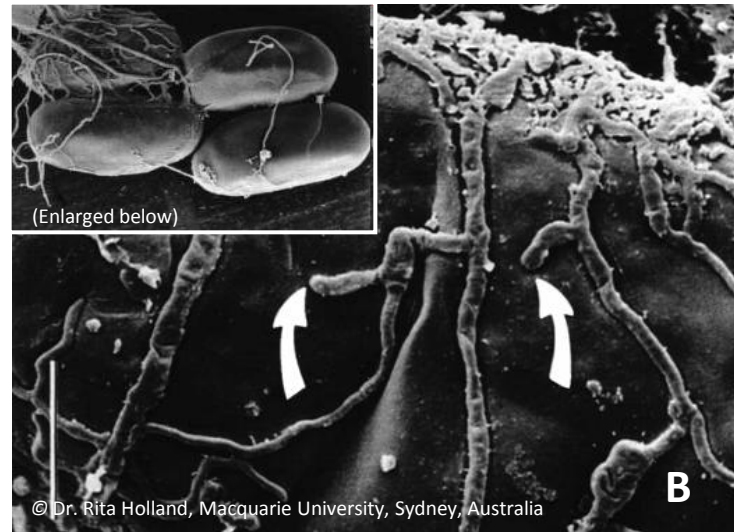


# MeloCon® WG

BIOLOGICAL NEMATOCIDE



**Photo A:** Germinating spores of *Paecilomyces lilacinus*

**Photo B:** Penetration of nematode egg by hyphae (arrows).

**Photo C:** Adult lesion nematode (*Pratylenchus*) adult killed by *Paecilomyces lilacinus*



Photos provided by Dr. Peter Lüth, ProPhyta

CERTIS

- ▶ Granular formulation containing spores of *Paecilomyces lilacinus* strain 251
  - Naturally-occurring beneficial fungus from soil
- ▶ Inundative release nematicide for control of plant parasitic nematodes that prevent establishment of healthy plants and decrease yield.
  - Root knot, sting, root lesion, stubby root, burrowing, reniform, and others
- ▶ Attacks all life stages of the nematode (Eggs, immatures, adults)
- ▶ Flexible application (chemigation, drench, soil incorporation)
- ▶ Zero PHI, 4 hr REI, signal word “Caution”
- ▶ Very safe environmental and safety profile.

# MeloCon® WG

BIOLOGICAL NEMATICIDE



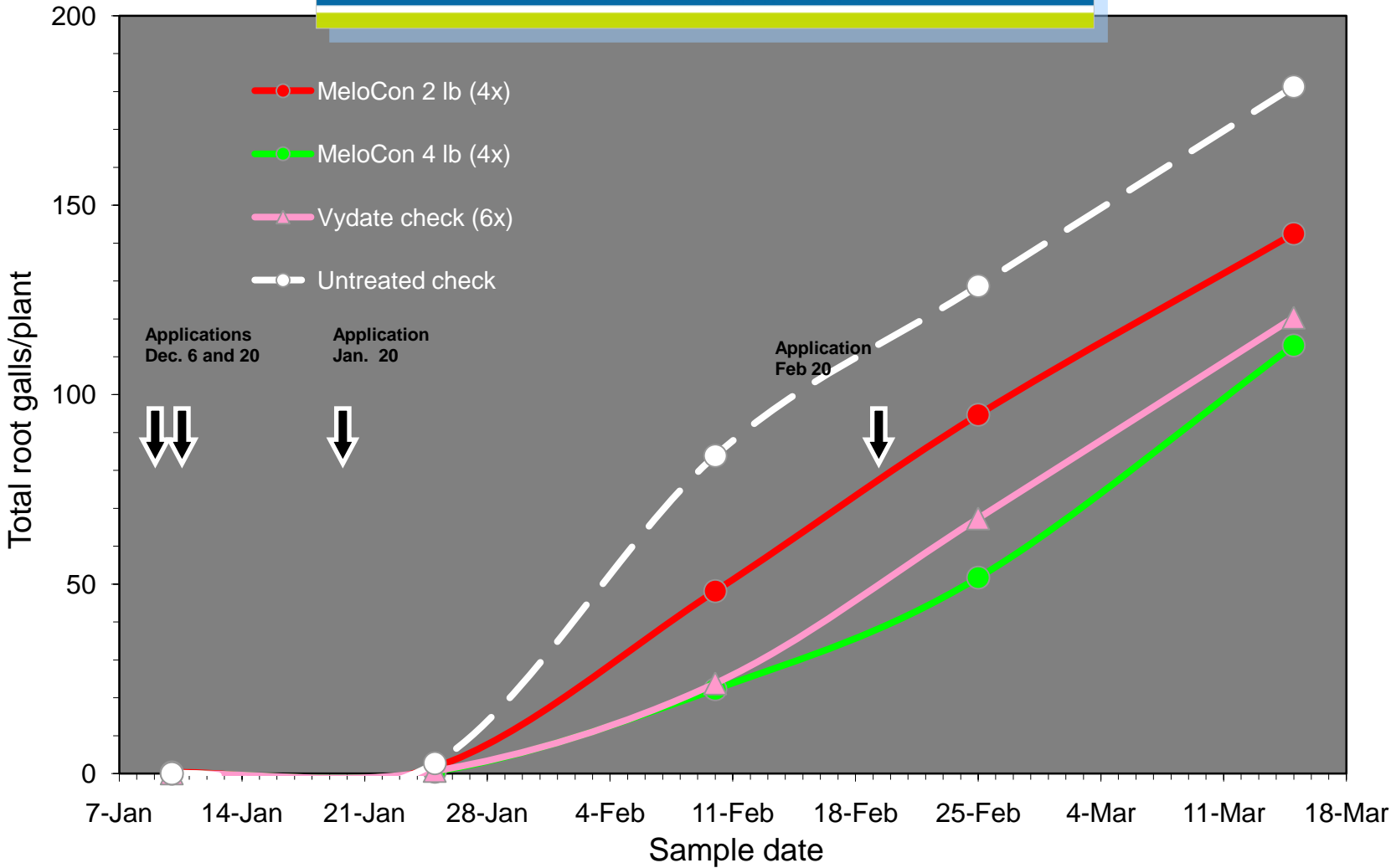
Photo showing tomato culture treated with MeloCon on rock soils at TREC UFL center in Homestead, FL.

