

## INVESTIGATION REPORT OF THE CROP BOOSTER CATALYST IN ECUADOR

Crop: Strawberry cultivar Monterey  
Start date: Second cycle Nov 2020  
Report Date: Feb 3, 2021  
Owner: Danilo Guaman  
Farm name: Hortiguam  
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To verify what happened in the harvest of the first cycle in the month of October 2020, in which it could be seen that even though the strawberry plant with the Crop Booster treatment presented a larger plant size than that of the treatment control, the yield, in fruit weight, was much lower 4119.15 kg/ha (4.1 t) for the Control and 1604.80 kg/ha (1.6 t) for the Crop Booster treatment.

Reviewing the analyzes carried out, which were presented in the December report, it was possible to appreciate that the soil because it is a well-managed farm, contained both anions and cations at high levels, especially nitrogen. , the same as being influenced by the catalytic effect provided by the Crop Booster, which activated the bacterial population in the soil, with the presence of non-symbiotic nitrifying bacteria, such as cyanobacteria, which directly take N from the atmosphere, produced an excess of this element, which was absorbed by the strawberry plant, creating an effect known in plant nutrition as "absorption in a vice," because the plant does not have the ability or power to discern which element it requires most. Or less, the plant absorbs nutrients from the soil solution without considering their concentrations. In this case, since nitrogen is in high concentration, the plant absorbs it and creates an imbalance inside it, which can limit its production.

To verify that this was what happened in this second harvest period, it was decided to lower the nitrogen application dose, which, according to the soil analysis, was high, to make the Crop Booster do its job.

During the three months of the second crop cycle, the harvests were carried out according to the presence of the fruit that was qualified to be harvested; Table 1 accompanies this report.

Between 12 and 14 harvests were made in the month, as in the last cycle, which was added to determine the kilograms produced per month and treatment. In this period, it was observed that the treatment with Crop Booster, in total, reflected greater weight, exceeding the control treatment by 9.15%.

The foliar analyzes carried out at harvest indicate that the concentration of the elements expressed as a percentage of the dry matter produced by the plant are lower in the Crop Booster treatment than in the Witness treatment because the production of dry matter produced in the CB treatment was higher, having a dilution effect, except potassium, which remained high, making an increase in sugars.

The analysis carried out on samples of the two treatments shows Brix degrees of 8.5 for Crop Booster and 7.5 for the Witness treatment, indicating that the CB increased the degree of sugar in the fruit, confirming what was found in the foliar analysis.

The total yields obtained in this cycle from November 2020 to January 2021 were 11122.25 kg/ha (11.12 t) for the control and 12140.25 kg/ha (12.14 t) for the Crop Booster treatment, giving a difference of 1017.6 kg/ha (1.01 t) which corresponds to a 9.15% increase.

If the most critical parameter turns out to be the harvested product expressed in kilograms or tons per hectare per year, other indicators must be taken into account; among them, we have fertilization, the health of the crop, the durability of this crop in the field, flavor of the fruit, etc.

It is necessary to indicate that although it was already mentioned in due time, in the middle of the first crop cycle, a natural phenomenon occurred with solid winds, which damaged the infrastructure of the tunnels, making it difficult to rebuild them in time, due to limitations caused due to the COVI-19 pandemic; photographs were sent promptly; here it was possible to appreciate that the plants with Crop Booster treatment resisted better and recovered more quickly, which has served so that this new cycle the plant is in better conditions and the useful life of the plants with commercial production is increased, surpassing Witness plants. This means that the crop could be extended for one more year, with savings in acquiring new plants, representing 70% of the investment.

Another essential aspect to highlight is that the health of the plants was much better with the Crop Booster treatment, which presented more excellent resistance to verticillium and the attack of mites, avoiding the loss of leaves, which directly influences photosynthesis, with savings in pesticides getting a cleaner fruit than the Witness. Photographs 1 and 2 show the degree of health of the two treatments.

Carrying out a weighting of the production of a crop year with the yields achieved in this second cycle, we would have control with 33367.5 kg/ha/year (33.4 t) while the Crop Booster treatment would reach 36420.3 kg/ha/year (36.4 t)

In any case, the 1017.6 kg/ha (1.02 t) difference in this second cycle did not meet the producer's expectations, who expected a larger fruit, which could not be achieved, as the attached photographs show. Photos 3 and 4.

If the price of the fruit delivered by the producer of \$2.50/kg is considered, it represents an extra profit for the farmer of just \$2,544. If this increase in production is weighted to a year with three crop cycles, you would have USD 7,632, which means that in the two years that the diffuser lasts, you would reach \$15,264, from which you have to subtract the cost of the CB.

