

Leap™ Biopesticide - Two A.I.s

- Methyl Salicylate SAR Inducer
- *Bacillus thuringiensis*



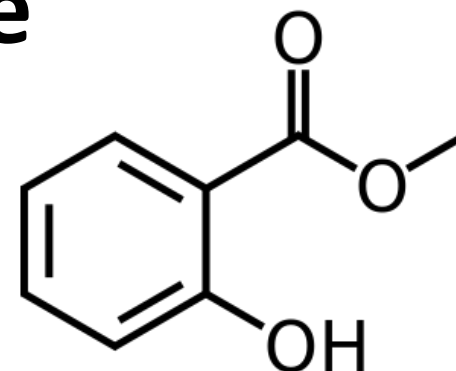
LEAP™

BACTERIAL MANAGEMENT

BIOLOGICAL INSECTICIDE

Leap™ Biopesticide

Methyl Salicylate = SAR Inducer



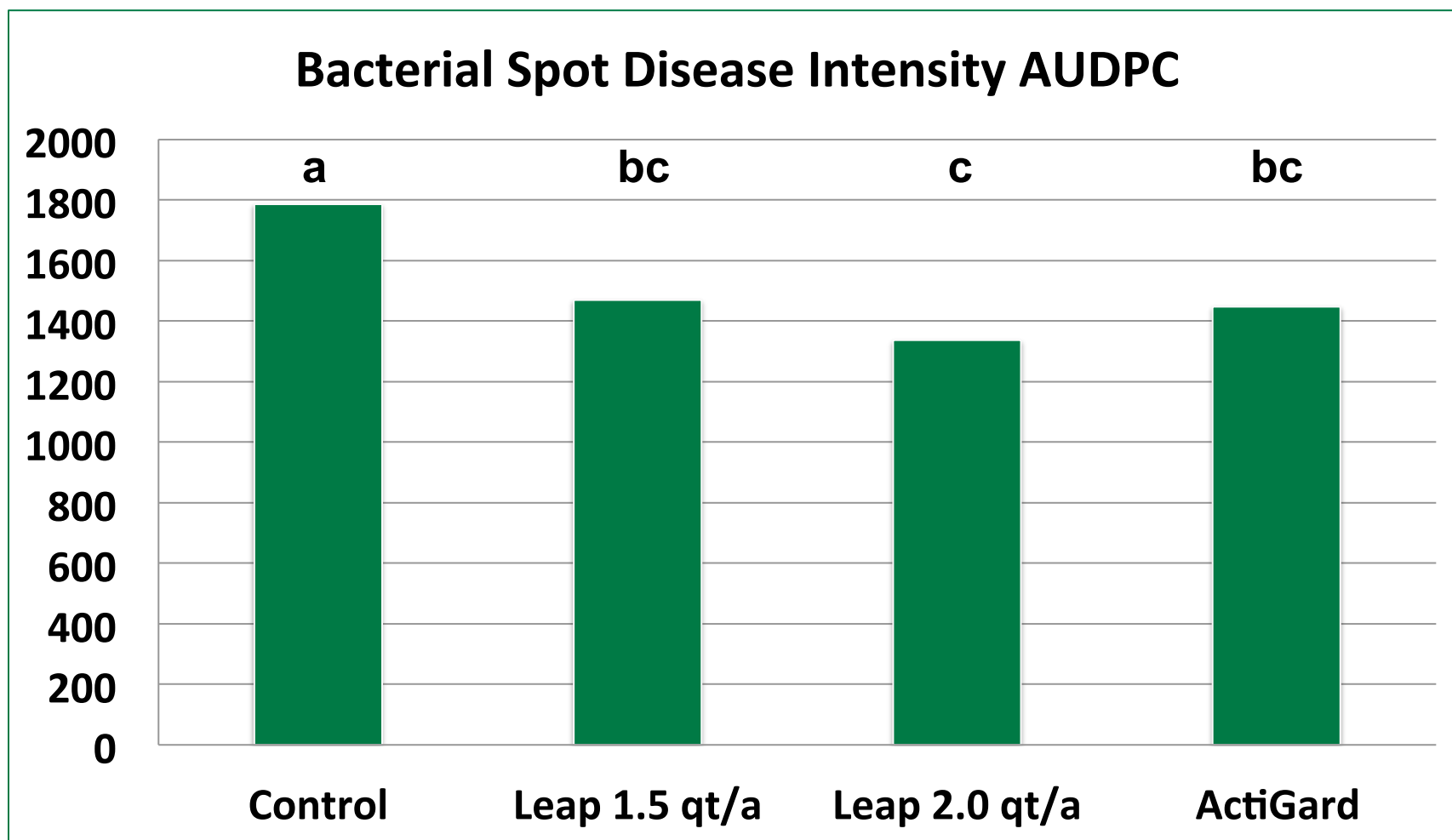
- Oil of wintergreen (*Gaultheria procumbens*)
- Elicited by biotic stress (infection, insect attack)
- Triggers systemic acquired resistance (SAR) defensive pathways
- Plant pathogen defense - pathogenesis related (PR) proteins