## MeloCon, the Methyl Bromide *Alternative*

- Dr. Dak Seal, University of Florida, 2008
- Tomato round var. , randomized complete block with 4 reps, each 30 ft by 3 ft. by two rows.
- MeloCon was applied a total of 4 times. A two week pre-plant application of MeloCon at 2 or 4 lbs/a, plus applications at plant and 4 and 8 weeks post plant. The Vydate was applied a total of 6 times. Vydate was applied at 2 pts/a at plant, and 3 weeks post plant, at 4 pts/a at 4 and 6 weeks post plant, and at 8 pts/a at 8 and 10 weeks post plant.
- All plots were maintained per standard disease, insect and weed control procedures for the agricultural area.
- All plots were examined 6 times during the course of the trial for root galling by randomly examining 5 whole plant root systems. The degree of root knot damage was considered moderate.

MeloCon® WG

BIOLOGICAL NEMATICIDE

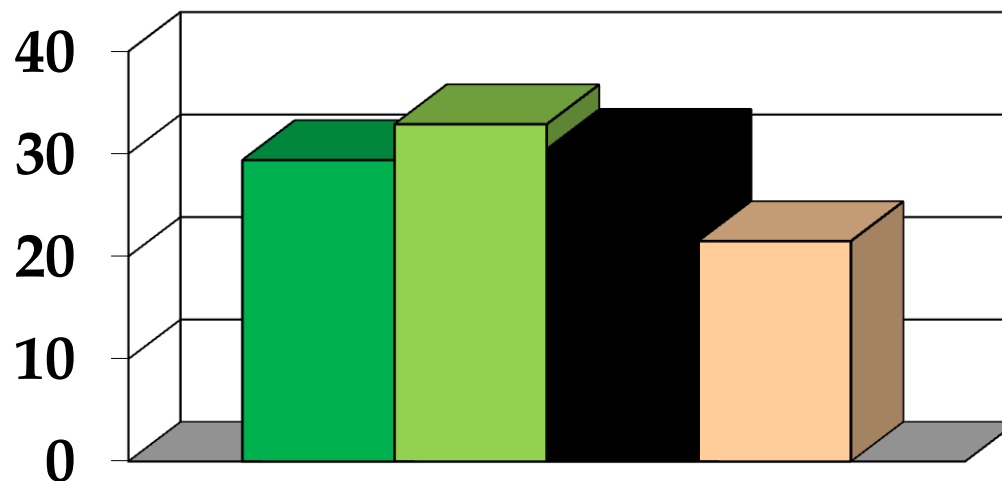


Dr. Dak Seal, University of Florida, IFAS, Homestead, FL. Tomatoes planted Dec 20. ↓ = MeloCon application timing.



