



Terra Ag  
Technologies®

"Producing higher yields for growers, one farm at a time."®

100%  
sustainable  
Produced without  
greenhouse gas emissions



## Organic Plant & Soil Pro 2™ Bell Pepper

Bell Pepper with Organic Plant & Soil Pro 2™

vs. the control group –

**773 More Cartons per Acre or 44 % More Yield**

## Biological Soil Content Analysis

**Ranch:** Santa Paula Ranch, California

**Date:** April 2022

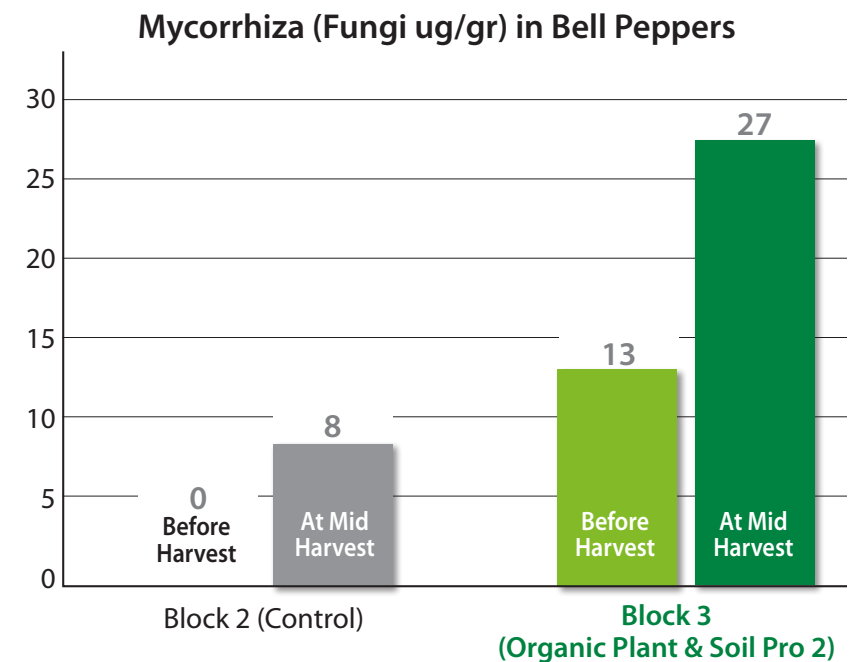
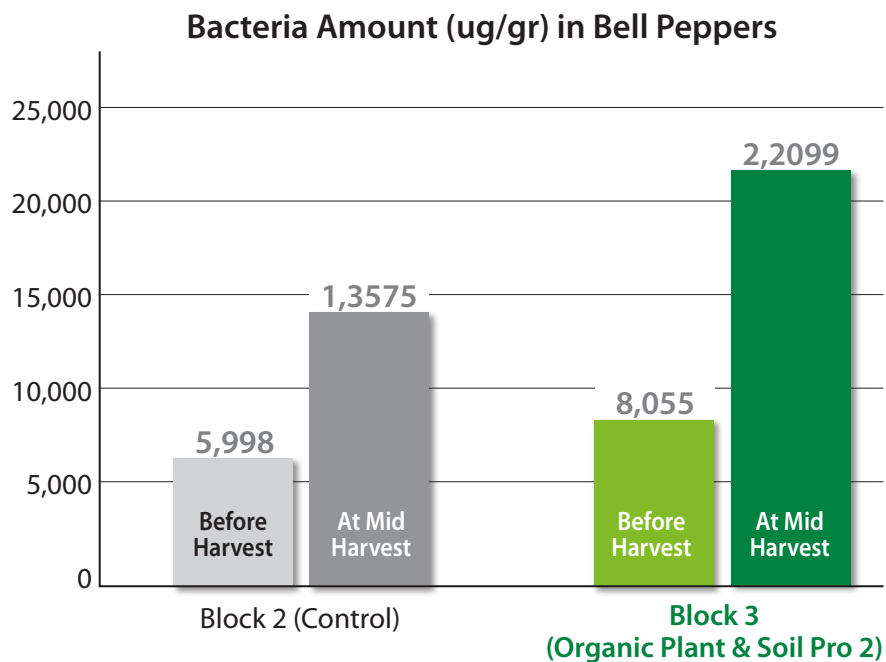
**Variety:** Bell Peppers

**Soil Type:** Clay-Sandy loam

**Organic Plant & Soil Pro 2™ (Block 3):** The Clay-loam soil from this block had a 35-40% moisture increase. In addition the soil in this block had very dense bacterial populations. This soil lacks other indicators of adverse/low-oxygen conditions (oomycetes, actinobacteria, ciliates, anaerobic bacteria), indicating good moisture control and otherwise good field management.

