



Controlling Coffee Berry Borer on a Micro Scale

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The Questions

- What is the smallest area that CBB can be controlled?
- Does the product BAM have an effect on CBB infestation?
- Does feral coffee and unmanaged coffee make CBB control impossible?

How did we try to answer these questions?

- Treat at label rates for Botanigard ES with Widespread Max, BAM, and water
 - Botanigard: Rate of 1 qt./50 gal every four weeks (CBB IPM recommended)
 - BAM: Rate of 1c./5 gal. water every two weeks (label recommended)
 - Water: Sprayed every two weeks
- Harvest coffee and determine infestation and damage levels
- Compare treatments



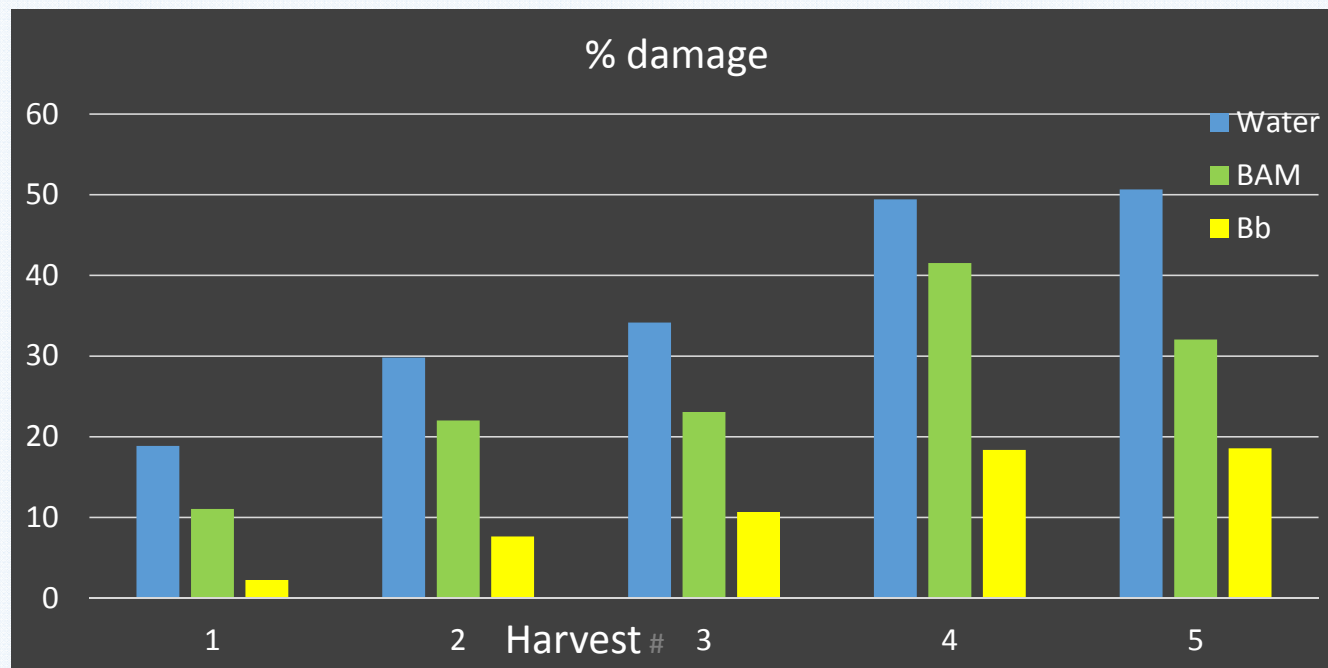
What did we find?

- We harvested our entire field five times (Oct to Jan)
- Accumulated season damage levels were used for this analysis
- Water ~37%, BAM ~24%, Botanigard ~11% damaged beans

t-Test: Two-Sample Assuming Unequal Variances - Whole Season						
	<u>Water vs. BAM</u>		<u>Water vs. Botanigard</u>		<u>BAM vs. Botanigard</u>	
Mean	37.17	24.15	37.17	10.84	24.15	10.84
Variance	206.89	168.87	206.89	59.46	168.87	59.46
Observations	78	70	78	67	70	67
Hypothesized Mean Difference	0		0		0	
df	146		121		113	
t Stat	5.79	Significant	14.00	Significant	7.33	Significant
P(T<=t) one-tail	2.12E-08		2.32E-27		1.86E-11	
t Critical one-tail	2.35		2.36		2.36	
P(T<=t) two-tail	4.25E-08		4.63E-27		3.73E-11	
t Critical two-tail	2.61		2.62		2.62	

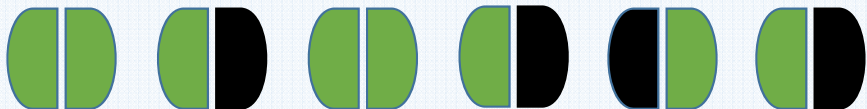
What did we find?

- Proportion of damaged beans was roughly consistent at each harvest
- Damaged beans increased as the season progressed



What can we conclude from this study?