## MeloCon, the Methyl Bromide *Alternative*

Total Yield at Harvest (Lbs./plot)



■ MeloCon 2 lb

■ MeloCon 4 lb

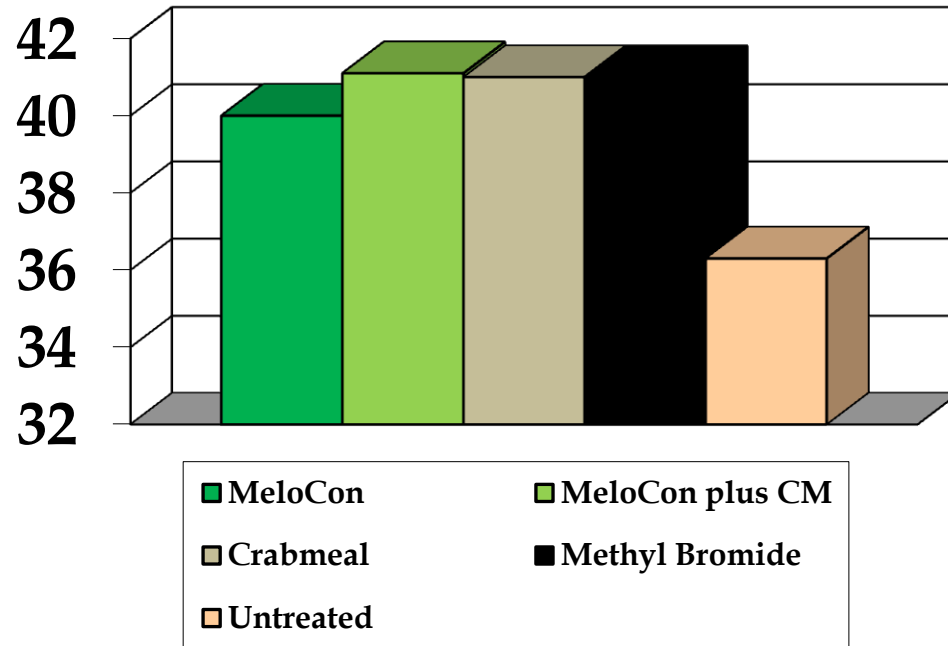
■ Vydate 2-8 pts

■ Untreated

- Dr. Dak Seal, University of Florida, 2008
- Tomato round var. , randomized complete block with 4 reps, each 30 ft by 3 ft. by two rows.
- MeloCon treated plots (4 applications) showed significantly higher yields compared to the untreated, and equal to or greater than the Vydate (6 applications).
- Value of yield increase (7\$/box) with MeloCon at 4 lbs/a versus UTC was **1,500 per acre**, or about a 27% increase.
- The yield in plots with MeloCon at 4 lbs/a was **slightly higher** than the Vydate, with **two less applications**.



Tomato- Mean Plant Height (in.) 9/21



## MeloCon, the Methyl Bromide *Alternative*

- Glades Crop Care, Agmart, Jennings FL, (2009)
- Grape tomato variety.
- Heavy root knot nematode infestation.
- **MeloCon treated tomato plants growth better than UTC and similar to MBR after one application.**
- Later readings of nematode counts, root damage ratings, and yield.



Tomatoes in field site app 3 weeks after transplant



Mix tank used for injection with circulating/mixing motor.

