

Evergreen Pyrethrum Concentrate spray to treat plants infested with Coconut Rhinoceros Beetles (CRB)

This guide is intended as an example of an application protocol for Evergreen Pyrethrum Concentrate. Any users should read the product label and independently develop their own treatment protocol. Users should verify that their protocol meets all label and safety requirements. The CRB response and any associated organizations are not liable for any injury or misuse connected with the use of this document.

“Evergreen Pyrethrum Concentrate” is a USDA Organic certified product that can be used on all CRB hosts and infested material. Pyrethrins are purified from plants and kill CRB by contact causing paralysis. It is labeled as “General Use” in Hawai‘i and the State-Certified label can be found at <http://files.hawaii.gov/hdoa/labels/9472.47.pdf>

Spray of the crown center can kill adult beetles inside the palm. Pyrethrins degrade quickly in sunlight, so this product does not provide long-term residual activity. This should only be applied to plants with recent CRB damage or suspected to have CRB actively feeding.

For backpack sprayers (consult the product label for other sprayer types):

1. Read the product label and ensure that you have the proper equipment, training, and can apply the product properly.
2. Ensure that you have safe access to the crown of the tree. A lift truck may be needed for taller trees but a ladder may be sufficient for smaller trees. Ideally you will be above the crown to minimize exposure to spray drift.
3. Check for flowering and presence of pollinators and beneficial insects. Remove flowers or apply at times when pollinators and beneficials are not present.
4. Avoid windy and rainy weather. The label prohibits applications in rain. Wind increases the risk of drift and may expose people, animals, or water sources nearby.
5. Ensure that everyone in the area is aware that you are spraying and will not be contacted by spray or drift. Inform anyone who will be present that treated areas can not be touched until the product is dry.
6. Put on all required protective equipment; long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves. See the label for additional info. on PPE and safe use.
7. Dilute the Evergreen concentrate using $\frac{1}{4}$ - $\frac{1}{2}$ (0.25-0.5) ounce per gallon of water.
8. Mix thoroughly.
9. Seal the sprayer and pressurize it following the manufacturer’s instructions.
10. Apply the diluted product to the top of the crown near the spear and base of the fronds where CRB bore into the heart of the palm. The mix should run into boreholes (feeding sites) made by CRB. Boreholes lower on the crown may represent older damage and may not have CRB inside but direct spray to the hole may be necessary if a beetle is present. Stop application before product runs off the tree and onto the ground.
11. Exit the treated area until the product is dry.

12. Beetles may fall from the tree during or after treatment. Collect any beetles when it is safe to access the area. Ensure that they are dead and dispose of them in a manner that prevents access by children, pets, livestock, or wildlife.