Leap Agrosolution- Appl. Guidelines

- ✓ **Standard rate 1QT/A (range 1QT – 2QT/A)**
- ✓ 1QT Leap applied at 50-100 GPA
- ✓ Do not exceed 10 apps per crop
- ✓ Note- Leap not yet registered by the U.S. EPA
- ✓ This is not an offer to sell or distribute Leap

- ✓ Leap on tomato-application regime:
 1. Rotation program: Leap (1QT/A) / copper product
 2. Rotate products and use 5-7 day spray interval

Leap™ Biopesticide



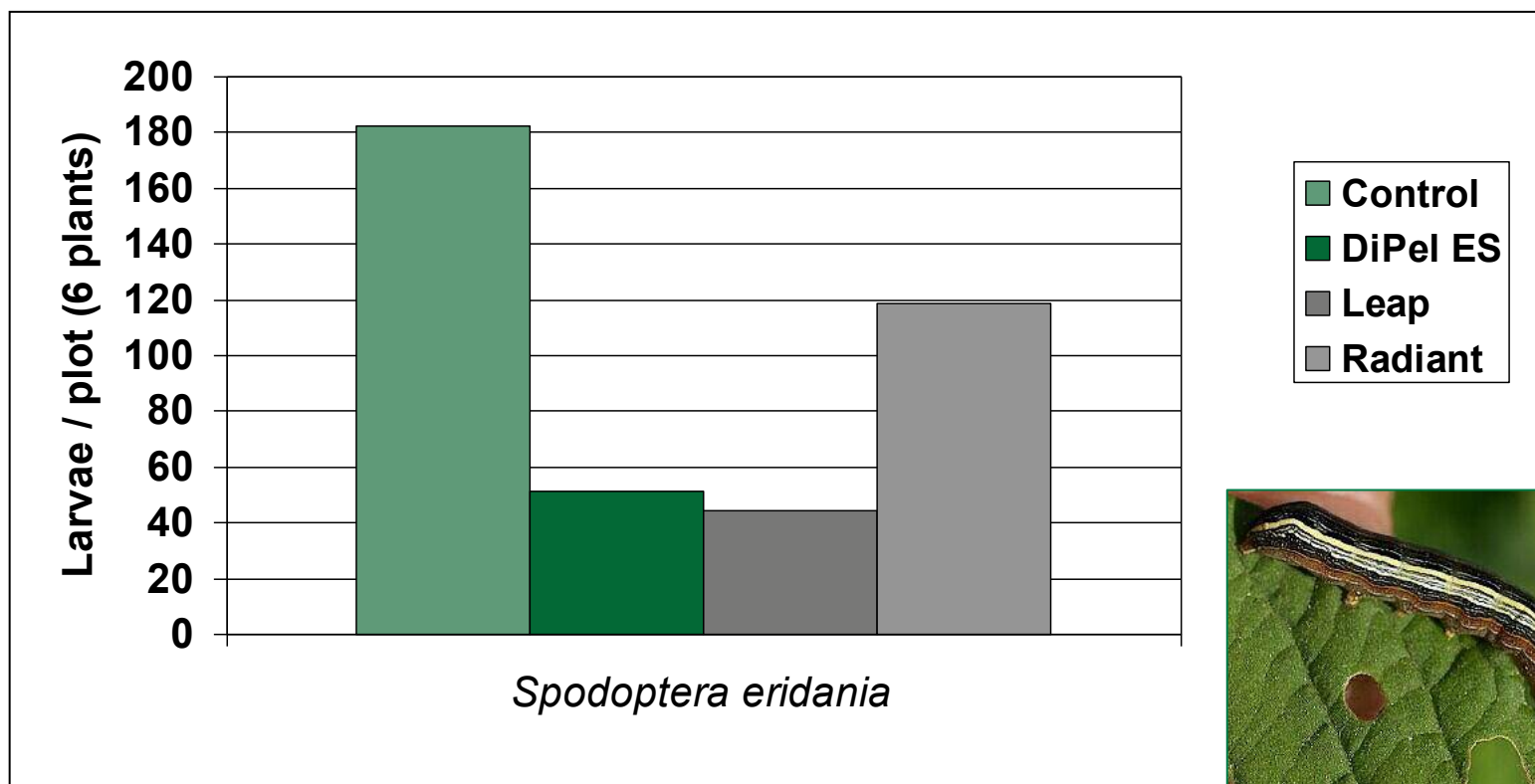
Mathews Paret (Univ. Florida) 2015 Field Trial