# SoilGard<sup>®</sup> 12G

MICROBIAL FUNGICIDE

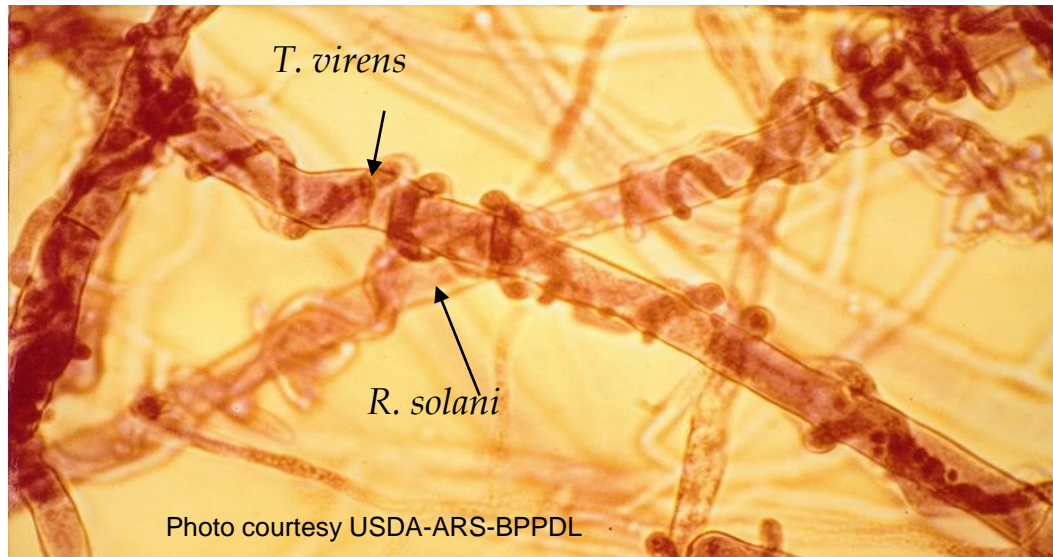
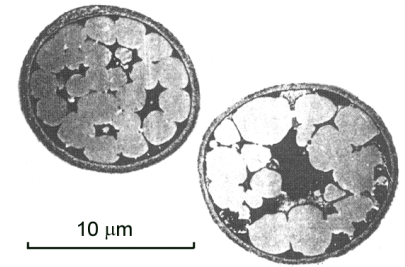


Photo courtesy USDA-ARS-BPPDL

*T. virens* coils around hyphae of *Rhizoctonia*.

# CERTIS

- ▶ Granular formulation containing spores of the fungus *Gliocladium virens* strain GL-21
  - Also known as *Trichoderma virens*
  - Naturally-occurring beneficial fungus from soil
- ▶ Preventative fungicide for control of “damping off” diseases that prevent establishment of healthy plants and decrease yield. Kills pathogenic fungi, colonizes any that survive, and exclude recolonization.
  - *Pythium*, *Rhizoctonia*, *Fusarium*, others
- ▶ Flexible application (chemigation, drench at plant, soil incorporation, transplant drench).
- ▶ Zero PHI & REI, signal word “Caution”
- ▶ Very safe environmental and safety profile.



