

# Knowledge is power when fighting coffee berry borer

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Knowledge will be key if Kona coffee farmers are to survive the pesky coffee berry borer, a scientist who has experience with the pest said Friday.

Understanding the insect will be the best means for coffee farmers in Kona to continue producing a high quality product, said Luis Aristizabal, a specialist in tropical-agro ecology with the University of Florida's Mid-Florida Research and Education Center. Aristizabal is a scientist from Colombia, a country that has learned to live with the coffee berry borer that arrived in the late 1980s.

In Colombia, "we had a very similar experience," he said, explaining that like Kona's farmers, Colombian farmers and scientists immediately began requesting information and searching for answers, often turning to other areas of the world for ideas. "All the ideas have to be integrated. One tool by itself is not enough."

Among the tools and information Aristizabal shared with more than 150 attendees of the first day of a two-day workshop on integrated pest management for the coffee berry borer were the need for farmers to really understand the insect, its lifespan and behaviors; their coffee trees; Kona's weather and its impact on the pest; and the importance of having an integrated pest management plan.

"This insect wants to eat the money we want to produce," he said. "That is why this is important."

According to Aristizabal, the female coffee berry borer ranges in size from 1.4 to 1.6 millimeters — double the size of the male beetle. Females live up to 157 days while males live from 20 to 87 days. Up to nine generations can be born in a year in some areas of the world.

The female lays an average 74 eggs per cherry with adults maturing in 60 days, he said. The pest seems to congregate in one area of a coffee field, and prefers trees near roads, property boundaries, shaded areas, weighing stations and others. It also likes older trees, he said, noting that trees in Colombia that were five years old saw a 5 percent infestation while trees that were about one year old had less than 1 percent infestation.

The beetle affects coffee starting 60 days after flowering and can cause damage for the next six months until harvest, he said. The coffee berry borer emerges with high humidity, above 90 percent, and temperatures between 78 and 88 degrees. Drought followed by good rain will produce a large population.

The best time to spray the *Beauveria bassiana* fungus that attacks the borer is between 90 and 120 days after flowering when the female is most vulnerable because she is flying between cherries looking for a new home to lay her offspring. Spraying outside that is wasteful, he said, noting that the fungus, which does not penetrate the berry, has to touch the beetle to be effective.

Farmers also need to practice good sanitation by removing all cherry from the trees and ground post-harvest.

"By implementing integrated pest management programs, we can regulate the population of the coffee berry borer without affecting the environment or risking human health. We can continue to produce the best coffee in the world, despite the presence of CBB," he said.

Controlling the coffee berry borer is important, Aristizabal said. An infestation greater than 5 percent can result in a loss in weight, quality and price. Damage can range from spots to full-blown rot with 50

to 100 percent of berries attacked being deemed a loss.

As an example of the impact of the coffee berry borer on Colombia, Aristizabal said in less than 10 years, the acreage of coffee dropped in the late 1980s from 2.7 million acres to 1.97 million acres. He also noted the coffee berry borer caused coffee prices to drop from \$1.20 per pound to just 60 cents per pound in less than a week.

“Many, many farmers faced the coffee berry borer and realized the best option for them was to change to another” crop, he said. “CBB is really, really serious.”

College of Tropical Agriculture and Human Resources’ Department of Plant and Environmental Protection Sciences Skip Bittenbender, who was not taking part in the workshop, said the coffee berry borer, from his knowledge, hasn’t pushed any coffee growers out of the business in Kona because many coffee farms here belong to multiple income families.

“For a MIF, the farm provides access to land, tax breaks, cheaper loans and a third income,” he explained. “It’s still an income stream, and it provides access to a lifestyle. ... I wouldn’t expect to see a lot of people go, but it may make some people decide (to change crops) if they have to have an ag(ricultural) designation.”

The Kohala Center, Hawaii Community Federal Credit Union, Kona Coffee Farmers Association and the Kona County Farm Bureau-sponsored workshop continues today at 9 a.m. at Kona Hongwanji in Kealahou. Cost is \$25. The workshop is followed by a trip to a local coffee farm where attendees can use what they’ve learned hands-on.