

ECONOMIC IMPORTANCE OF PEST SNAILS AND SLUGS IN VEGETABLE GROWING AREAS OF SRI LANKA

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There is a high diversity of land snails in Sri Lanka. Among the 246 species of snails and slugs found in Sri Lanka only a small number is considered as pests of agriculture and horticulture. Information on the damages caused by these pests as well as the control methods employed by farmers were gathered through a survey conducted during 2000-2001. This study was carried out in the vegetable growing areas of Nuwara Eliya, Badulla, Matale and Kandy districts and a total land area of approximately 41 hectares was surveyed.

Only a small number of snails and slugs, namely *Achatina fulica*, *Bradybaena similaris* and *Allopeas* sp. act as pests of agriculture. Comparatively a large number of slugs, *Deroceras reticulatum*, *Deroceras caruanae*, *Deroceras leave*, *Mariaella dussumieri*, *Laevicaulis alte*, *Milax gagates* and *Arion intermedius* were identified as pests of agriculture in Sri Lanka.

Farmers face losses in terms of both money and time required for the control of these pests. In the Nuwara Eliya district farmers in about 77% of the fields visited face economic losses due to the added cost of chemical and labour for snail pest control. Though snail pests cause some damages to their cultivation farmers in Matale, Badulla and Kandy districts do not incur heavy economic losses as in the Nuwara Eliya district. About 60% of the damage occurs during the nursery and growing stages and the damage is most evident in the leaves and shoots. The seriously affected crops are carrot and cabbage. But these pests are capable of damaging a wide variety of plants and hence crop rotation has no obvious effect on these pest molluscs. Furthermore, vegetables soiled by these pests also lose their market value. These pests, especially *Deroceras reticulatum* pose a threat not only to agricultural plants but also cause damage by feeding on leaves and flower buds of horticultural plants such as dahlias and *Gerbera*. As a result when a flower blooms it reveals a deformed flower thereby depriving it of its export value to floriculturists.

Farmers rely on several methods for the control of these pests such as the use of Metaldehyde (Meta), quick lime, salt, urea or manual removal of slugs and snails. Particularly in areas of high infestations a combination of two or more such methods are necessary. Farmers in the Nuwara Eliya district use Meta extensively (65.9% of the fields visited) whereas 70% of the farmers visited in the Matale district believe other pesticides and herbicides such as Rounup can control the pest population. Meta is the only molluscicide available in the market. During our survey it was found that most of the farmers are not aware of the proper use of this expensive molluscicide. It was found that paddy cultivation by farmers at least in one season in Matale, Badulla and Kandy districts help to control the gastropod population through the submersion of land during paddy cultivation. International trade has been responsible for the worldwide dispersal of many slugs and snails. It is noteworthy that some species that were not encountered in the beginning of the survey were identified from the same localities on recent field visits suggesting recent introductions. Therefore, much attention is needed to the control of these pests in our country.