

Case Study Pico Agriculture

Chesapeake Greenhouse LLC, Maryland, USA

Background

Pico Agriculture was tested by John Maniscalco at his Chesapeake Greenhouse LLC lettuce hydroponic farm in Maryland, USA. The greenhouse consists of eight bays, 128 ft long by 22 ft wide. Many varieties of lettuce, including Bibb lettuce, are grown on Nutrient Film Technique (NFT) tables. The total capacity of the greenhouse is 34,920 plants. The greenhouse NFT tables are irrigated with water circulated through two 1,700 gallon tanks with each serving four of the eight bays.

A typical lettuce growing cycle takes five to six weeks, depending on season and weather conditions. Minimum Bibb lettuce weight to market is 4.0 oz.



Bibb lettuce on Nutrient Film Technique (NFT) Growing System

Existing Hydroponic Nutrient System

In addition to standard nutrient solution mix, the following growing conditions are maintained in the greenhouse as the typical management practice:

Electrical Conductivity	1.9 (mS/cm)
Temperature	65 (°F) / 18 (°C)
Humidity	75 (%)
pH	5.8 (S.U.)

Implementation

On a daily basis, Pico Agriculture was added directly into one of the irrigation tanks serving half of the bays or 17,460 plants. In addition to the typical management practice, Pico Agriculture was added at a concentration near 10 ppm, or 50 grams per day. The “control” irrigation tank also serves 17,460 plants and was operated under typical practices for comparison purposes. The total Pico Agriculture cost of each fully grown lettuce was approximately \$0.01.

Growth Observations

The implementation of Pico Agriculture into the fertility program reduced the required time to produce a market crop by over 10% from 37 days to 33 days. The impact of this production time saving results in an additional crop rotation for each bay per year.

Since the original Pico Agriculture trial and supplementary trial at his facility, John Maniscalco has instituted Pico Agriculture as a routine addition to his general management practice to improve profit. His observations and resulting comments include “the Pico Agriculture treated plants had tighter heads, a noticeable difference in vigor and better overall appearance”.

Implementation Outcomes

Pico Agriculture treated lettuce were:

- Harvested more regularly
- Improved vigor
- Improved production economics
- Increased palatability
- More vibrant
- Thicker and more consistent



About Pico Agriculture

The result of over 18 years of research and development, Pico Agriculture is a powerful blend of biocatalysts that speeds up biochemical reactions at a rate faster than unaided processes or current technologies. 100% natural and non-toxic, Pico Agriculture is safe for everyday use in a very diverse range of consumer and industrial applications. Developed specially for the Hydroponics industry, Pico Agriculture is a revolutionary water treatment solution that helps increase nutrient availability, improve plant vigor, and stimulate microbial activity while preventing sludge build-up and problematic scaling in dripper lines, micro-tubes and Nutrient Film Technique (NFT) gully floors.