Note: SAR products rotated weekly with Mankocide

Leap™ Biopesticide



Better Crops field test (Ft Pierce, FL) showed strong insect control from both DiPel ES and Leap™

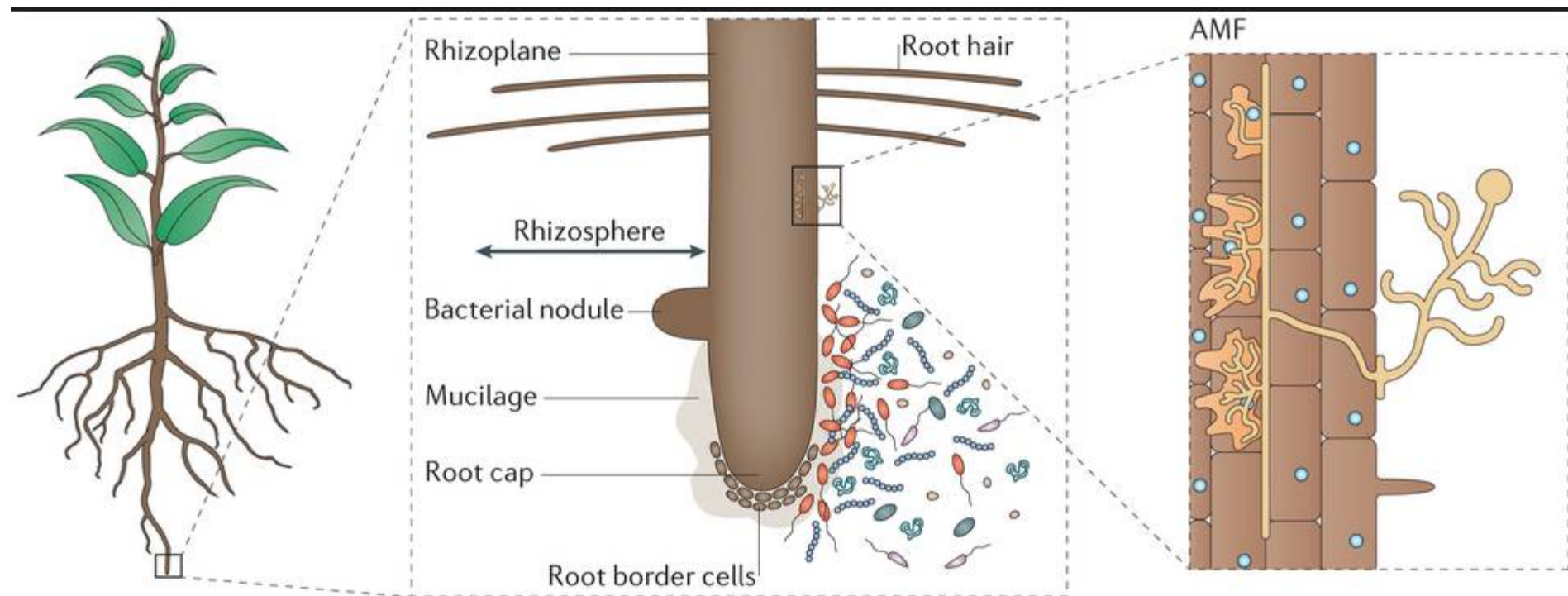


VBC Scientist: C. Campbell
Cooperator: Better Crops LLC
ExSum#: 2012CCAM2010

Crop: Tomato
Cultivar: Tygress
Plant Date: 08-29-12

Eval Date: 72DAP
Site: Ft. Pierce, FL
Country: USA

THE RHIZOSPHERE



