



Case Report: Increased Production and Suppressed Pathogens In Potato Crops Using BioTerra™ Organic Soil Amendment

The Parameters

On November 1st, 2017, thirty-two acres of potatoes were planted in Blythe California. The test field was divided into two sixteen-acre sections. One of the sections was treated with BioTerra™ Organic Soil Amendment. The other half of the field was the compare section, with all factors being the same as the treated field, with the exception of the absence of the use of BioTerra™.

Supression of Pathogens

Soil samples were taken before the potatoes were planted, including testing for nematodes. Tests after three treatments with BioTerra™ indicated a **complete elimination of pathogenic nematodes** in the treated section of the test field. The nematodes population remained unchanged in the compare section over the same time period.

Production Increases

The production results for the treated section versus the compare section are impressive across a number of key categories as well:

	<u>Compare Section</u>	<u>Treated Section</u>	<u>Increase</u>
Gross Yield (100-lb Sacks/Acre):	140	160	14.3%
< 42mm Yield (100-lb Sacks/Acre):	136	158	16.2%
Tuber Population (per Acre):	367,000	530,000	45%
Tubers per Hill:	8.4	10.2	21.4%
Stems per Hill:	5.5	7.4	34.5%

Healthy Beginnings, Better Results

The benefits of BioTerra™ were not only evident in the suppression of pathogens and the final production levels, as already indicated, but also manifested themselves in the early development of the plant roots (see picture, next page).



Within a few weeks after the test field was planted, sample plants from both sections were taken. The results of the benefits of BioTerra™ are evident at this early stage as illustrated in this picture. The roots of the plants from the treated section (left) are significantly more developed than the roots from the non-treated section.

A Third-Party Agronomist's Description of What He Observed

"To have that kind of healthy root structure, you must have an efficient carbon transfer system. What I mean is that your leaves suck the carbon out of the air and then they trans-locate it down to the roots. The roots exude it into the soil to feed the microbes. In return, the microbes mine nutrients from the soil to feed the plant in exchange for more carbon. In effect, you have a carbon-trading economy existing in the rhizosphere, in which your plants produce carbon and exchange it with nutrients mined from the soil by the microbes. Your plant is about 90% carbon by dry weight and your leaves are producing that. In order to have healthy production in the leaves, you need a broad spectrum of nutrients to enable processes like photosynthesis to occur. You have a carbon-trading economy under the ground that controls net primary production. If you have a highly efficient trading economy, in which your plants are producing a lot, they will receive a lot of nutrients in exchange, thereby growing bigger and able to produce more carbon. It's a very virtuous cycle and benefits the soil, the microbes, and the plant. In simple terms, the more robust that economy, the more robust the individual members; it's beneficial across the board. Additionally, because your plants are healthier, we see pathogen suppression, weed suppression, and pest resistance. They are simply less susceptible because they are healthier."

"In conclusion, the numbers show that the treated section outperformed the non-treated section in all comparison areas. The data show that the BioTerra™ increased the production volume, nutrient density, and soil health of the treated section, resulting in a more efficient carbon-trading system within the plant; which ultimately produced the higher numbers that we see. Similar results with many crops like onions, lettuce, carrots, peppers, tomatoes, kale, alfalfa, corn, wheat, and others can be expected."

We invite you to test BioTerra™ and draw your own conclusions, with your own crops, in your climate, using your methods. The money you could save on fertilizers, pest control chemicals, and other needs is further enhanced by the increased revenues you may realize from boosting crop yield.

Test one pivot. That's all we ask. Call Brett Hawkes today at **801.400.6688** to begin your personalized test. Who knows?... We may be telling your success story in one of our future case reports.