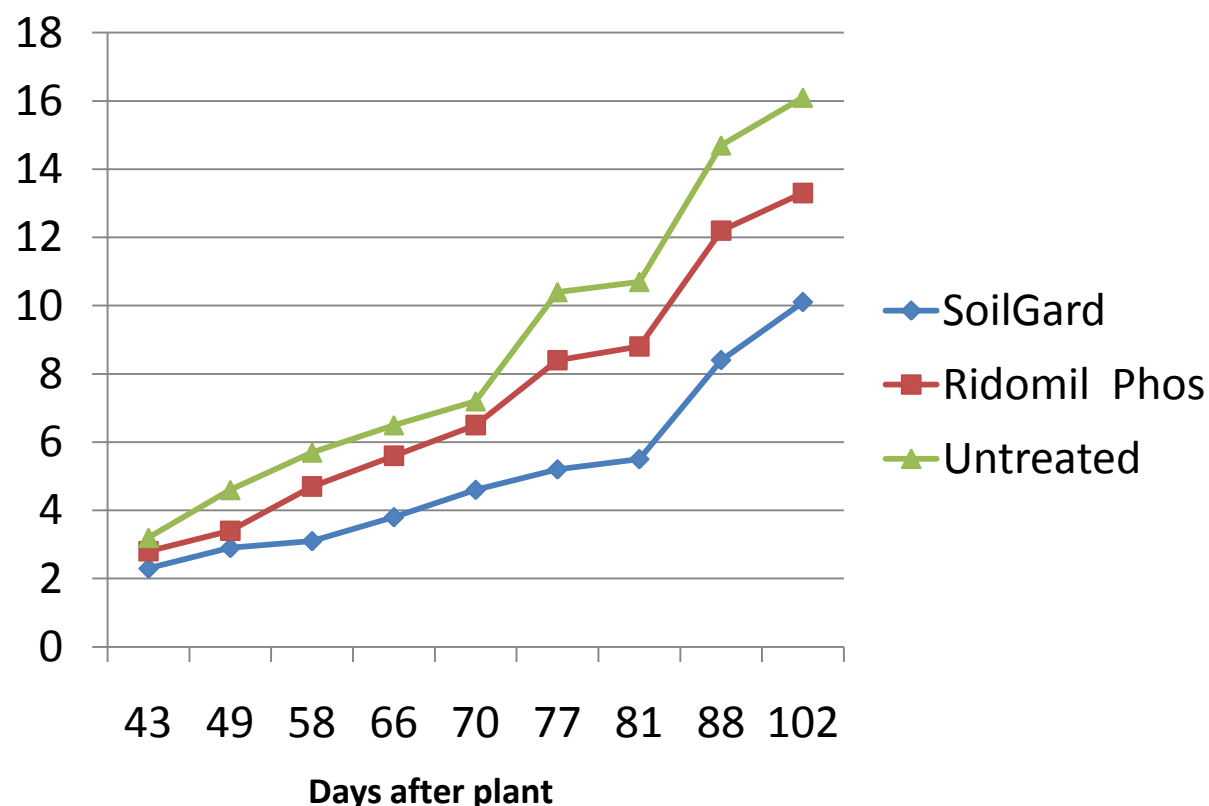


## SoilGard<sup>®</sup> 12G

MICROBIAL FUNGICIDE

## SoilGard, the Methyl Bromide *Alternative*

Mean Percent Infected Pepper Plants



- Dave Holden, Camarillo, CA (2009)
- Jalapeno peppers
- Natural but moderate pepper blight *Phytophthora capsici*
- Three applications of SoilGard at 1 lb/100 gal or 5 lb/a (2 weeks before plant as transplant drench, 3 days and 4 weeks post plant), compared to three applications of Ridomil SL Gold at 1 pt/a plus phos acid (3 days post plant and 4 and 6 weeks post plant).
- Count of dead or dying plants weekly through the trial.
- Results showed **SoilGard had consistently numerically lower plant infection and mortality** through the trial compared to the untreated and the grower standard Ridomil plus Phos acid.

# SoilGard<sup>®</sup> 12G

MICROBIAL FUNGICIDE



Tomato plant showing symptoms of *Fusarium* crown rot disease.

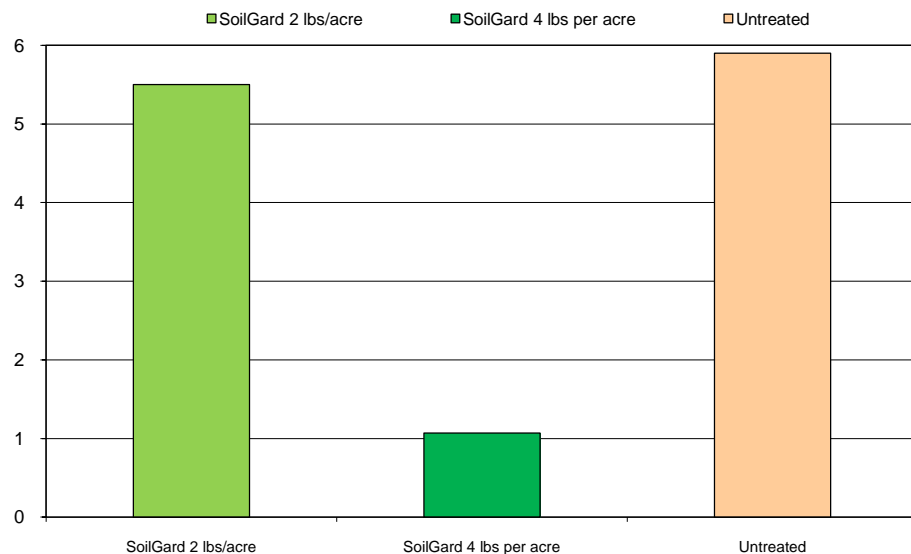


Tomato plant stems and roots showing symptoms of *Fusarium* crown rot disease.

