



# AVOCADOMICROBIOTA FILLING

## EFFICACY EVALUATION

### RESULTS FROM USING BIOFERTILIZER ON AVOCADOS

**AvocadoMicrobiota Filling**, owned by Microendo Inc., is the first product developed from the selection of the best microorganisms obtained from avocado plants, making it a unique and patented product in the market. **AvocadoMicrobiota Filling** is a bio-inoculant made from a probiotic mixture that stimulates fruit filling in avocados. In addition to strengthening the plant's immune system and reducing stress, it helps recover the natural microbiota.

## FIELD INFORMATION

### Location

Rancho Santa Rosa (20°35'27.6"N 102°28'56.1"W).

### Analysis Design

- The analysis was conducted through the distribution of various treatments, and comparisons were made based on fruit weight.
- The diameter of both the fruit and the peduncle was measured.
- Randomly selected comparative photographs presented.

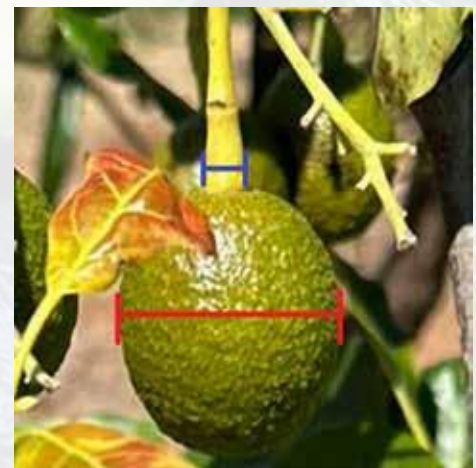
## INDUCTION TESTS

The objective of these tests is to demonstrate the biofertilizer's capacity to induce fruit filling in avocado trees. For the field filling induction tests, the following treatments were used: **AvocadoMicrobiota Filling** and chemical fertilization.

For each treatment, five trees were randomly selected, and each tree was injected near the new roots with 400 ml of **AvocadoMicrobiota Filling**, while the control group received only potable water along with the application of chemical fertilizer.

From each tree, the width of 12 fruits (three fruits in each cardinal direction) and the width of the peduncle of the measured fruits were recorded (as shown in **Figure 2**). Each fruit was marked with thread to track the progress of the increase in diameter of the fruit and peduncle.

The inoculation period of the product was conducted every 15 days over a period of 4 months, resulting in a total of 9 applications. At the end of the experiment, the marked fruits were weighed to determine the mass difference among the treatments.



**Figure 1.** Example of where measurements will be taken. The red lines indicate the measurement of the fruit, and the blue lines indicate the measurement of the peduncle of the trees to be treated.

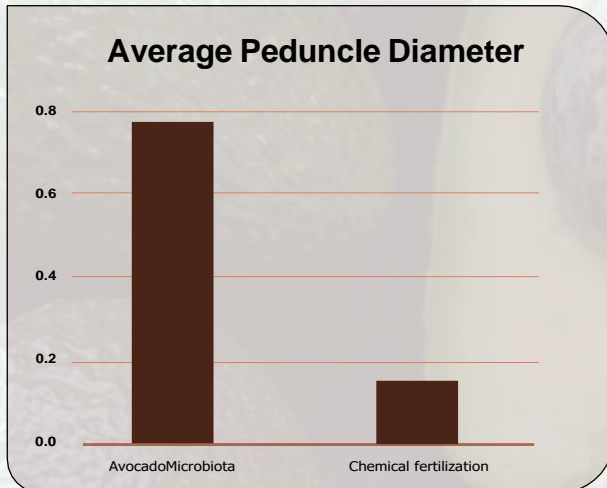


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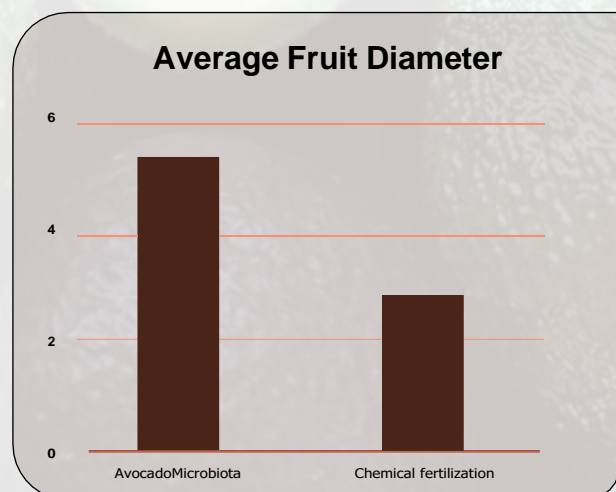
## RESULTS



**Figure 2.** Graph showing the average diameter values of the peduncle for each treatment.

The average diameter of the peduncle was measured for both treatments. The trees treated with **AvocadoMicrobiota Filling** showed a significantly greater average diameter, reaching **0.78 cm**, compared to the chemical fertilization treatment, which only reached **0.17 cm**. This is illustrated in **Figure 2**.

For the second measured parameter, the average diameter of the fruit, the trees treated with **AvocadoMicrobiota Filling** again exhibited superior results. They achieved an average diameter of **5.4 cm**, compared to **3.07 cm** for the control group with chemical fertilization, representing a **75%** increase in fruit diameter.



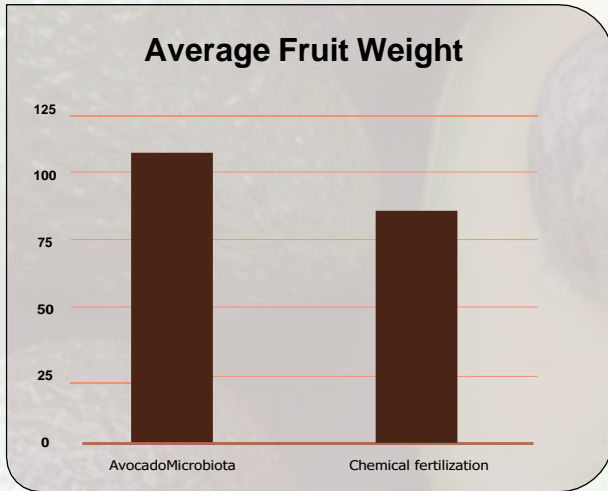
**Figure 3.** Graph showing the average diameter values of the fruit for each treatment.



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The final measured parameter was the average weight of the collected fruits. It is important to note that the fruit was stripped of its peduncle for accurate measurement. The fruits treated with **AvocadoMicrobiota Filling** exhibited a higher average weight of **110.6 g**, compared to **88.08 g** for those treated only with chemical fertilization. This represents a **25%** increase in weight for the fruits treated with **AvocadoMicrobiota Filling**.

**Figure 4.** Graph showing the average weight values of the fruit for each treatment.



**Chemical fertilization**



**AvocadoMicrobiota Filling**

**Figure 5.** Avocados subjected to different treatments, illustrating the differences in size and appearance.