I must indicate that I expected to exceed 20% of the average production obtained by the producer, which is 55.1 t/ha/year, under the conditions in which the crop is conducted, which would have been very flattering for the aspirations of this farmer, who it is one of the best in the area. If the 33.4 t/ha achieved with the control

treatment had been increased by 30%, a production of 43.4 t/ha/year would have been reached, which would still be far from the average output of Finca Hortiguam.

The producer was satisfied with the answer given by the Crop Booster, considering the anomalous year that had just passed. He hopes that the sanitary, political, and, therefore, economic conditions will change to invest in his 10-hectare property.

I emphasize the recommendation expressed in the previous report that whenever possible, an analysis of the soil, foliar, or plant cell extract be carried out to see the degree of fertility or nutrition with which the application of the product begins. Crop Booster is a physical catalyst, considering in a unique way nitrogen, which is very high in the soil or the plant, can cause excessive vegetative growth, which can counteract the formation of flowers and fruits. Allow only the Crop Booster physical catalyst to act on soil organisms, especially cyanobacteria.

Photo #1 Photo #2



Photo #3 Photo #4

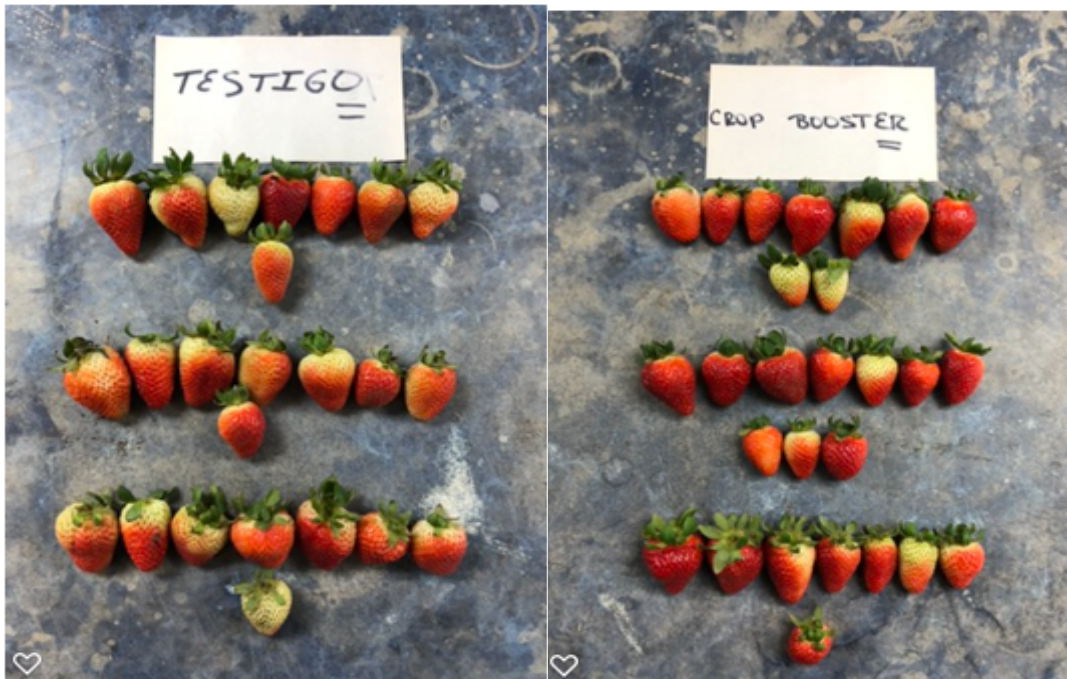


Table 1

| RENDIMIENTO EN UN CICLO DE TRES MESESE |            |         |              |           |            |         |              |           |           |         |              |
|--|------------|---------|--------------|-----------|------------|---------|--------------|-----------|-----------|---------|--------------|
| DIA                                    | FECHA      | TESTIGO | Crop Booster | DIA       | FECHA      | TESTIGO | Crop Booster | DIA       | FECHA     | TESTIGO | Crop Booster |
| DOMINGO                                | 1/11/2020  |         |              | MARTES    | 1/12/2020  |         | 545          | VIERNES   | 1/1/2021  |         |              |
| LUNES                                  | 2/11/2020  | 372,9   |              | MIÉRCOLES | 2/12/2020  | 150     |              | SÁBADO    | 2/1/2021  |         |              |
| MARTES                                 | 3/11/2020  | 75,9    | 294          | JUEVES    | 3/12/2020  |         |              | DOMINGO   | 3/1/2021  |         | 245          |
| MIÉRCOLES                              | 4/11/2020  |         |              | VIERNES   | 4/12/2020  |         | 448          | LUNES     | 4/1/2021  | 156     | 230          |
| JUEVES                                 | 5/11/2020  |         |              | SÁBADO    | 5/12/2020  | 110     |              | MARTES    | 5/1/2021  | 391     |              |
| VIERNES                                | 6/11/2020  | 508,1   | 37,2         | DOMINGO   | 6/12/2020  |         |              | MIÉRCOLES | 6/1/2021  |         | 263          |
| SÁBADO                                 | 7/11/2020  |         | 528          | LUNES     | 7/12/2020  | 323     | 161          | JUEVES    | 7/1/2021  | 186     |              |
| DOMINGO                                | 8/11/2020  |         |              | MARTES    | 8/12/2020  |         | 515          | VIERNES   | 8/1/2021  | 157     | 408          |
| LUNES                                  | 9/11/2020  | 80      |              | MIÉRCOLES | 9/12/2020  | 49      |              | SÁBADO    | 9/1/2021  |         | 116          |
| MARTES                                 | 10/11/2020 | 434,6   | 304          | JUEVES    | 10/12/2020 | 295     | 137          | DOMINGO   | 10/1/2021 |         |              |