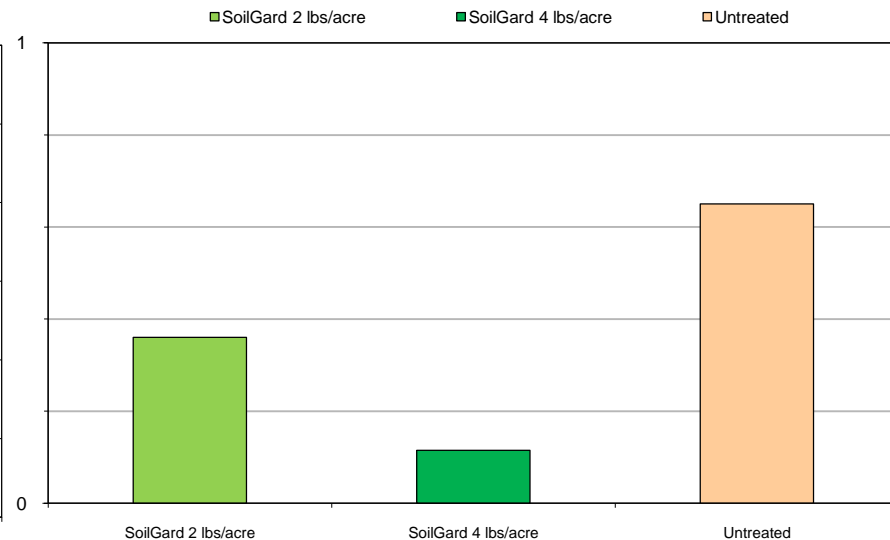
## SoilGard the Methyl Bromide *Alternative*

- Glades Crop Care, Hobe Sound, FL, (2007)
- Tomato var. round FL-47, randomized complete block with 4 reps, each 30 ft. x 5 ft
- Seven day pre-transplant application plus a 28 day post transplant application of SoilGard at either 2 or 4 lbs/acre through drip irrigation, 0.34 GPM, compared to an untreated control.
- Inoculated trial (*Fusarium oxysporum*).
- Ratings were conducted on *Fusarium* incidence and severity.
- Yield estimates were conducted in all plots with two pickings.

**Fig. 1 *Fusarium* Crown Rot Incidence  
(Mean average percent infected)**



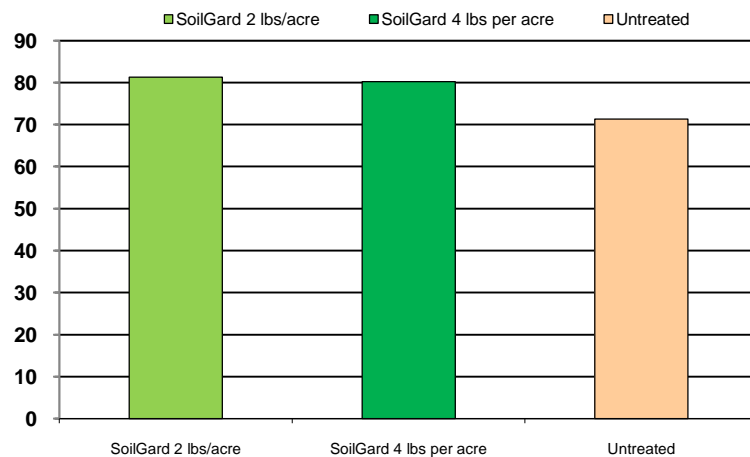
**Fig. 2 *Fusarium* Crown Rot Severity  
(Mean average rating 0-3)**



- Glades Crop Care, Hobe Sound, FL., (2007)
- Overall disease severity in the untreated plots was considered moderate.
- SoilGard decreased both incidence and severity of *Fusarium* crown rot.
- SoilGard was most effective at the 4 lb/acre rate.

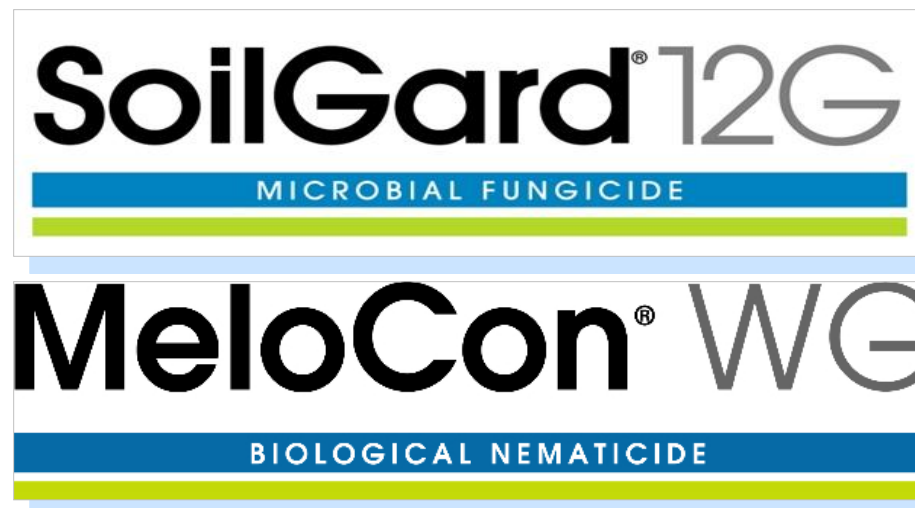
**Fig. 3 Total Yield All Harvests Combined (Lbs./12 plts)**