Rhizosphere Factoids:

- 2-5 mm zone around root surface
- Billions microbial cells
- High level similarities with human gut

Nature Reviews | **Microbiology**

ECOLOGY

Soil immune responses

Soil microbiomes may be harnessed for plant health



Soil immune responses

Jos M. Raaijmakers and Mark Mazzola (June 16, 2016)

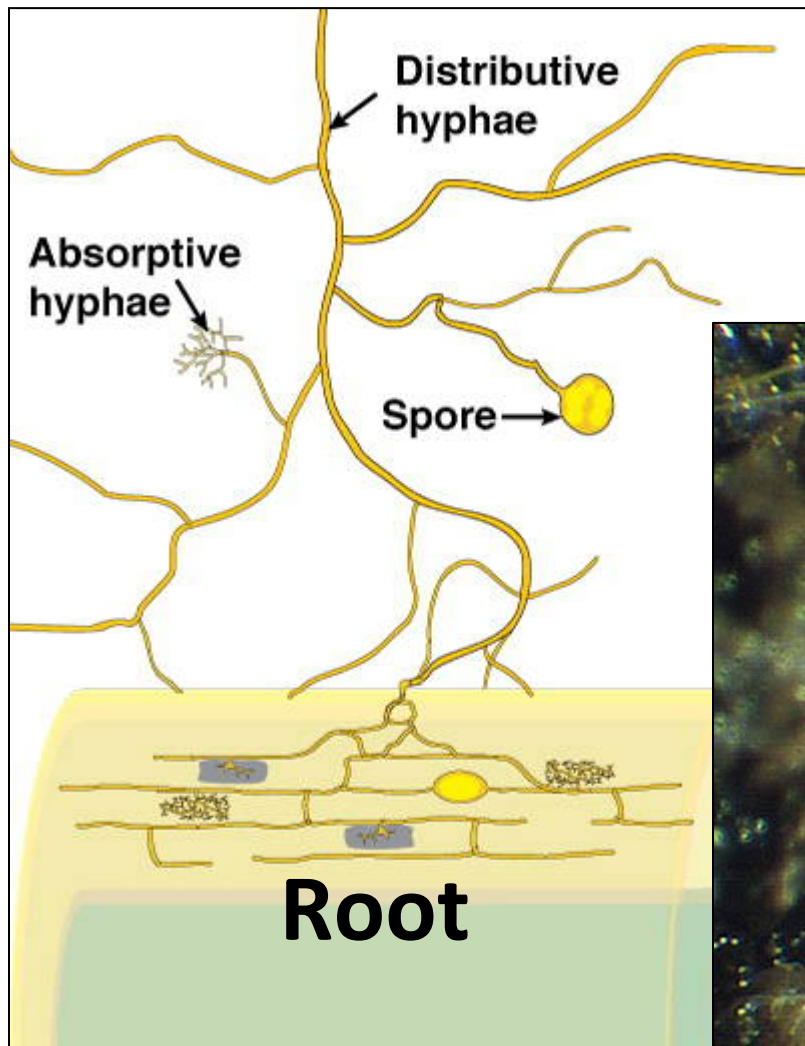
Science **352** (6292), 1392-1393. [doi: 10.1126/science.aaf3252]



