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Reducing the Spread of Coconut Rhinoceros Beetle on Hawai'i Island

CRB Compliance Agreement Training



Niu (Coconut) "The Tree of Life"

- Brought to Hawai'i by early Polynesians and was essential for life
- **Fruits:** water, meat, milk, oil, husk for cordage/lashing, shell for cups, containers, hula implements
- **Fronds:** baskets, thatching
- **Trunk:** construction, drums,
- **Roots:** cordage, medicine



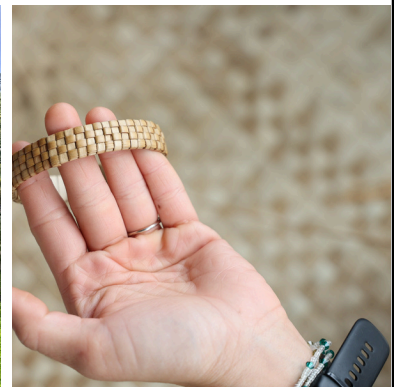
Loulu:

- True native palm of Hawai'i
- 24 endemic species in Hawai'i
- 5 species endemic to Hawai'i Island



Hala:

- Stabilizes coastlines
- Important to Hawaiian culture



Coconut Rhinoceros Beetle

Invasion Status



May 2023
Detected on Kaua'i



December 2013
Detected on O'ahu



April 2026
Detected on Molokai
(not established)



June 2025
Detected on Lāna'i
(not established)

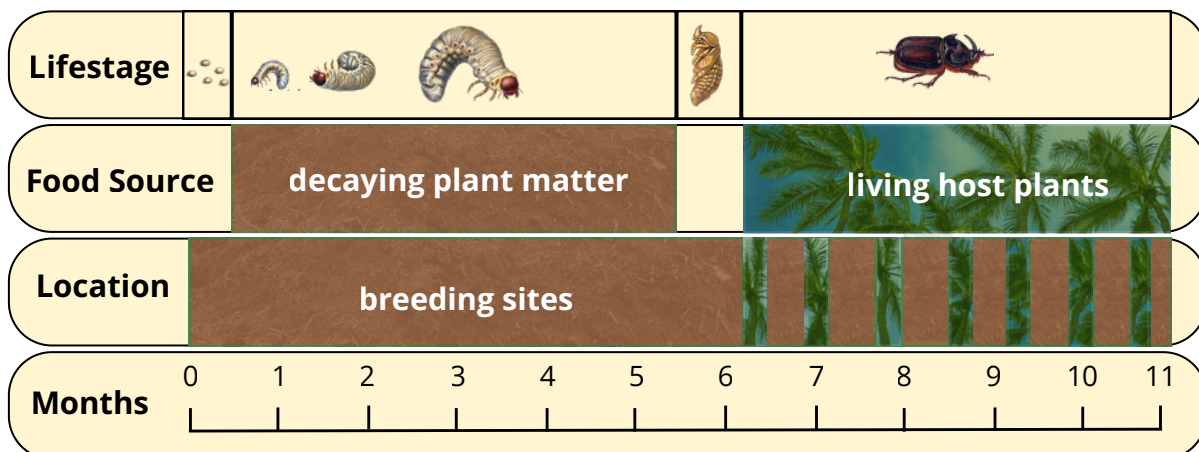


November 2023
April 2026
Detected on Maui
(not established)



March 2025
First detection in Kona

CRB spends most of its life in breeding material



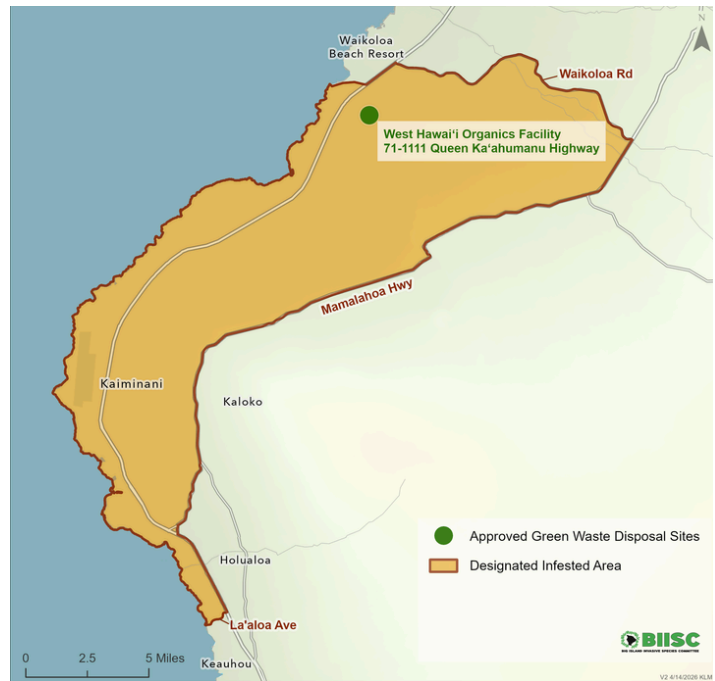
According to feeding measurements (Hinckley, 1973) an adult CRB will spend 4-8 days feeding then 10-20 days out of the palm. A CRB that takes 6 months to mature and spends 5 months as an adult will spend about 42 days in a host plant and about 285 days in breeding material over its entire life.