## SoilGard the Methyl Bromide *Alternative*



- Glades Crop Care, (2007)
- Harvest data combination of 2 harvest dates.
- Yield from SoilGard plots greater than untreated control plots.
- Value of yield increase (7\$/box) with SoilGard versus UTC was **896** dollars per acre. The yield in plots with SoilGard was **11 %** higher than in the untreated plots.





## SoilGard plus MeloCon, the Methyl Bromide *Alternative*

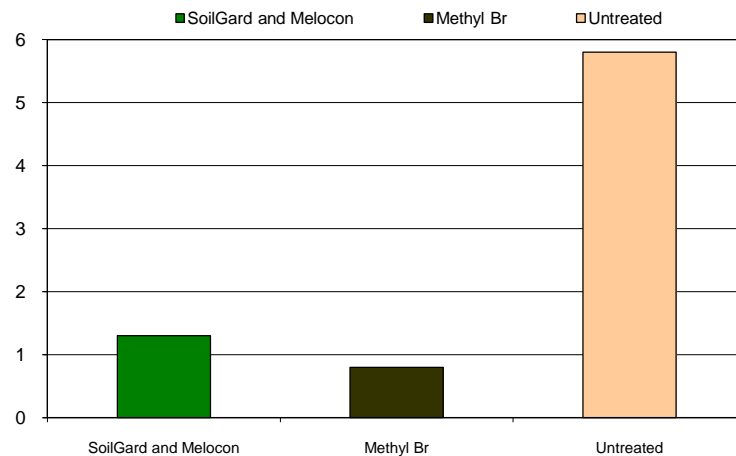
- Florida Ag Research, Dover, FL., (2009)
- Tomato var. Piccus, randomized complete block with 4 reps, each 2.5 ft. x 240 ft.
- Pre-plant application of SoilGard as drench 1 lb/100 gal, 5 lb/a applied on 4/17 and 5/14 through drip irrigation, 0.5 to 0.75 in./acre. Also Melocon applied at 4 lb/a on 5/5 and on 6/6 in 0.5 in./a water.
- Methyl Bromide 50:50 was applied 12 days prior to transplant at 150 lbs/a.
- All SoilGard plus MeloCon plots including the UTC received herbicide applications of Dual 4 pts/a, plus Devranol at 4 lbs/a, plus spot treatment with Sandea at 0.75 oz/a.