**Control (Block 2):** Loam. Moisture est. 25% increase. Despite predation by a significant number of nematodes, bacterial populations are still high. Development of additional predator microbes (protozoa, microarthropods) would further boost nutrient-cycling capacity, while also aiding fungal development by further reducing bacterial dominance. Mid-successional vegetables, including peppers, require some fungal presence.

## Biosoil Analysis Graph: With Behavior of Bacteria and Mycorrhizae Treatment Comparison Before and Middle of Harvest.



According to Biological analysis, the treatment with Organic Plant & Soil Pro 2™, generated the highest amount of benefit bacteria, these bacteria are critical to pull the nutrients into the root system and into the plant.

## Bio soil Microbiology Analysis

| Block No. and Treatment              | Bateria (ug/gr) |                 | Fungi (ug/gr)  |                 |
|--------------------------------------|-----------------|-----------------|----------------|-----------------|
|                                      | Before Harvest  | At Mid. Harvest | Before Harvest | At Mid. Harvest |
| Block 2 (Control)                    | 5998            | 13575           | 0              | 8               |
| Block 3 (Organic Plant & Soil Pro 2) | 8055            | 22099           | 13             | 27              |

As shown in the Biological analysis, the treatment of Organic Plant & Soil Pro 2™, generated the best behavior and benefit for the plant. Before the harvest and at the middle of the harvest the number of mycorrhizas increased, satisfying the need of the plant to get more nutrients during entire harvest season. The Control treatment showed less mycorrhizas and slower growth rates, decreasing the efficiency of the plants nutrients absorption.

## Soil Chemical Analysis

### Block 2 (Control)

| Parameter        | Result | Units | Very low | Low  | Normal | High  | Very high |
|------------------|--------|-------|----------|------|--------|-------|-----------|
| * SPE phosphates | < 0.06 | meq/L |          | 0.03 |        | 0.09  |           |
| SPE pH           | 8.10   |       |          | 6.50 |        | 7.50  |           |
| SPE E.C.         | 4,499  | µS/cm |          | 500  |        | 1,000 |           |
| * SPE alkalinity | 10.2   | meq/L |          | 0.50 |        | 1.50  |           |
| * SPE sulfates   | 43.4   | meq/L |          | 2.00 |        | 5.00  |           |
| * SPE nitrates   | 0.26   | meq/L |          | 1.00 |        | 4.00  |           |
| * SPE chlorides  | 4.04   | meq/L |          | 1.00 |        | 5.00  |           |
| * SPE ammonium   | 0.39   | meq/L |          | 1.00 |        | 2.00  |           |
| * SPE calcium    | 28.7   | meq/L |          | 3.01 |        | 8.02  |           |
| * SPE magnesium  | 12.5   | meq/L |          | 1.00 |        | 3.00  |           |
| * SPE potassium  | 1.67   | meq/L |          | 1.00 |        | 1.50  |           |

### Block 3 (Organic Plant & Soil Pro 2)

| Parameter        | Result | Units | Very low | Low  | Normal | High  | Very high |
|------------------|--------|-------|----------|------|--------|-------|-----------|
| * SPE phosphates | < 0.06 | meq/L |          | 0.03 |        | 0.09  |           |
| SPE pH           | 8.19   |       |          | 6.50 |        | 7.50  |           |
| SPE E.C.         | 5,687  | µS/cm |          | 500  |        | 1,000 |           |
| * SPE alkalinity | 8.94   | meq/L |          | 0.50 |        | 1.50  |           |
| * SPE sulfates   | 51.2   | meq/L |          | 2.00 |        | 5.00  |           |
| * SPE nitrates   | 9.11   | meq/L |          | 1.00 |        | 4.00  |           |
| * SPE chlorides  | 7.16   | meq/L |          | 1.00 |        | 5.00  |           |
| * SPE ammonium   | 0.30   | meq/L |          | 1.00 |        | 2.00  |           |
| * SPE calcium    | 29.6   | meq/L |          | 3.01 |        | 8.02  |           |
| * SPE magnesium  | 13.8   | meq/L |          | 1.00 |        | 3.00  |           |
| * SPE potassium  | 1.01   | meq/L |          | 1.00 |        | 1.50  |           |

