Understanding Coffee Berry Borer Activity for Improve its Integrated Pest Management in Hawaii

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January 25, 2017

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Trapping CBB
Kona & Kau, HI
(2016-2017)

Kona coffee farms
$R^2 = 0.96$

Kau coffee farms
$R^2 = 0.66$
Coffee Berry Borer in AB Position, Coffee farms from Hawaii, 2016

![Graph showing percentage of Coffee Berry Borer in AB Position in Kona & Kau, Hawaii]

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Taming *B. bassiana* Applications with CBB in AB Position

Spraying *Beauveria bassiana*
Infestation Levels for Coffee Berry Borer in Hawaii (2016)

B. Bassiana applications

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Infestation Levels for Coffee Berry Borer in Hawaii (2016)

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Kona High</td>
<td>6.5 ± 1.2</td>
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<tr>
<td>Kona Med</td>
<td>4.3 ± 0.8</td>
</tr>
<tr>
<td>Kona Low</td>
<td>5.1 ± 0.9</td>
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<tr>
<td>Kau</td>
<td>8.7 ± 2.1</td>
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Different elevations in Kona

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Effect of *B. bassiana* against Coffee Berry Borer in Hawaii

Incidence of *B. bassiana* infecting CBB (%) in Kona & Kau, Hawaii

CBB Mortality (%) in Hawaii (2016)

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Remainder of cherries, over-ripe & raisins per tree after a harvesting round:

- **Excellent** < 5
- **Good** 5-10
- **Bad** > 10
Distribution of Harvesting Efficacy in Kona, HI

- 11 Coffee farms
- 36 Harvesting rounds

Average 13.8 = Bad

- 21% (>20 raisins) = VERY BAD
- 48.5% (10-20 raisins) = Bad
- 21% (5-10 raisins) = Good
- 9% (< 5 raisins) = Excellent

Harvesting & CBB Infestation (%)

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Facts & opinions about CBB situation in Kona & Kau Districts, Hawaii

CBB is very happy living in Hawaii

Kau offers better conditions for CBB survival than Kona since several flowering a long of the year (berries for food, shelter and reproduction).

Higher CBB population was observed in coffee farms at high elevation in Kona in contrast with medium and low elevation.

April, May and Jun showed more flight activity of CBB and CBB in AB position in Kona, which could be used for taming applications of *B. bassiana* and improve the control.

High emergency of CBB “Explosion” was observed during early December in Kona due to delays on harvesting, CBB reproduction, and changes on weathers conditions.

Efficacy of harvestings is a key point for control the CBB, but it is an issue that have not been addressed in Hawaii.

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Thanks for your attention

Acknowledges

Coffee Growers from Kona and Kau
Suzanne Shriner at Synergistic Hawaii Agriculture Council
Robert Hollingsworth at USDA/ARS
Andrea Kawabata at University of Hawaii-CTAHR

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