- CBB can be controlled on a very small scale
- Proximity to unsprayed coffee and feral coffee has limited effect on well managed coffee
- *Beauveria bassiana* based products perform well on a small scale
 - Follow the CTAHR CBB IPM program
- BAM does not perform well in minimizing CBB infestation
- Additionally, from infested cherry to actual bean damage:
 - Botanigard had a 2 to 1 recovery (34.5% beans lost)
 - BAM and water both had a 1 to 1 recovery (47.4% and 52.5% beans lost, respectively)



Botanigard



BAM and Water

The Answers

- What is the smallest area that CBB can be controlled?
 - CBB can be controlled on an individual tree basis using the CTAHR CBB IPM
- Does the product BAM have an effect on CBB infestation?
 - Yes, but it is not sufficient to provide farmers with maximum profit
- Does feral coffee and unmanaged coffee make CBB control impossible?
 - No, CBB can be controlled through best management practices

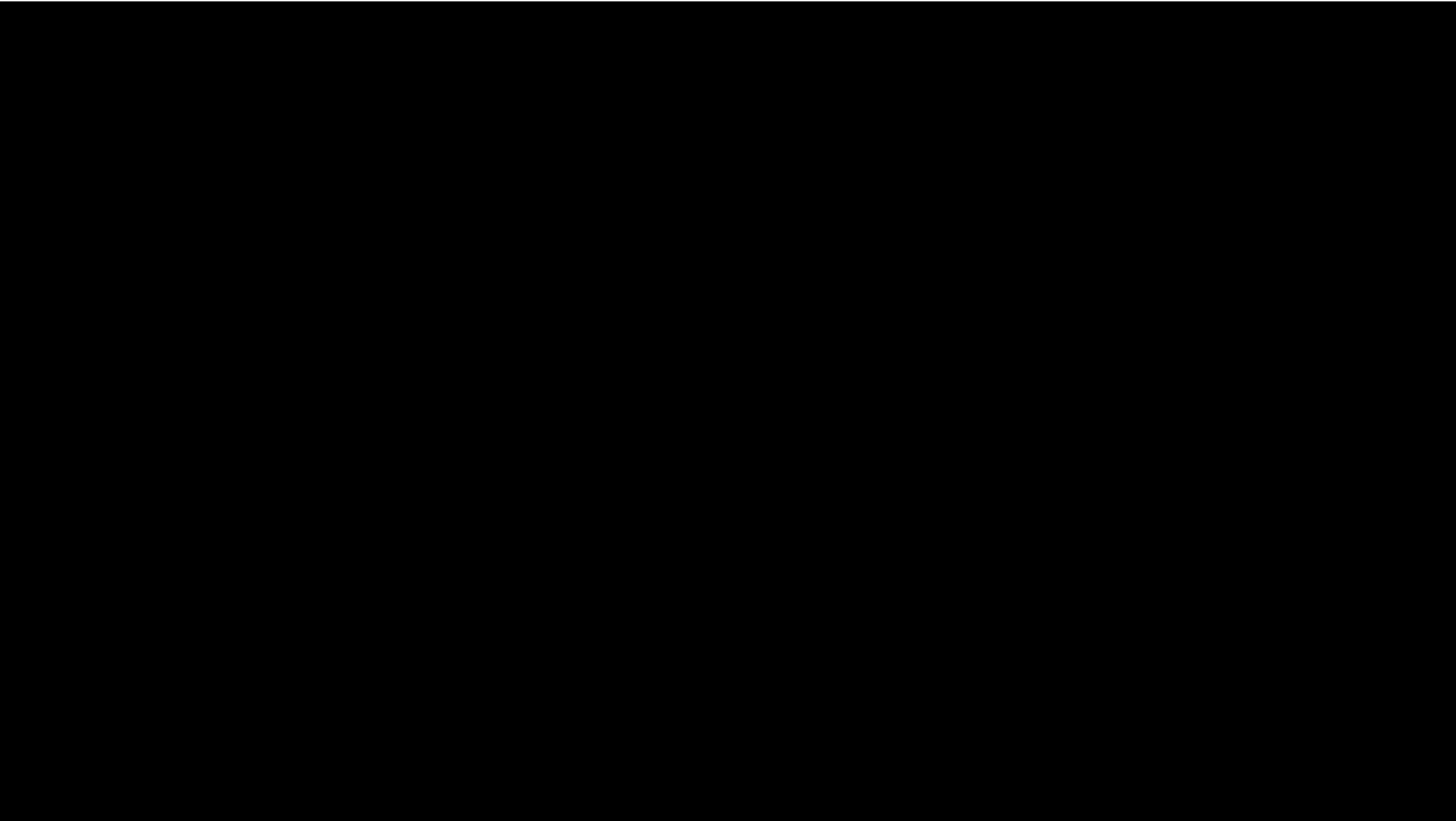
Thank you!

- Suzanne Shriner
- Marc Meisner
- Kelly Asai
- Yasha “Noa” Eads
- Jen Burt



SHAC





HDOA CBB Pesticide Subsidy Program

- HB 1514 signed by Gov. Abercrombie in 2014
 - Established five year subsidy program with \$500,000 available for subsidy and operating costs
 - Reduced to \$450,000 by Gov. Ige in 2015
- HB 482 Signed by Gov. Ige in 2015
 - Established a program coordinator/account clerk position
 - In recruitment now
- Available to farmers until 2019 and will cover 75 percent of the cost of the spray until June 2016, and 50 percent after that.
- **SAVE YOUR RECEIPTS!!!!**