- ▶ In block 2 (Control), there was modest unbalanced nitrogen sources.
- ▶ In block 3, Organic Plant & Soil Pro 2™ has INCREASED the availability and BALANCED the nutrients, including nitrates for the plant growth.

## Foliage Analysis

### Block 2 (Control)

| Parameter  | Result | Units | Very low | Low | Normal | High | Very high |  |  |
|------------|--------|-------|----------|-----|--------|------|-----------|--|--|
| Nitrogen   | 4.25   | %     | 4.40     |     |        | 6.60 |           |  |  |
| Phosphorus | 0.34   | %     | 0.35     |     |        | 1.00 |           |  |  |
| Potassium  | 5.44   | %     | 4.00     |     |        | 6.00 |           |  |  |
| Calcium    | 3.43   | %     | 1.00     |     |        | 2.50 |           |  |  |
| Magnesium  | 0.92   | %     | 0.30     |     |        | 1.00 |           |  |  |
| Sulfur     | 0.49   | %     |          |     |        |      |           |  |  |
| Dry Matter | 16.8   |       |          |     |        |      |           |  |  |

### Block 3 (Organic Plant & Soil Pro 2)

| Parameter  | Result | Units | Very low | Low | Normal | High | Very high |  |  |
|------------|--------|-------|----------|-----|--------|------|-----------|--|--|
| Nitrogen   | 4.19   | %     | 4.40     |     |        | 6.60 |           |  |  |
| Phosphorus | 0.32   | %     | 0.35     |     |        | 1.00 |           |  |  |
| Potassium  | 4.13   | %     | 4.00     |     |        | 6.00 |           |  |  |
| Calcium    | 2.89   | %     | 1.00     |     |        | 2.50 |           |  |  |
| Dry Matter | 19.4   |       |          |     |        |      |           |  |  |
| Magnesium  | 0.30   | %     | 0.30     |     |        | 1.00 |           |  |  |
| Sulfur     | 0.44   | %     |          |     |        |      |           |  |  |

- ▶ In all blocks, the nutrient content in foliage is balanced and in the correct parameters. We can conclude the absorption to optimal foliage growing is in the PROPER range.
- ▶ In the dry matter analysis, the Control block has the lowest level, and Organic Plant & Soil Pro 2™ block has the highest dry matter content in foliage. This indicates that the structure of the foliage is DENSER with HEALTHIER vigor.

## Side By Side Comparison Of Bells Peppers

Same Variety, Same Transplant Day, Same Management

**Block 3 (Organic Plant & Soil Pro 2™): Average 25 peppers per plant**



**Block 2 (Control): Average 19 peppers per plant**



Blocks with Organic Plant & Soil Pro 2™ had about 25% less phytophthora incidence, less damage, and reduced loss by diseases. Plants are:

- ✓ healthier,
- ✓ more vigor,
- ✓ stronger growth,
- ✓ increase in flowers, resulting in additional peppers per plant.

## Bells Peppers At Harvest

Block 3 (Organic Plant & Soil Pro 2™)



Block 2 (Control)



Plants with Organic Plant & Soil Pro 2™ maintained excellent sizes, and quality during the harvest. Enabled the grower to extend harvest season.



## Quality of Bell Peppers with Organic Plant & Soil Pro 2™



Excellent quality of bell peppers with Organic Plant & Soil Pro 2 during entire season, with a high percentage in color, size, weight, with additional thickness and vigor.