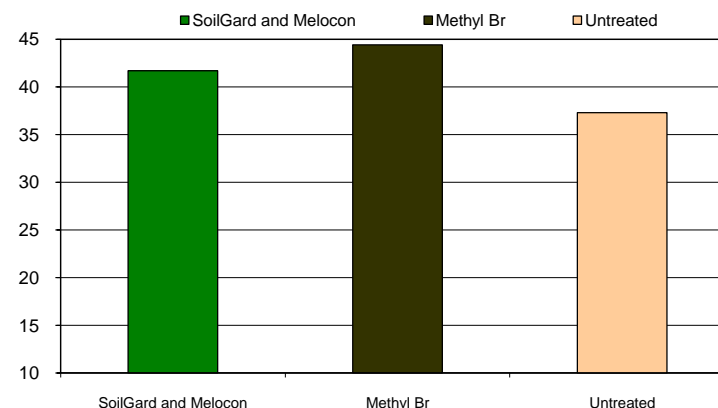


# Control of Southern Blight and Stubby Root Nematodes with SoilGard plus MeloCon in Tomatoes

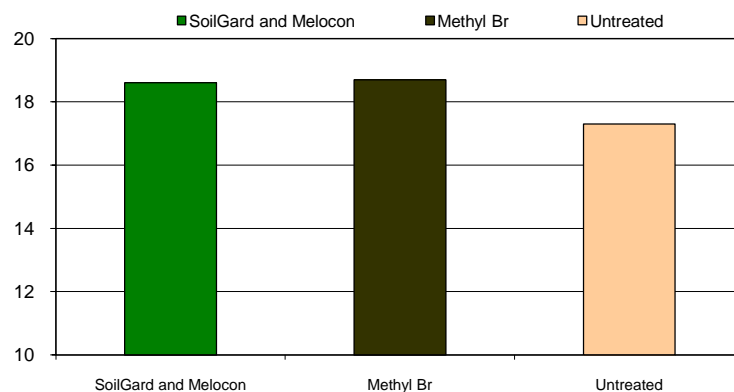
## Southern Blight Incidence 6/4



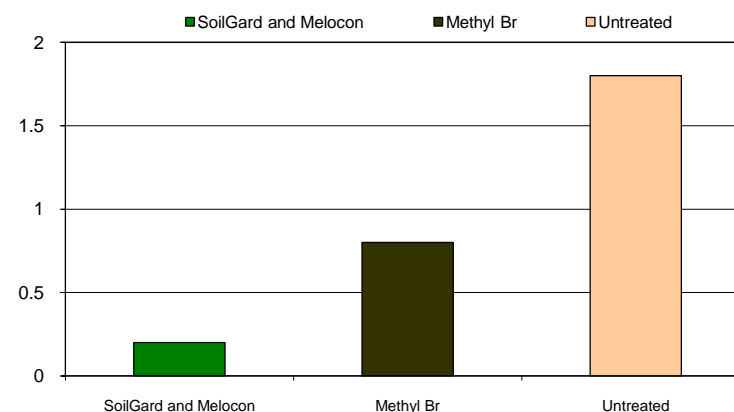
## Plant Height 7/3



## Plant Diameter 7/3



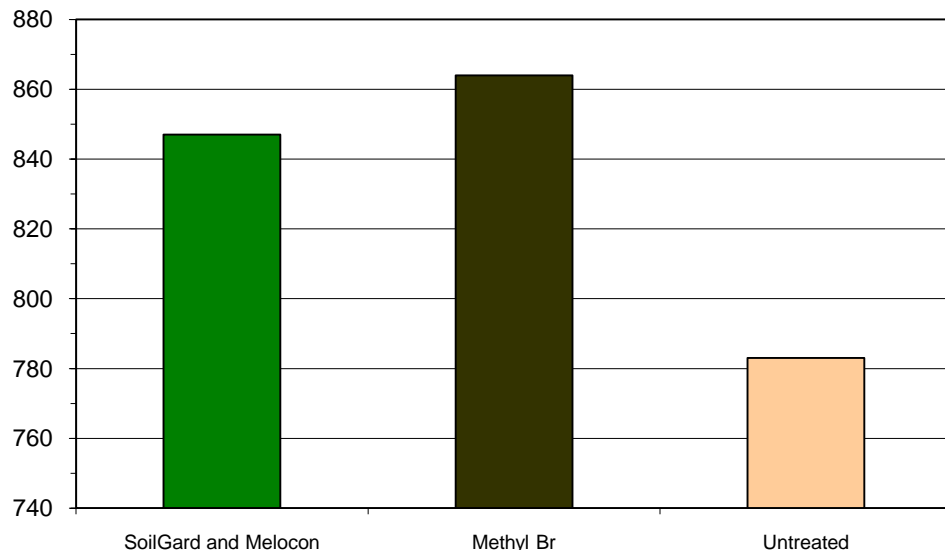
## Root Rot Rating (0-10) 7/4



- **Florida Ag Research, Dover, FL., (2009)**
- **SoilGard plus MeloCon reduced incidence of southern blight, increased plant diameter and height, and decreased root rot. Results were comparable to methyl bromide.**

## Total Yield All Harvests Combined (Lbs./plot)

■ SoilGard and Melocon ■ Methyl Br ■ Untreated



UTC (left), treated with MeBr (middle), and SoilGard/MeloCon right), 4 weeks after planting.



Tomato plant showing symptoms of southern blight disease.

## SoilGard plus MeloCon, the Methyl Bromide *Alternative*

- Florida Ag Research, Dover, FL., (2009)
- Harvest data combination of 5 harvest dates.
- Yield from SoilGard plus MeloCon treated plots was statistically equal to the Methyl Bromide plots and greater than untreated control plots.
- Value of yield increase (7\$/box) with SoilGard plus MeloCon versus UTC was **1,308** per acre. The yield in plots with SoilGard plus MeloCon was **98 %** of the yield of the methyl bromide plots.
- Good weed control all plots.