EndoMAXX Arbuscular Mycorrhizal (AM) Fungi

GENERAL INFORMATION

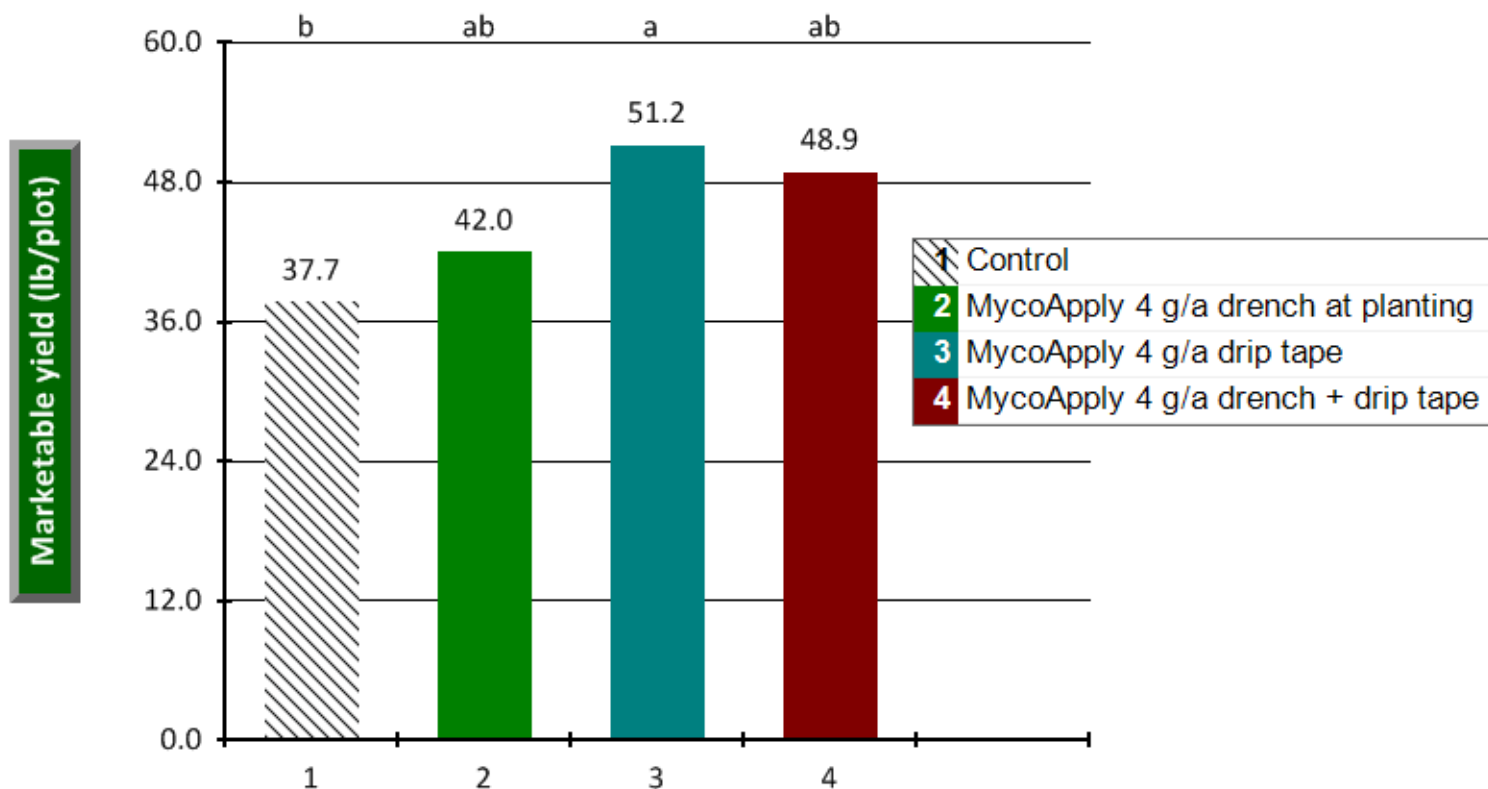
- Contains living propagules of 4 species of AM fungi
- Colonize rhizosphere of plants in a symbiotic manner
- AM fungi grow into network of hyphae associated with roots
- Expand root absorption of water & nutrients under variable environmental conditions
- **Mycorrhizal fungi form symbiotic associations with roots of 80% of all plant species**



