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"CBB Management and Coffee Research
Updates from CTAHR's Cooperative Extension**"**

Summary

A detailed description of current recommendations can be found in the Coffee Berry Borer (CBB) Integrated Pest Management (IPM) document available at this link: [Recommendations for Coffee Berry Borer Integrated Pest Management in Hawai'i 2020]

Many other videos, publications, and announcements for coffee growers can be found at https://www.hawaiicoffeeed.com/

In 2020, new information was added to the CBB IPM recommendations about starting the season with as low an infestation as possible and the impact of feral and unmanaged coffee sites. CBB have poor flight abilities, and most CBB fly less than 50 feet. To combat CBB encroachment, scrutinize CBB control on the farm. Think about how well strip picking was done, and if spray applications were done on time, with good coverage. Think about whether many raisins are left in the trees or on the ground. Some suggestions to minimize CBB encroachment include physical barriers, buffer zones, trap cropping, destroying berries from early flowerings, deploying CBB traps along borders, and flat bark beetle breeding stations.

The goal for CBB numbers is to start low and stay low. Spraying with a pesticide is not 100% effective. And, CBB damage to the bean cannot be reversed. Strip-picks may be required more than once at the end of the season; early season, and pre-harvest strip-picks can be good for field sanitation. A chart is available in the recommendations (link above) to guide spray decisions based on % infestation and the % live CBB in the A/B position. When CBB move to the C/D position, they damage the parchment and coffee bean.

The major CBB activity peaks in Kona and Kau are around March-May and October-January. Best management practices include an end-of-harvest strip-pick,

pruning, monitoring CBB after the first flowering, and picking and destroying early berries, if not spraying. When spraying, kill CBB in the A/B position with direct contact sprays and spray on a schedule or with the 30 trees sampling and monitoring method.

Pesticide residues can affect sales to Japan. If selling coffee to Japan, avoid use of pesticide products that contain piperonyl butoxide (PBO). Research shows that even at 105 days after treatment, the residue levels may be above the acceptable standard of 0.01 ppm. For most other markets, pesticide products that contain PBO are okay when used as directed on the label. Preliminary results from 2018 indicate that spraying with Delegate®WG reduced bean damage caused by CBB. If using Delegate®WG, only one application is recommended early in the season, to avoid resistance in the CBB population.

(Disclaimer: Mention of a trademark or proprietary name does not constitute an endorsement, guarantee, or warranty by the University of Hawai‘i Cooperative Extension and does not imply a recommendation to the exclusion of other suitable products.)

Coffee root-knot nematodes are another problem for coffee grown on the Big Island. These nematodes have caused replant problems and reduced tree yield and lifespans since the early 1990’s, before CBB affected the harvest. While harvested acreage of coffee has increased, the amount of cherry harvested per acre has decreased. The solution to decreased yield is to replant with grafted seedlings, using tolerant rootstocks, such as *Coffea liberica* ‘Fukunaga’ and ‘Arnoldiana’. Grafting workshops are available, as well as some rootstock seed.

Thank you to the agencies, farms, and individuals who have helped in these studies. The assessment of needs for the coffee industry is ongoing.

Keywords: IPM, integrated pest management, unmanaged coffee, CBB infestation, pesticides, PBO, coffee root-knot nematode