



Invaded!

A View from the Trenches

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Kona Coffee



Green coffee ready to roast

- First planted in 1828
- Crop size ~1,800 metric tonnes
 - Brazil = 3M metric tonnes
- Typical Street roasted value
 - Hotel - <\$40
 - Farm-direct estate <\$22
 - Cherry price <\$7
- 750 farms spread over 20 miles
 - Average size <5 acres



“Kona Typica”

Most Farmers are:

- Well-educated
- Independent
- Citizen Scientists
- Chose this profession

Most farms are

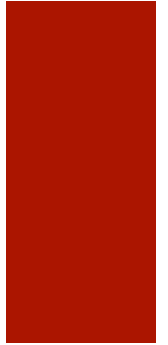
- On slope
- Rough rows, if any
- Rock/soil mix
- Not mechanized



Before CBB



Stages of CBB grief



Fermentation tank with pulped bean

Stage one: Denial

- I don't have it.
- I won't get it
- I can prevent it

Stage two: Anger



It was brought in by a coffee picker, in a shoe, in a pantleg. It came in on green coffee, imported by a blender. It was in a container of equipment. It was in another host plant. It was intentionally brought here. It's been here for years and the state ignored it. This HAS to be someone's fault, right?

Picture by Smithfarms.com

Stage three: Depression



Off-grade coffee



Stage four: Bargaining



“Please Hawaii, let us have the *bassiana*”

“Please Google, translate this website for me so I can read CBB research in Español.

“Please scientists, find us data on xyz that will help. And can you do it NOW?”

“Please El Niño, go away so we can have some rain and maybe the CBB will go away too.”

“Please can I turn back the clock and sell my farm when it was worth a whole lot of money”

Stage five: Acceptance



- *Beauveria bassiana*!
 - Wild strain noted on ~5% of CBB in cherry once rains started in winter.
- Integrated Pest Management protocols a new fact of life.
 - Major increase in labor costs
 - Various levels of farmer buy-in

What we are learning - Labor



“hoshidana” drying deck with rolling roof

- B. bassiana spray will add 16-24 labor-days to non-mechanized 5-acre farm.
- Gleaning trees of last cherry round will take 2-3 labor days.
- Trap upkeep is 4 hours per week

CBB = more work - money



What we need

- CBB infest our cherry as early as 28 days after flowering. Why?
 - South American research indicated 60-100 days
- How does our weather pattern influence bug movement?
- Can we feed or boost native Beauveria?
- Which CBB enemies here?
- How do we prevent a repeat performance with other pests/Coffee Rust

After CBB



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