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Increased Yield in Greenhouse Tomatoes by Reducing Salt – Puente Genil, Spain

ABSTRACT

Greenhouse tomatoes in Puente Genil, Spain were not growing at peak productivity. Found reasons were nutrient deficiencies, soil salt, and irrigation water electrical conductivity (EC). High soil salt retards nutrient uptake by plants. High EC causes degraded soil structure, soil crusting, and reduced water penetration. The tomatoes required neutralized salt, reduced EC, and correct nutrition. The answer was a program combining [Chetrol™](#) and [Soil Plus®](#).

BACKGROUND

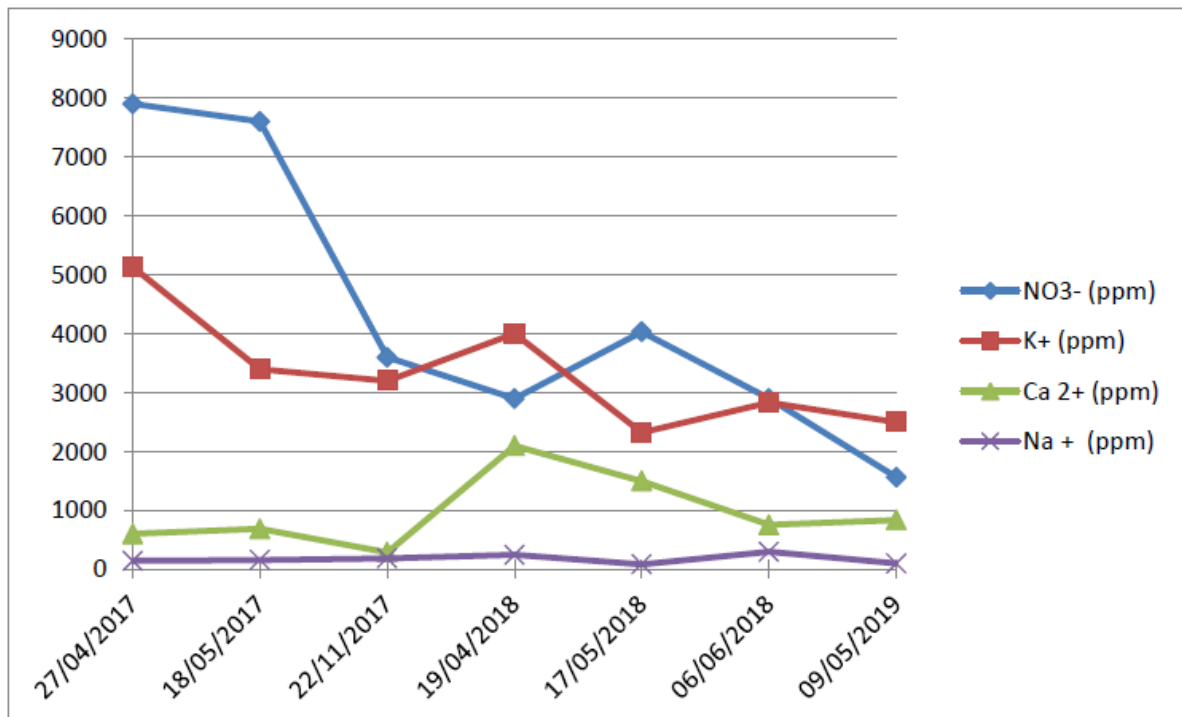
The Biofeed® Spain team used plant sap analysis to determine plant needs and create a fertilizer program. The irrigation water has a naturally elevated EC level. In the past, water from the Iznájar reservoir was added into irrigation canals to lower the EC. Biofeed Spain keeps a large database of results spanning several years of data. They observed these greenhouses across several campaigns, spanning years. This approach revealed trends (refer to graph shown below).

TREATMENT

Fertilizer programs vary for different crops based on discovered nutrient deficiencies. This method provides the information to set the right fertilizer crop plan. A Biofeed technician applied Chetrol™ and Soil-Plus®.

RESULTS

The results in the chart below are from April 2017 to June 2019.



NOTE: During days in which many measurements were made in different varieties, the average is used.

MEASUREMENT DESCRIPTIONS AND BENEFITS:

- Reduced nitrogen, increased potassium, and increased crop yield.
- Balanced, more uniform plant growth observed.
- Plants became more resistant to problems caused by excess salinity.
- Calcium levels above the sodium level are maintained since desalination is carried out by the introduction of Chetrol™ and Soil Plus®.
- Soil salinity decreased.
- Locked up nutrients in the soil made available for plant uptake.
- Total fertilizer spending is reduced.
- Neutralized salt in the soil eliminated the need to add reservoir water to reduce EC levels.
- Greenhouse tomato productivity increased.



ACT® is biologically generated using specific organic compounds which are transformed into unique, water-soluble amino acids, enzymes and other beneficial organic compounds through a proprietary process of biological transformation.

SUMMARY

Both greenhouse owners were pleased with the results. The initial goal was to increase crop yield. The owners were delighted to also reduce fertilizer cost and reliance on reservoir water. The cost of product is returned by the increased crop yield. In addition, soil conditioning and neutralized salt continues with each application of Biofeed product.