| MIÉRCOLES                              | 11/11/2020 |         | 334          | VIERNES   | 11/12/2020 |         | 380          | LUNES     | 11/1/2021 | 350     |              |
| JUEVES                                 | 12/11/2020 |         |              | SÁBADO    | 12/12/2020 | 259     |              | MARTES    | 12/1/2021 | 254     | 666          |
| VIERNES                                | 13/11/2020 |         |              | DOMINGO   | 13/12/2020 |         |              | MIÉRCOLES | 13/1/2021 | 68      |              |
| SÁBADO                                 | 14/11/2020 |         | 509,9        | LUNES     | 14/12/2020 | 341     | 186          | JUEVES    | 14/1/2021 |         |              |
| DOMINGO                                | 15/11/2020 |         |              | MARTES    | 15/12/2020 |         | 57           | VIERNES   | 15/1/2021 | 236     | 267          |
| LUNES                                  | 16/11/2020 | 608     |              | MIÉRCOLES | 16/12/2020 | 442     |              | SÁBADO    | 16/1/2021 | 370     |              |
| MARTES                                 | 17/11/2020 | 80      | 491          | JUEVES    | 17/12/2020 |         | 150          | DOMINGO   | 17/1/2021 |         |              |
| MIÉRCOLES                              | 18/11/2020 |         | 71           | VIERNES   | 18/12/2020 |         | 150          | LUNES     | 18/1/2021 |         | 236          |
| JUEVES                                 | 19/11/2020 | 226     | 90           | SÁBADO    | 19/12/2020 | 392     | 115          | MARTES    | 19/1/2021 |         |              |
| VIERNES                                | 20/11/2020 | 237     | 37           | DOMINGO   | 20/12/2020 |         |              | MIÉRCOLES | 20/1/2021 |         | 430          |
| SÁBADO                                 | 21/11/2020 |         | 402          | LUNES     | 21/12/2020 |         | 338          | JUEVES    | 21/1/2021 |         | 367          |
| DOMINGO                                | 22/11/2020 |         |              | MARTES    | 22/12/2020 |         | 160          | VIERNES   | 22/1/2021 |         |              |
| LUNES                                  | 23/11/2020 | 47      | 220          | MIÉRCOLES | 23/12/2020 | 374     |              | SÁBADO    | 23/1/2021 |         |              |
| MARTES                                 | 24/11/2020 |         |              | JUEVES    | 24/12/2020 | 250     | 74           | DOMINGO   | 24/1/2021 | 635     |              |
| MIÉRCOLES                              | 25/11/2020 | 285     | 476          | VIERNES   | 25/12/2020 |         |              | LUNES     | 25/1/2021 |         | 214          |
| JUEVES                                 | 26/11/2020 | 166     |              | SÁBADO    | 26/12/2020 |         |              | MARTES    | 26/1/2021 |         | 103          |
| VIERNES                                | 27/11/2020 | 238     | 268          | DOMINGO   | 27/12/2020 |         |              | MIÉRCOLES | 27/1/2021 |         |              |
| SÁBADO                                 | 28/11/2020 |         | 174          | LUNES     | 28/12/2020 |         | 313          | JUEVES    | 28/1/2021 |         |              |
| DOMINGO                                | 29/11/2020 |         |              | MARTES    | 29/12/2020 | 713     | 22           | VIERNES   | 29/1/2021 | 371     |              |
| LUNES                                  | 30/11/2020 | 437     |              | MIÉRCOLES | 30/12/2020 |         | 252          | SÁBADO    | 30/1/2021 | 285     | 218          |
|  |            |         |              | JUEVES    | 31/12/2020 | 170     | 138          | DOMINGO   | 31/1/2021 |         |              |
|  |            | 3795,5  | 4236,1       |           |            | 3868    | 4141         |           |           | 3459    | 3763         |