CRB Interim Rule *(effective March 24, 2026)*



Hawai'i Department of Agriculture & Biosecurity Plant Quarantine Interim Rule 26-1

To **Regulate the Transportation**
of Coconut Rhinoceros Beetle
(*Oryctes rhinoceros*) Host Material
within and from the designated
CRB infested area on
Hawaii Island.



The Program



Hawai'i Department of Agriculture & Biosecurity

"Program Officer"

- Regulating authority
- Issues agreements



CRB Response



BIISC Big Island Invasive Species Committee

- Both are UH programs
- Respond to reports from the public
- Provide CRB trainings for staff

Who has to participate?

Any commercial operation within the infested area that:

- Transports CRB host material
- Sells, barter, donates, or otherwise gives away CRB host material
- Receives and processes CRB host material

Administered by:



- Active for one year, permanent rule is expected
- Designates **North Kona (from La'aloa Ave. to Waikoloa Rd)** as the infested area
- Compliance agreements are required for businesses that work with CRB host material
- Compliant contractors must be hired, and those who hire are accountable too

What is CRB Host Material?



Bare root palms

live palm plants in any palm genera



Live plants of any size

if there is any organic material attached to the roots, such as potted plants or sod.



Decomposing plant material

such as mulch, trimmings, wood chips, compost, plant propagation media, and other decomposing plant materials

What is transport?

The **movement** of CRB host material out of a single Tax Map Key (TMK) parcel.



Nurseries:

Example: A nursery trucks potted plants from a growing site in Kona to the Hilton Waikoloa.



Generators:

Example: An arborist is hired to remove several dying trees posing a hazard to resort guests.



Haulers:

Example: A company hauls green waste bins from Keahole Ag Park to West HI Organics.



Processors:

Example: The County produces compost in Waikoloa and trucks it to Hilo for distribution.

Section 1: General Requirements for All Participants

1 Attend a CRB training

- Training by BIISC/CRB Response
- Required for **all** staff who work with CRB host material
- Newly hired staff must also be trained within 30 days of their start date
- All program-trained staff will be added to a list compliant businesses maintained by the Program

Section 1: General Requirements for All Participants

2 Report CRB

- Report any detection of suspected CRB or signs of possible CRB damage.
- Suspect beetles or larvae
 - **Place in a secure container with a lid (glass or thick plastic) & freeze.**
- Suspect tree damage
 - Take photos from multiple angles



Text or email photos/videos:
(808)731-9232
biisc@hawaii.edu

Section 1: General Requirements for All Participants

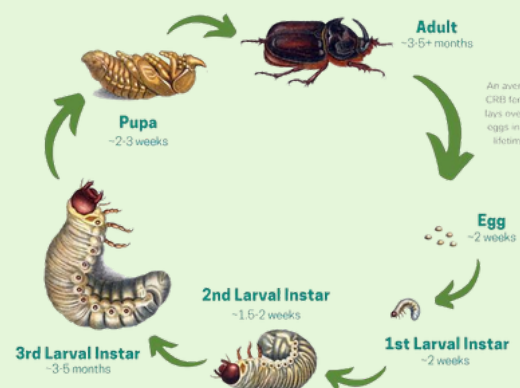
2 Report CRB

- Report any detection of suspected CRB or signs of possible CRB damage.



*Scan this QR code to
submit an online report!
(photos required)*

CRB Life Cycle

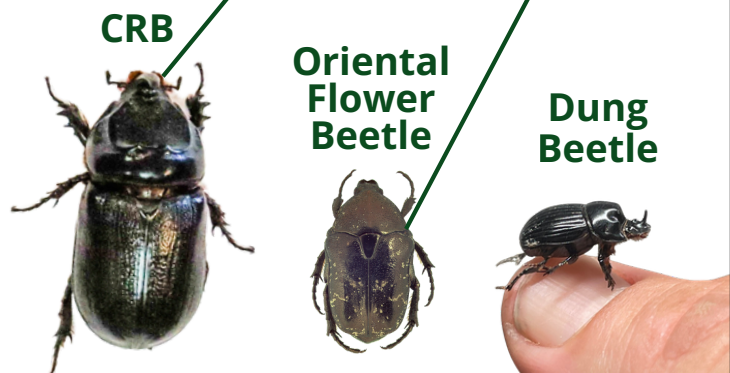


A female CRB can lay ~90 eggs in her lifetime.