## NDVI Comparison At The Moment Before Harvest

Block 3 (Organic Plant & Soil Pro 2™)



Block 2 (Control)



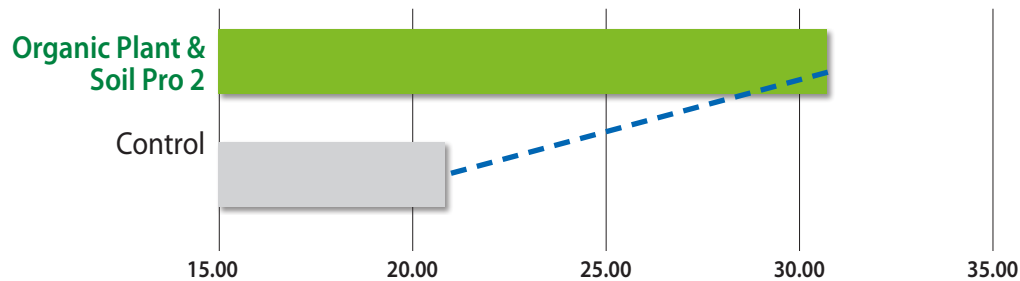
The block with Organic Plant & Soil Pro 2™ presents a significant difference in foliage, photosynthetic activity, indicating vigorous growth, and healthier crop overall.

## Yield Analysis Per Weight

|                            | Block | Density<br>(Plants/Mt.2) | Variety/<br>Hybrid    | Fruits Per Plants<br>(20 counts/Treat 50) | Cartons Per Acres<br>(25lb each) | Harvested Weight<br>Yield (Tons/Acre) |
|----------------------------|-------|--------------------------|-----------------------|---|----------------------------------|---------------------------------------|
| Organic Plant & Soil Pro 2 | 3     | 2.59                     | Bell Tower/Cal.Wonder | 24.42                                     | 2,493.59                         | 31.17                                 |
| Control                    | 2     | 2.59                     | Bell Tower/Cal.Wonder | 17.62                                     | 1,720.59                         | 21.51                                 |

|   |                  |
|---|------------------|
| Difference of Extra Yield (Pounds/Acre) Using Organic Plant & Soil Pro 2 vs. Actual Fertilization Program | <b>19,324.86</b> |
| Difference of Extra Yield (Tons/Acre) Using Organic Plant & Soil Pro 2 vs. Actual Fertilization Program   | <b>9.66</b>      |
| Difference (%) More Yield, with Organic Plant & Soil Pro 2  | <b>44.93%</b>    |
| Extra Cartons (25lb) with Organic Plant & Soil Pro 2  | <b>772.99</b>    |

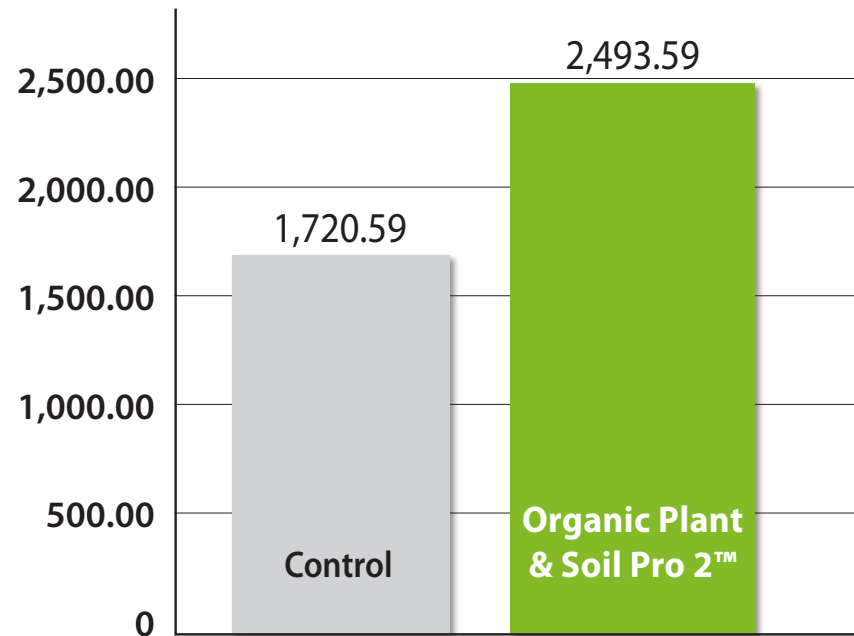
### 9.66 More Tons/Acre with Organic Plant & Soil Pro 2™ Harvested Weight



|                | Organic Plant & Soil Pro 2™ | Control      |
|----------------|-----------------------------|--------------|
| Harvest Weight | <b>31.17</b>                | <b>21.51</b> |

## Yield In Cartons/Acre

773 More Cartons/Acre with Organic Plant & Soil Pro 2™



### HIGHER RETURNS FOR THE GROWER!

In the block with Organic Plant & Soil Pro 2™, there is a significant increase in yields, more peppers per plant, and an increase in net weight of the peppers. The increase is about 773 more cartons/acre or 9.66 more tons/acre.

