

November 19, 2018

Case Study: Crown Blight-Infected Melons Treated with TerraBella®



TerraBella®-treated cantaloupe on left (B07) vs Product B-treated cantaloupe on right (B08)

I. Introduction

Monosporascus cannonballus (Crown Blight) is the most damaging root pathogen for melons in the Southwest United States. On the Arizona farms of a major melon grower, an integrated approach to controlling Crown Blight has been developed that combines inoculating soil with bacterial-based plant probiotics with regular drip applications of Metham Sodium and Telone, as well as Quadris and Regalia drip applications on an as needed basis.

In 2017, this company evaluated several new soil probiotics to determine their effectiveness in treating Crown Blight-infected cantaloupe (Table 1) and Crown Blight-infected honeydew (Table 2).



II. Test Process

- 2 total TerraBella® applications done
 - August 3, 2017 – 1st application (0.5 liter/acre)
 - August 26, 2017 – 2nd application (0.5 liter/acre)
- TerraBella, Product B, and Product C are all root inoculant plant probiotics
- All products were applied by drip irrigation after fumigation/drip application of various antifungal/pesticide treatments
- TerraBella was only tested on cantaloupe melons
- Product B was tested on both cantaloupe and honeydew melons
- Product C was only tested on honeydew melons
- Treatment plot size was 33.7 acres

III. Results

Table 1: Results of Plant Probiotic Treatment on Crown Blight-Infected Cantaloupe

Field	Treatment	Date Inspected	% Killed by Crown Blight
B-07	TerraBella	October 12, 2017	4%
B-08	Product B	October 12, 2017	36%
B-07	TerraBella	October 23, 2017	7.2%
B-08	Product B	October 23, 2017	42%

Table 2: Results of Plant Probiotic Treatment on Crown Blight-Infected Honeydew

Field	Treatment	Date Inspected	% Killed by Crown Blight
A-05	Product B	November 3, 2017	28%
A-02	Product C	November 3, 2017	16%



III. Conclusions

- TerraBella significantly outperformed Product B on successfully treating crown blight-infected cantaloupes, with 7.2% TerraBella-treated plants killed vs 42% Product B-treated plants killed. **This is a 60% decrease in Crown Blight fatality with TerraBella treatment vs Product B.**
- Product C somewhat outperformed Product B on successfully treating crown blight-infected honeydews, with 16% of Product C-treated plants killed vs 28% Product B-treated plants killed. This is a 17% decrease in Crown Blight fatality with Product C treatment vs Product B.
- By comparing the relative performance of both TerraBella and Product C with Product B, we can extrapolate the relative effectiveness of TerraBella vs Product C. **TerraBella treatment vs Product B resulted in a 60% decrease in Crown Blight fatality, while Product C vs Product B resulted in a 17% decrease in Crown Blight fatality, suggesting that TerraBella would significantly outperform Product C in a direct test.**