

## SPECIFICATION SHEET

# QUANTUM-TOTAL™

## Beneficial Soil and Plant Microbial Inoculant

### DESCRIPTION

Quantum-Total is a plant and soil inoculant that restores and enhances the foundational levels of soil biology (also known as the soil food web). This product incorporates highly specialized photosynthetic and heterotrophic bacteria into a diverse microbial formulation that provides unprecedented plant enhancement at foliar, root and rhizosphere.

### PERFORMANCE CHARACTERISTICS

When used as a foliar or soil application, Quantum-Total directly impacts plant vigor and performance by:

- Improving nutrient uptake
- Improving plant photosynthesis
- Improving root and shoot growth
- Fortifying plant natural defense systems
- Promoting water production and retention

### PRODUCT CHARACTERISTICS

Highly concentrated – Provides over fifty million colony forming units per milliliter.

Safe and easy to use – Non-toxic and contains non-pathogenic bacteria. It may be applied as a foliar or root drench and is compatible with most types of irrigation systems to include: speed sprayer, boom sprayer, pivot irrigation, aerial spray, micro-jet, etc.

No re-entry restrictions.

Easy storage – Does not require refrigeration.

Long life – Shelf stable for 3 years (unopened) and 1 year (opened).

### Properties

#### Guaranteed Bacterial Analysis:

<i>Rhodopseudomonas palustris</i>	900,000 cfu/mL
<i>Bacillus amyloliquefaciens</i>	20,000,000 cfu/mL
<i>Bacillus subtilis</i>	10,000,000 cfu/mL
<i>Bacillus licheniformis</i>	10,000,000 cfu/mL
<i>Bacillus megaterium</i>	5,000,000 cfu/mL
<i>Bacillus polymyxa</i>	5,000,000 cfu/mL

#### Fertilizer Analysis:

No NPK; fertilizer analysis of 0-0-0

#### pH:

6.9-8.0

#### Specific Gravity:

0.9958

#### Particle Size:

100% through 100 micron/140 mesh

#### Appearance:

Brown to black liquid

#### Odor:

Pungent and distinctive earthy odor

**Properties (cont.)**

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**Packaging:**

Plastic 1 gallon bottles, 5 gallon totes, 30 gallon & 55 gallon drums and 275 gallon totes (mini-bulks)

**Storage/handling:**

Shake/agitate before use. Re-cap as soon as possible. Store between 32°F/0°C and 110°F/43°C.

**DIRECTIONS FOR USE**

**Row Crops** – 64 oz per acre at planting; 64 oz per acre at 14 to 21 days post planting; 64 oz per acre prior to full canopy.

**Grains (Irrigated)** – 64 oz per acre at planting; 64 oz per acre at seed head development.

**Grains (Non-irrigated)** – 1 gallon per acre at planting.

**Turf (Golf)** – Initial application of 8 oz per 1,000 ft<sup>2</sup> on tees and greens; 4 oz per 1,000 ft<sup>2</sup> every 14 days.

**Turf (Sod & Sport)** – Initial application (including at planting) 1 gallon per acre; 64 oz every 30 to 45 days.

**Vegetables (Greenhouse)** – Water in seeds with 4 oz per gallon.

**Vegetables (Outplanting)** – Root dip or drench with 4 oz per gallon; 64 oz per acre every 14 to 21 days.

**Citrus (fair to good condition):**

1 gallon                      Pre-bloom or early bloom  
                                    Full bloom or 2/3 petal fall  
                                    With summer spray\*  
                                    With fall spray\*  
                                    6 to 8 weeks prior to harvest

**Citrus (poor condition):**

1 gallon                      As a foliar\* or through ground irrigation every 30 days

**Optional Foliar Spray Program:**

2 gallons                      Feb/Mar  
                                    Jun/Jul  
                                    Sept/Oct  
                                    Nov  
                                    6 to 8 weeks prior to harvest

**New Plantings/Resets:**

2 oz per tree                      At transplant with watering in solution

\* if spray includes and form of a pesticide, apply Quantum Growth through injection into ground irrigation system

DO NOT MIX WITH FUNGICIDES OR PESTICIDES. When tank mixing, add the Quantum-Total last and apply within 0 to 12 hours.

For crop specific application rates and timing, visit [www.GrowQuantum.com/product-application-rates.aspx](http://www.GrowQuantum.com/product-application-rates.aspx)

