

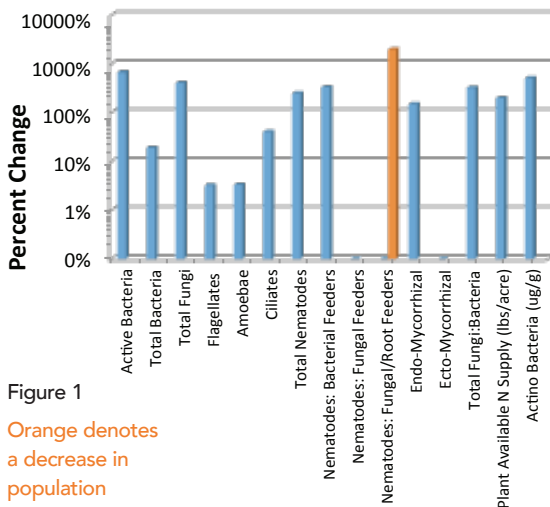
# Quantum Growth® Increased Bacterial Diversity in Orange Grove, Significant Harvest Yield Increase

**Location:** Sebring, FL

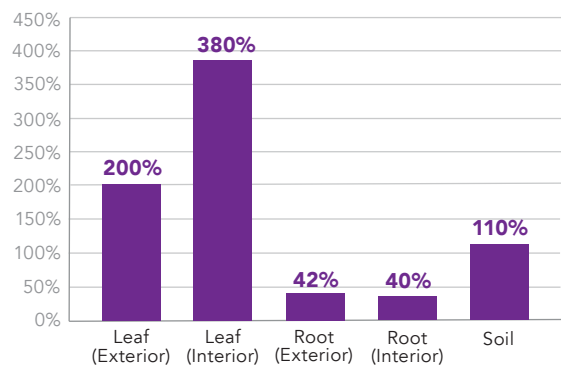
**Objective:** A trial was conducted to see the benefits of Quantum Growth on citrus trees. Quantum Growth was applied as a root drench at 1 gallon per acre every three months in a 20 acre Valencia grove. The block contained a mix of mature and 3-4 year old trees. It was the only biological input throughout the trial. Soil and tissue samples were collected pre-treatment (July 2011) and after one year of treatment (July 2012).

**Results Achieved:** Analysis of the lower soil life forms found increases in a majority of the populations, some significant (Fig 1). Additionally, analysis of the bacterial populations showed an increase in the number of species present (Fig 2). This increase in the diversity of the bacterial community directly correlates to an increase in the functionality of that community (i.e. nutrient transfer, nitrogen fixation, mineral solubilization, etc.) A healthy and diverse microbial soil community provides ideal conditions for optimizing plant performance. **Futhermore, there was an 82% increase in yield of the treated grove compared to its yield prior to treatment.**

**Soil organism populations analysis after one year of treatment**



**Increase (%) in bacterial diversity after one year of treatment**



## Trial Yield Data

2010/11 (prior to treatment)  
4,438 boxes @ 6.9 solids

2011/12 (one year of treatment)  
8,120 boxes @ 7.3 solids

For more information visit  
**GrowQuantum.com**  
or call 866.871.0154.

The Quantum Growth® Series  
Developed by  
**Ecological Laboratories INC.**

Trials in Dundee, FL and Lake Wales, FL were also conducted. The photos below show before and after 3 months of treatment with Quantum Growth. Application rate was 1 gallon of Quantum Growth products per acre per month.

Dundee, FL



3.12.13

Dundee, FL



3.12.13

Lake Wales, FL



3.12.13



7.15.13



7.15.13

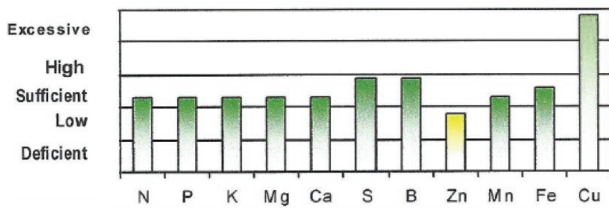


7.13.15

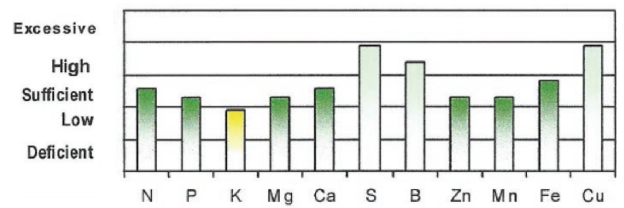
### Nutrient Transfer

Nutritional analysis was conducted on the above trial prior to treatment and after three monthly applications of 1 gallon of Quantum products per acre. No nutritional inputs were made during the three month period.

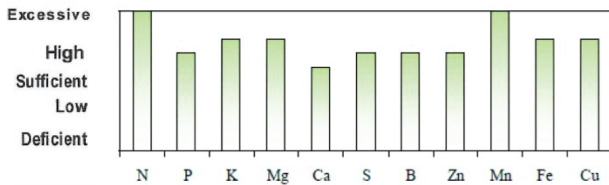
Dundee, FL • 4.4.13



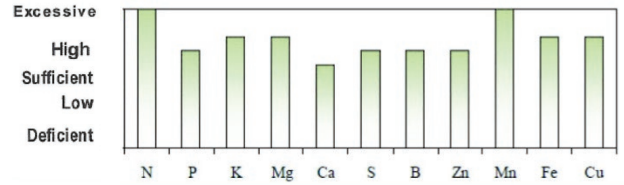
Lake Wales, FL • 4.4.13



Dundee, FL • 6.21.13



Lake Wales, FL • 6.21.13



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