

Case Study: Crown Blight-Infected Melons Treated with Release



Release-treated cantaloupe on left (B07) vs Agrigo-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 Del Monte, 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, with typically two applications per crop.

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 Release applications done
 - August 3, 2017– 1st application (0.5 liter/acre)
 - August 26, 2017 – 2nd application (0.5 liter/acre)
- Release, Agrigro, and Inocucor are all root inoculant plant probiotics.
- All products were applied by drip irrigation after fumigation/drip application of various antifungal/pesticide treatments.
- Release was only tested on cantaloupe melons
- Agrigro was tested on both cantaloupe and honeydew melons
- Inocucor 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	Release	October 12, 2017	4%
B-08	Agrigro	October 12, 2017	36%
B-07	Release	October 23, 2017	7.2%
B-08	Agrigro	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	Agrigro	November 3, 2017	28%
A-02	Inocucor	November 3, 2017	16%

IV. CONCLUSIONS

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