



CALCIUM MICROBES

EFFICACY EVALUATION

RESULTS OF USE OF CALCIUM SOLUBILIZING
BIOSTIMULANT

CalciumMicrobes, owned by Microendo Inc., is a unique and patented biofertilizer in the market, whose action is based on the activity of the bacterium *Enterobacter asburiae*. This type of bacteria naturally lives in the soil near plant roots, where they establish a mutually beneficial relationship (symbiosis) with the roots. In **CalciumMicrobes**, the bacteria solubilize the most common form of calcium in the soil, which is calcium carbonate, to transform it into calcium ions (Ca^{2+}), the available form in which the plant can take up this nutrient. In turn, the bacteria produce hormones (indoleacetic acid) that stimulate plant development. **Calcium-Microbes** can reduce up to 40% the addition of calcium nitrate as a form of fertilization and, therefore, reduces production costs. In addition, they solubilize the calcium present in the soil that is not available to the plant.



FIELD INFORMATION

Location:

Rancho La Ocotera
Ixtlahuacán del Río, Jalisco

Size:

1 hectare

Analysis Design:

- ✦ The trial was conducted on newly planted prickly pear crops.
- ✦ A dose of 1 L/ha was used.
- ✦ The calcium concentration in the prickly pear sap and the development of new shoots were analyzed.
- ✦ Untreated prickly pears were left as a control.

EFFICACY EVALUATION

Three applications were made with an interval of 8 days between applications. The product was applied through the irrigation system. The calcium concentration in the prickly pear sap was analyzed at the beginning of the treatment and 60 days after the treatment. In addition, the development of new shoots per plant was analyzed.



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RESULTS

It is presented in **Table 1**, the comparison of the results obtained from the calcium concentrations in prickly pear sap before and after the treatments. The control showed an initial concentration of 56.9 ppm, while the treatment with **CalciumMicrobes** showed an initial concentration of 59.3 ppm. After 60 days, the control showed a concentration of 66.2 ppm of calcium, while the treatment showed a concentration of 68.9 ppm.

In **Table 2**, the comparison of the new shoots generated with and without the **CalciumMicrobes** treatment is observed. The control only had 8 new shoots per linear meter, while the treatment with **CalciumMicrobes** generated 17 new shoots per linear meter.

Treatment	Initial	60 days after
Control	56.9 ppm	66.2 ppm
CalciumMicrobes	59.3 ppm	65.9 ppm

Table 1. Comparative table of the calcium concentration acquired from the prickly pears treated with **CalciumMicrobes** against the control.

Treatment	New shoots
Control	8
CalciumMicrobes	17

Table 2. Comparative table of the new shoots generated in prickly pears treated with **CalciumMicrobes** against the control.

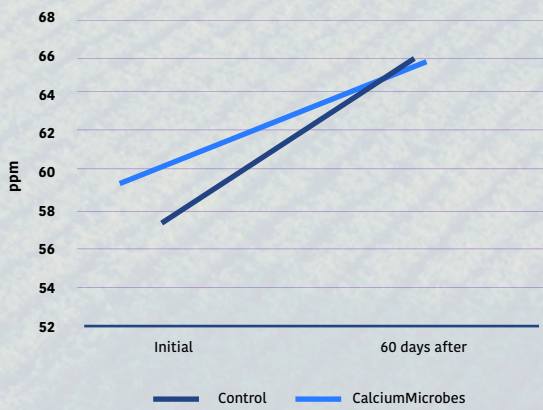


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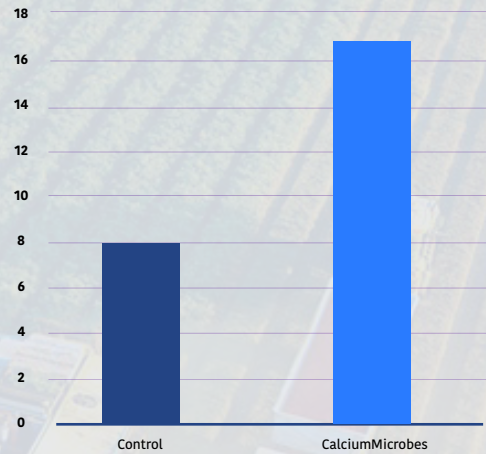
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Calcium concentration in sap



New shoots



CalciumMicrobes



Control





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FIELD INFORMATION

Location

TUCAN FLOWERS 1 FARM
Cogua via Nemocón
Colombia

Size

1 complete crop bed

Analysis design

- The trial was conducted on the Rosa spray variety Snow White, as it is one of the most susceptible to calcium deficiencies.
- A dosage of 20 ml was applied over a period of 20 days.
- Foliar samples were analyzed before applying the **CalciumMicrobes** product, and these were compared with a foliar sample taken 8 days after the third application.

EFFICACY EVALUATION

Three applications of the product were made using a drench method with a venturi without an adjuvant, directed to the substrate or base of the plant, at intervals of 8 days between each application, in a Rosa Spray variety Snow White crop.

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SOIL MICROBIOTA

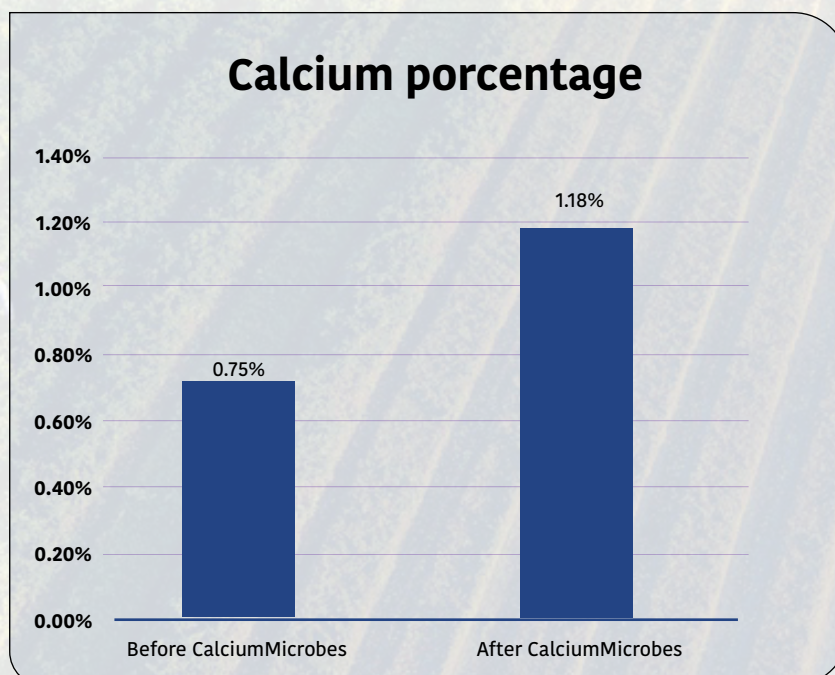


RESULTS

Table 1 presents the comparison of the calcium percentage in leaves before starting the treatment with **CalciumMicrobes** and the calcium percentage in leaves 8 days after the last application of **CalciumMicrobes**. As we can see, there is a **57.3%** increase in calcium uptake after using the product.

Treatment	% of Calcium
Before CalciumMicrobes	0.75%
After CalciumMicrobes	1.18%

Table 1. Comparative table of calcium percentage acquired before and after using **CalciumMicrobes**.





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