Section 1: General Requirements for All Participants

2 Report CRB

- There are look-a-like beetles commonly mistaken for CRB:
 - Oriental Flower Beetle
 - Dung beetle
- Take photos and videos and send in a report:
 - **Text** (808)731-9232
 - **Email** biisc@hawaii.edu



Section 1: General Requirements for All Participants

2 Report CRB damage on coconut palms



45° v-cuts



2-inch bore holes



broken young frond

Section 1: General Requirements for All Participants

3 Access, Inspection, & Monitoring

- You shall provide DAB (Program Officer) access to locations, facilities, and vehicles associated with the transport, processing, maintenance or storage of CRB host materials, including where CRB host material is sold.
- The Program Officer will schedule routine inspections at least **every six (6) months**, but reserves the right to conduct random, unannounced inspections on a periodic basis.



Section 1: General Requirements for All Participants

3 Access, Inspection, & Monitoring

- Shall provide access during normal work hours for installation, maintenance, and checks of CRB traps (panel or barrel).
- Once installed, they shall not be accessed, disturbed, or moved without prior notification and approval.



Section 1: General Requirements for All Participants

3 Access, Inspection, & Monitoring

- Inspect all mulch and compost at least every thirty (30) days
- Full turnover, spot check (every 10ft or a minimum of 3 sites;
- Or canine survey (subject to availability, reach out to BIISC)

Section 1: General Requirements for All Participants

4 If CRB is detected...

- If the Program Officer determines treatment and corrective action are needed, the Participant must cooperate to develop and carry out a plan to eliminate CRB.
- Failure or refusal to do so will result in non-compliance.

Specific Activities, Specific Requirements



**Transporting
palm plants**

(Section 2)



**Transporting CRB
host material**

(Section 3)



**Transporting other
live plants**

(Section 4)



**Receiver or
processing center**

(Section 5)

Section 2: Transport of CRB Host Palms from or within the Infested Area

Inspect Before Transport:

- All CRB host palms must be inspected by trained staff no more than 24 hours prior to transport
- Palms shall not be transported if bearing signs of CRB damage (unless treated)
- You must maintain a written record of all inspections conducted

Section 2: Transport of CRB Host Palms from or within the Infested Area



Example of palm staged for inspection

Inspection: Root Zone and Trunk

- Stage palms to be accessible for safe inspection of all sections
- Inspect external surfaces of the root ball and associated soil/potting medium
- If host palm is grown in a container for more than 30 days:
 - remove and inspect, or
 - submerge in water for 1 hour

Section 2: Transport of CRB Host Palms from or within the Infested Area



Inspection: Crown

- Visually inspect each frond for the presence of CRB damage, including v-cuts and boreholes.
- Inspect the entire length of the spear (the youngest, unopened frond) for CRB boring damage.



Section 2: Transport of CRB Host Palms from or within the Infested Area

Inspection: Crown

DO NOT TRANSPORT!



CRB feeding damage on spear

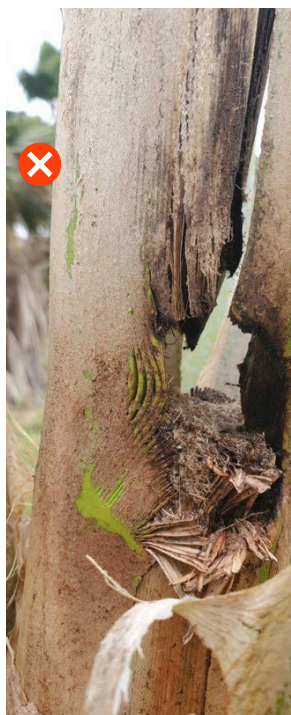


Recent borehole
with possible CRB



CRB can burrow deep into the heart
so any hole in the crown may contain
a beetle. Even if you don't see one,
the palms can have CRB inside.

Section 2: Transport of CRB Host Palms from or within the Infested Area



Do not transport

- If you find CRB at any lifestage or any signs of palm damage

You can transport if:

- Subjected to a treatment approved (in writing) by the Program Officer
- Or under safeguards for destruction of infested materials, as approved by the Program Officer.

Program Officer: Jonathan Ho (DAB)
Jonathan.K.Ho@hawaii.gov

Section 3: Transport of CRB Host Material from or within the Infested Area



Mulch



Trimmings



Wood chips



Stumps



Compost

AND plant propagation media, including commercially bagged material, and other items comprised of or containing decomposing plant material such as landscaping material or erosion control socks.

