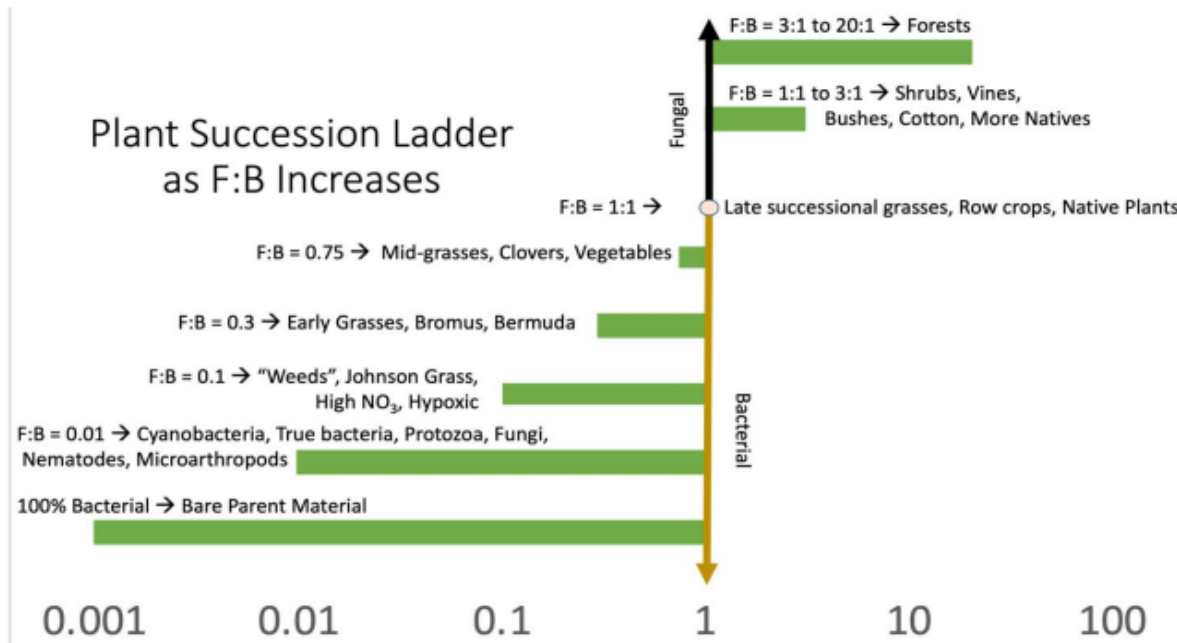


Figure adapted from USDA-NRCS.