

# Snails and slugs damaging the cut foliage, *Cordyline fruticosa* and use of biorationals towards their management.

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## Abstract

Snails and slugs became a serious molluscan pests and damaging leaves of purple compacta, *Cordyline fruticosa* extensively grown for export at Green Farm Ltd, Sri Lanka. The export quality of leaves of *C. fruticosa* is lowered due to feeding of snails, *Achantina fulica* (Bowditch), *Opeas pyrgula* Schmacker and *Boettgerx* and *Helix aspersa* Muller and slugs incurring great loss to cut foliage industry. Paucity of information is available to understand snails and slugs damage and their host range that limits to develop suitable management practices. Therefore this study was aimed to determine damage, alternate hosts and to develop possible management practices. Snails and slugs damaged mainly fresh leaves of *C. fruticosa*. The severity of damage was 44.5% in infested field based on the visual rating method. Leaves of cassava, sting bean, okra, cucumber, passion fruit, papaya, *Glyricidia* and shoe flower were identified as alternate hosts and neem, *Ixora* and *Dracaena* spp were not served as alternate hosts. Among the plant materials tested for their repellence against snails and slugs revealed that neem seed powder was an irritant; neem leaves, mint leaves and *Lantana* leaves were acted as anti-feedant and Salt as chemical repellent. Among the barrier and bait experiments Bordeaux mixture exhibited a significant barrier effect against horizontal movement of snails. Baits made out of Metaldehyde bait, vegetables bait and jaggery had a strong effect in repelling the snails and slugs. Mulching with *Madhuca longifolia* punnac was the best to reduce the snails and slugs population compared to *M. longifolia* seed kernel powder. Oil from *M. longifolia* failed to reduce their population. Hence the results revealed that saponin containing *M. longifolia* punnac helped to eliminate snails and slugs when used as mulch. Metaldehyde, vegetable and jaggery baits are also useful to minimize their colonization further. Hence combination of these methods will help to prevent snails and slugs from damaging *C. fruticosa* and benefit to the cut foliage industry to sustain its export quality.

## Indexed keywords

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**EMTREE medical terms:** animal; article; *Cordyline*; gastropod; growth, development and aging; herbivory; pest control; plant leaf; snail; Sri Lanka

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