Section 3: Transport of CRB Host Material from or within the Infested Area

CRB host material **shall not** be transported **unless** meeting one of the criteria below:

- Material was removed from a living plant within the last 30 days.
- Subjected to a treatment that kills all life stages of CRB:
 - Heat treatment, chipping, grinding, or fumigation
- Material has been stored continuously in a sealed container
- Material is being delivered directly to West HI Organics or a designated collection bin

Trailer & Vehicle Cleaning:

After unloading material, the container and/or vehicle used shall be properly washed to remove all remaining debris. It shall be visually inspected for CRB prior to departure from the compliant receiving facility.

Section 3: Transport of CRB Host Material from or within the Infested Area



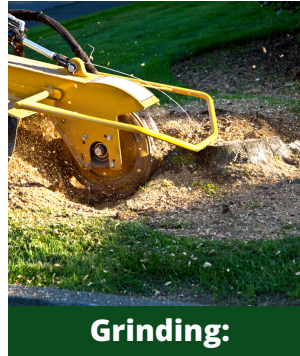
Heat Treatment:

Material heated to a core temp of 131°F for 72 hours (hot composting)



Chipping:

Material must be chipped within 24 hours prior to transport



Grinding:

Material must be ground within 24 hours prior to transport



Fumigation:

Material must be fumigated with sulfuryl fluoride within 24 hours prior to transport

Section 3: Transport of CRB Host Material from or within the Infested Area

Material can be transported if it has been stored continuously in a sealed container that:

- Has no gaps or holes larger than ½ inch when sealed
- Is composed of material that is impenetrable by CRB adults
- Has been sealed from sunset to sunrise (overnight)

Fabric, tarps, and erosion socks are examples of materials/containers NOT approved for storage.

Section 3: Transport of CRB Host Material from or within the Infested Area

Commercially bagged propagation media and mulch can be transported or sold if:

- Material is stored from **sunset to sunrise** indoors or in a sealed container
- Material is inspected by trained staff to ensure all bags are intact in the original packaging with no holes, tears, or rips

Pin prick stippling is a classic sign of CRB.



Section 4: Movement of Live Plants from and within the Infested Area

To minimize the risk of CRB being transported with/in live plants with organic material attached to their roots:

- Plants must be inspected for signs of CRB or CRB damage:
 - If CRB is present, approved treatment is required.
- Transport from origin to destination must occur **within 48 hours of inspection**.

Approved treatments: *submerge in water for 1 hour, pyrethrin drench*

Do not transport: If you find CRB at any lifestage

Section 4: Movement of Live Plants from and within the Infested Area

Before transport, all businesses must:

- Inspect all plants (Program-trained staff)
- Keep ongoing records of inspections

If selling directly to customers (retail):

- Post CRB educational signage
- Provide customers with CRB information materials

If selling to other businesses (wholesale):

- Work with the Program Officer to develop protocols to prevent the spread of CRB

If plants will be transported outside the infested area:

Work with the Program Officer to develop approved protocols (such as canine surveys, submersion treatments, or other measures) to prevent the spread of CRB

Section 5: CRB Host Material Receiver, Processing Center, or Designated Collection Bin Manager

West Hawai'i Organics Facility Requirements:

- Can only accept CRB host material from a transporter or hauler operating under a compliance agreement (other than noncommercial loads smaller than 3 cubic yds)
- Within 72 hours after the CRB host material is received, subject it to chipping, grinding, heat treatment, fumigation, incineration, or biochar production.
- CRB host material that is fully heat-treated is considered completely processed and may be moved.

Section 6: Contracting Entities to Work with CRB Host Material

You can't subcontract away responsibilities

If you hire a subcontractor for covered activities, they must have an active compliance agreement with Hawai'i Department of Agriculture & Biosecurity

Examples of work requiring a compliant contractor:

- Removal of a dead tree. Both the tree trimmer and the processing site shall be compliant.
- Groundskeeping, landscape maintenance, and tree-trimming contractors, and processing sites shall be compliant.
- Paid or unpaid transport of unprocessed CRB host material.

Section 7: Fee Schedule and Non-Compliance

Non-compliance:

A Participant who fails to comply with any part of the compliance agreement may be subject to *any or all* the following:

- Participate in staff retraining
- Change to a Provisional Compliance Agreement, requiring closer coordination to develop corrective actions and conduct re-inspections
- Cancellation of the compliance agreement
- Civil and/or criminal penalties pursuant to section 150A-14, HRS and/or interim rule 26-1 (penalties up to \$10,000).