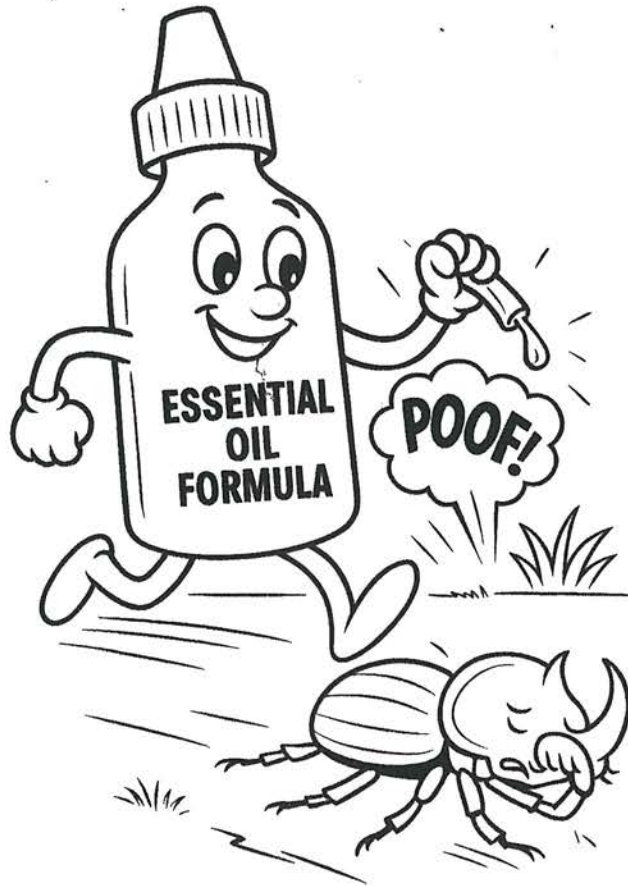


Essential Oil Deterrent Formula for Protection from CRB

Courtesy of Brown Cannon, SaveHawaiianPalms.com

**Repelling one breeder
prevents hundreds of
future beetles.**



CRB Action Kaua'i
CRBAction.com

This natural deterrent helps protect coconut palms by masking the odors that attract Coconut Rhinoceros Beetles (CRB) and making crown tissue unpleasant to chew or enter. Essential oils such as basil, clove, and neem overwhelm beetle scent receptors and interfere with attraction to palm sap or decaying tissue. Capsaicin, derived from hot-pepper extract (oleoresin capsicum), provides a mild irritant effect that discourages boring. The addition of a sticker or light oil helps the mixture cling to fronds, forming a temporary scent and texture barrier. While it does not kill beetles, regular use can interrupt their breeding cycle and reduce crown attack success when combined with sanitation, netting, and traps.

Essential Oil Recipe - Per 1 gallon of spray solution

- 3 oz. Basil Oil
- 1 oz. Clove Oil
- 1 oz. Neem Oil
- 60 drops of Premium Oleoresin Capsicum Extract
- 1 teaspoon Hi-Yield spreader sticker (or substitute with 1 tsp Castile soap plus 1-2 tbs_melted or fractionated coconut oil)

Mixing Instructions - 1 Gallon Batch

1. Start with 1/2 gallon of water in a clean bucket.
2. Add basil, clove, and neem oils (see Safety note below)
3. Add capsicum drops.
4. Agitate for ~10 seconds, until the mixture turns cloudy.
5. Add Hi-Yield Spreader Sticker or 1 tsp Castile soap plus 1-2 tbs_melted or fractionated coconut oil.
6. Add the remaining 1/2 gallon of water.
7. Stir or shake thoroughly before each application.

Application

- Spray the crown, frond bases, and upper trunk, avoiding heavy runoff.
- Apply early morning or late afternoon to minimize evaporation and avoid tissue stress.
- Reapply every 1–3 weeks, especially after rainfall or new frond emergence.
- Rotate essential oils occasionally (basil, clove, peppermint, lemongrass) to maintain potency.

Safety & Storage

- Essential-oil mixtures *should not* exceed a 6% concentration. Higher levels increase risk of phytotoxicity and offer *no* added benefit.
- Wear gloves and eye protection; capsaicin can irritate skin and eyes.
- Store in a cool, dark place away from heat and sunlight.

Please note:

Hi-Yield Spreader Sticker increases "stick" and shine, helping oils adhere to fronds and crown surfaces. It can slightly increase heat load on tissue if over-applied, so use it sparingly on coconut palms — about 1 teaspoon per gallon, less than general label rates. You do not need a separate emulsifier because neem oil naturally contains azadirachtin, limonoids, and natural saponins, which act as mild emulsifiers, allowing the essential oils and capsaicin to blend smoothly into water when combined with a non-ionic surfactant such as Hi-Yield or coconut oil.

Best Results

This deterrent performs best when used as part of an Integrated Community Strategy that includes:

- Green-waste sanitation
- Crown netting or physical barriers
- Beetle trapping
- Neighborhood coordination