MycoApply - Tomato Field Test – Ft. Pierce, FL



EVALUATE MYCOAPPLY ON TOMATOES (Field Test Better Crops, 2015)



GRIS Trial ID: VUSA2015CCAM2053

MycoApply EndoMaxx Field Trial: Strawberry

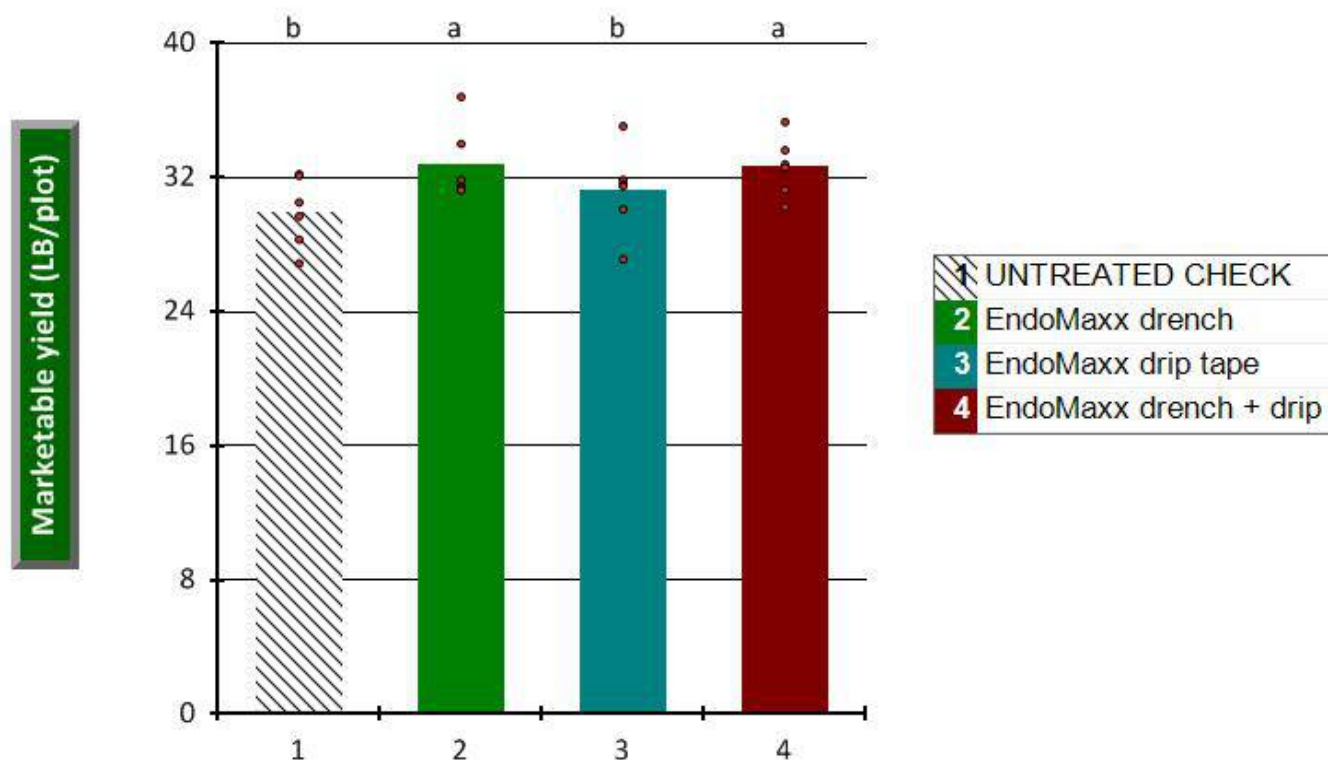


Photo Nov. 2015 soon after drench appl

MycoApply EndoMaxx Field Trial: Strawberry



Evaluation of MycoApply EndoMaxx (*Glomus mycorrhizae* product) on strawberry, 2015

