

# Evaluation of the response to Keylamax® foliar fertilizers in beet (*Beta vulgaris*) cultivar.

Ag. Raquel Coto Quirós

January 2023.



## Introduction

Trial carried out in the cultivation of beet (*Beta vulgaris*), San Rafael de Oreamuno, Cartago, Costa Rica. The effect of 5 organic foliar fertilizers from the company Mil Agro Inc. were evaluated, compared to a package of conventional chemical fertilizer and an absolute control. The measurement parameters were root diameter and weight, plant height, number of leaves, brix, SPAD chlorophyll index.

## Objective

Evaluate the efficacy of the foliar fertilization package of the Keylamax® Line of Mil Agro Inc., in the quality parameters of beets for fresh consumption in Costa Rica.

## Materials and Methods

The trial was carried out from August to December 2022. Three (3) treatments were evaluated with three (3) replications each placed in randomized complete blocks. The applications began 7 days after transplant and continued until harvest; these were carried out weekly. The products applied in the Keylamax® treatment (TK) were: Keylamax® CytoPower® Organic 3-0-8, Keylamax® CalBor Organic 3-0-0, Keylamax® Multimax Organic 6-0-0, Keylamax® NitroPower® 16-0-0 and Keylamax® Potassium Organic 4-0-40, in variable doses between 100 and 300 g/ha of each. The doses of the products were adjusted depending on the phenological stages of the crop. In the case of Conventional Chemical Treatment (TQ), the products and doses used were: Commercial product NPK 12-42-12 + ME with EDTA (4 Kg/Ha) and Commercial product NPK 11-6-8+ ME (1.5 L/Ha). Between weeks 1 and 10, the height of the plant and the number of leaves were measured. Between weeks 6 and 10, the following were determined: root diameter, root weight, number of leaves, plant height, brix in root extract (undiluted), and pH of root extract (undiluted).

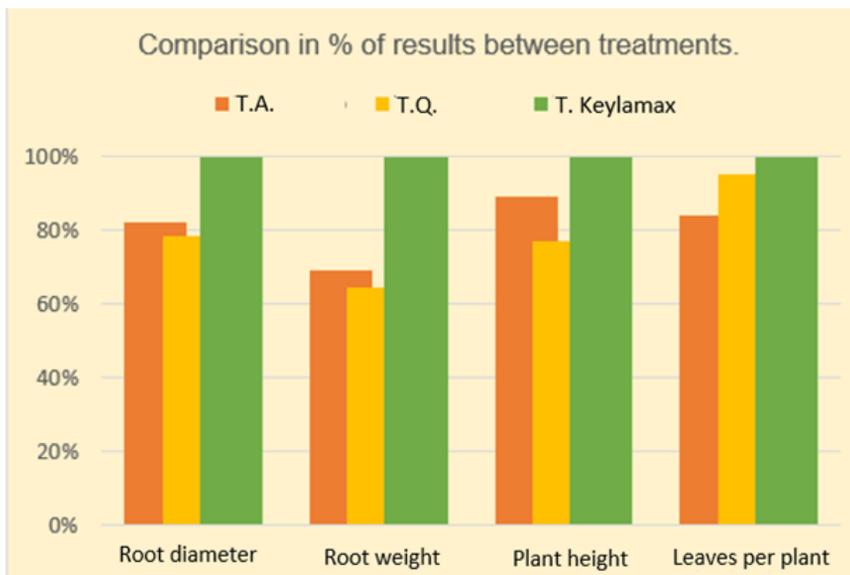
## Results and Conclusions

The average root diameter of Keylamax® Treatment (T.K.) was 18% more than the absolute treatment (T.A.) and 21.74% more than conventional chemical treatment (T.Q.).

On average, 19.87% higher than the rest of the treatments. The average weight of the T.K. root was 30.87% more than T.A. and 39.87% more than T.Q. On average, 35.37% higher than the rest of the treatments.

The average height of the T.K. plants was 10.75% more than T.A. and 22.89% more than T.Q. On average, 16.82% higher than the rest of the treatments.

The number of leaves per plant of the T.K. was 15.94% more than T.A. and 4.35% more than T.Q. On average, 10.14% higher than the rest of the treatments.



In addition, the percentages obtained from the brix and SPAD chlorophyll index measurements show that Keylamax® Treatment has a better assimilation of nutrients and storage of sugars, therefore, higher nutritional quality.



Images of plants collected from the different treatments.