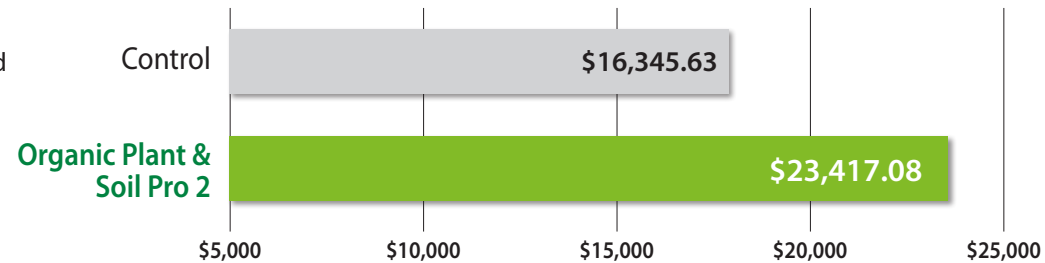
## Financial Analysis

| Product  | Units               | Extra Carton Per Acre w/<br>Organic Plant & Soil Pro 2 | Average Grower Price Per Carton | Total Extra Income Per Acre |
|--|---------------------|--|---------------------------------|-----------------------------|
| Bell peppers   | Cartons (25lb each) | 772.99   | \$9.95                          | \$7,343.41                  |
| Total Extra Cost of Organic Plant & Soil Pro 2                   |                     |  |                                 | \$272                       |
| R.O.I. (Return Of Investment) or Total Extra Net Income Per Acre |                     |  |                                 | \$7,071.41                  |

Cost/Benefit Ration using Organic Plant & Soil Pro 2–  
Each \$1 invested in Organic Plant & Soil Pro 2 generates an extra \$26.00 in revenue.

### Total Income/Acre

Bell Peppers, per marketable pound



|                              | Organic Plant & Soil Pro 2™ | Control            |
|------------------------------|-----------------------------|--------------------|
| <b>Total Net Income/Acre</b> | <b>\$23,417.08</b>          | <b>\$16,345.63</b> |

*Total net income, with production & harvest costs*

## Final summary and benefits of using Organic Plant & Soil Pro 2™

1. Greater yield and value: Organic Plant & Soil Pro 2 can significantly increase your crops yields and quality by 44%! That's 773 more carton/acre or 9.66 more tons/acre.
2. The treatment with Organic Plant & Soil Pro 2, increases the number of bacteria's that are needed to transport nutrients from the soil to the root system. This also occupies space, reducing the space for fusarium to grow and damage the crop.
3. The block with Organic Plant & Soil Pro 2 shows better behavior and better quantity of micros and fungi mycorrhizas than the Control. This indicates that, the micros are already endemic and adapted to the soil. Organic Plant & Soil Pro 2 affects and multiplies the microbiology that is already in the soil NATURALLY, and a natural plant-based product. Clearly a better solution than just applying other external caned micros as the data in this report supports.
4. With Organic Plant & Soil Pro 2 there is a significant opportunity to have less fusarium damage. Organic Plant & Soil Pro 2 naturally protects the plants root system with beneficial micro-organisms. These beneficial organisms occupy more space than the harmful pathogens reducing their capacity to reproduce and damage the plants.
5. Organic Plant & Soil Pro 2 is a High Value Product. It can significantly increase your crops yields and quality. If you base your agricultural decisions on analytical data to maximize yields, land use, water resources, and lower your fixed operational costs. Organic Plant & Soil Pro 2 can help you achieve these goals!
6. Using Organic Plant & Soil Pro 2™ season after season provides farms of all sizes long term soil regeneration and sustainable farming where farming returns to the efficient simplicity of what is natural. Resulting in superior soil quality year after year.