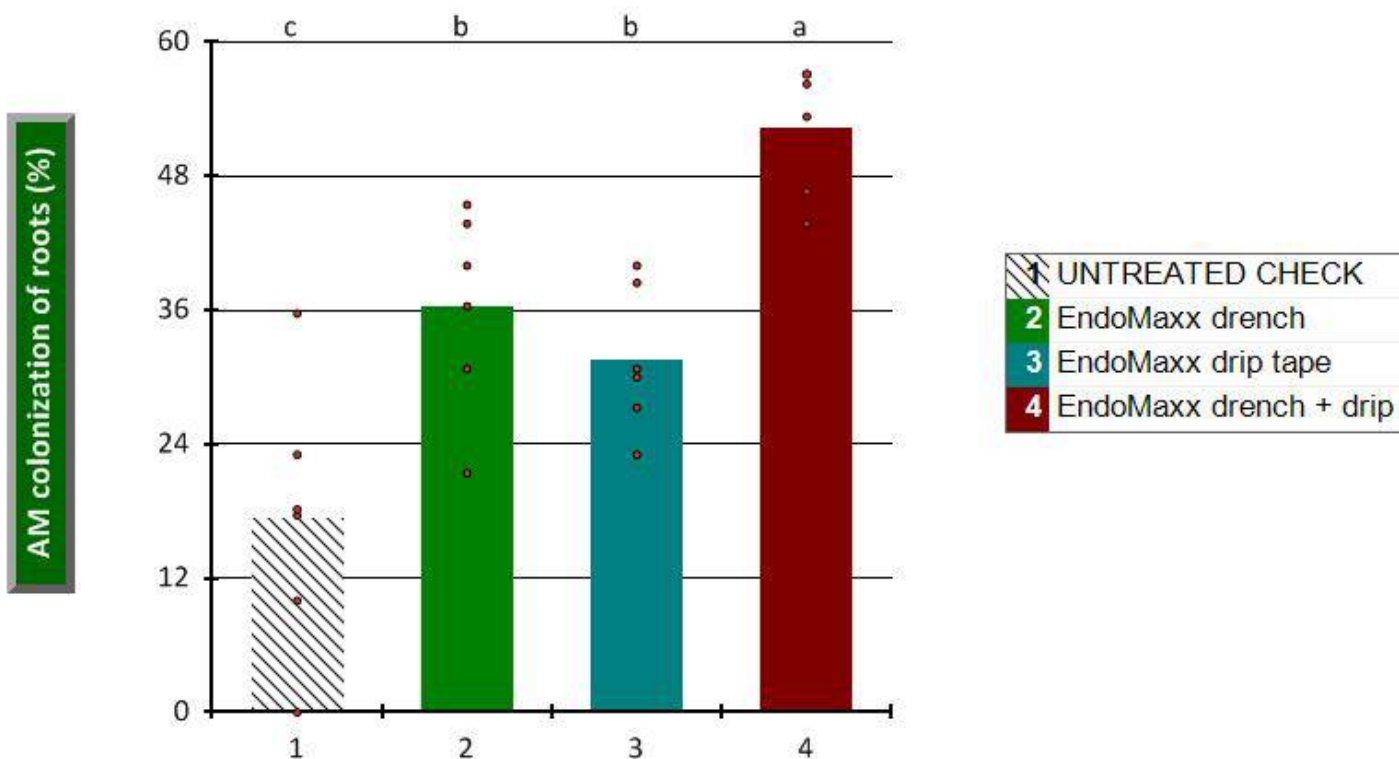


GRIS Trial ID: VUSA2015CCAM2050

MycoApply EndoMaxx Field Trial: Strawberry



Evaluation of MycoApply EndoMaxx (*Glomus mycorrhizae* product) on strawberry, 2015



GRIS Trial ID: VUSA2015CCAM2050

A scanning electron micrograph (SEM) showing numerous spherical, dormant spores. The spores are surrounded by a complex network of fine, fibrous structures, possibly organic matter or a protective layer. The spores themselves have a slightly textured surface. The overall image is in grayscale, typical of SEM photography.

**Dormant spores can remain
viable for 2 years or longer**