SEDQ Healthy crops in our hands

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ORYCPROTECT

Use in mass trapping of the coconut rhinoceros beetle *Oryctes rhinoceros*

The coconut rhinoceros beetle, *Oryctes rhinoceros* (Coleoptera: Scarabaeidae) is native to the coconut-growing regions of South and South-East Asia but was also introduced to western and central Pacific islands. Its main hosts are coconut and oil palms but it can also attack other palm species. It has also been recorded on other crops such as sugarcane, pandanus, pawpaw, pineapple and banana.

Females lay eggs in decaying organic material as dead palm parts, sawdust, compost or farmyard manure for instance. Eggs hatch in 8-12 days. There are three larval instars which take a total of 80 to 200 days to develop. After 8-13 days larvae enter into a non feeding prepupal stage, after which pupation takes place, lasting 17-28 days. Following this stage adults emerge and fly to palm crowns to feed on the sap and mate. Adults are therefore the stage responsible of the damage; they bore into the crown producing holes and V-shaped frowns. The wounds produced provide entry points for secondary pathogens. The whole cycle lasts from 4 to 9 months with more than 1 generation per year. Adults may live up to 9 months and each female may deposit around 100 eggs in her lifetime.

Oryctes rhinoceros
Coleoptera: Scarabaeidae

CONTROL MANAGEMENT

Integrated control measures are essential to bring an effective control of *Oryctes rhinoceros*. The different management strategies include mechanical, chemical and biological methods. Among all these strategies the evaluation of the damage signs in palm trees is of vital importance in order to detect the first evident symptoms. Also, the elimination of adults physically and removing the organic matters that allows larval development, contributes to a better management of this species. Within the available control methods, the use of traps with pheromones allows not only the early detection and evaluation of pest population, but also a continuous capture and elimination of adults, reducing progressively the number of individuals.

FORMULATION

Dispensers

The product ORYCPROTECT comprises a vapour pheromone dispenser. The active substance used in the product is ethyl-4 methyloctanoate. This product is described as the major male-produced aggregation pheromone of the coconut rhinoceros beetle, attracting both sexes of this species.
The effectiveness of ORYCPROTECT depends on the environment conditions, especially temperature, ventilation and ambient humidity. Under normal weather conditions the field life of the dispenser can be around 90 days, which may be

reduced at high temperatures and/or strong winds.

APPLICATION

- Each dispenser should be put in a vane trap.
- Traps should be placed 1.5-2 m high hung in a pole. Traps should be positioned in open areas, at certain distance from the palm trees to keep *O. rhinoceros* beetles away from their hosts.
- Initially one trap per 2 hectares should be placed. Once the pest is detected in the plot, and depending on the number of captures, the area with the highest number of captures should be reinforced with additional traps.
- Evaluation of the traps should be carried out every 7-15 days to control the number of adults captured. Also visual damage evaluations should be assessed periodically.
- Traps should remain throughout the year, replacing the dispensers after their corresponding lifetime.

HANDLING AND STORAGE

The dispenser ORYCPROTECT is supplied in packs with the convenient number of units. The material of the packaging is impermeable to vapours of the different products.
It is recommended to keep the product in its original packaging unopened.
ORYCPROTECT should be kept in the freezer until ready to use. Under these conditions the product can be stored for a period of two years.
Avoid cutting, perforating and opening the dispensers.
With the usual handling of the product, there is no risk of toxicity on people, animals or plants. Risks of water and soil pollution are also discarded. It is recommended to use gloves in the handling of the dispensers. The dispensers, the lids and the packaging have to be managed according to the current local law for residues disposal.

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