

# Ginger Rhizome Maggot: Fact and Fallacy

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**M**aggots feeding on decaying rhizome

**G**inger is a part and parcel of Indian cuisine and various Ayurvedic preparations since time immemorial. India ranks first in terms of area of cultivation and second in production of ginger in the world. With the development of many high yielding varieties, the crop has become an assured source of income to many farmers in different states of the country. However,

the crop is susceptible to various pests and diseases, sometimes leading to complete failure of the crop. Hence, farmers resort to application of several rounds of pesticides leading to accumulation of residues in the final produce.

Timely diagnosis and proper knowledge of pests and diseases can reduce the

quantum of pesticides used and lead to judicial application of pesticides. Pests and diseases that cause damage to the rhizome have direct implication on the economic returns of the crop. Some insect pests (belonging to the Order Diptera) occur only in diseased rhizomes, wherein initial infection by diseases is a predisposing factor for attracting the insects to the rhizomes. A symbiotic association may exist between the insect and the disease causing organisms.

The ginger rhizome maggot (*Eumerus* spp.) is one such insect which is found in large



Completely damaged rhizome

numbers especially in disease affected rhizomes. The insect is widespread in all ginger growing areas in Kerala. The insect is also reported from rotting lily bulbs, pineapple stumps, and taros. The damage caused by this maggot is considered to be secondary. In Kerala, the insect has been found to be associated with ginger rhizomes infected with various fungal and bacterial diseases such as *Pythium aphanidermatum*, *Ralstonia solanacearum* and *Fusarium* sp. There are also reports of these insects being associated with nematode infected rhizomes.

Various studies have proved that the insect failed to establish in healthy rhizomes. Adult insects lay eggs in diseased rhizomes and the emerging larvae are cream in colour with a pair of protruding structures from the posterior region. The larvae feed on the decaying tissues and the larval period ranges from 7 to 15 days. Pupae are brown in colour and the pupal period lasts between 8 and 11 days. The adult fly is bronze-black with greyish bands in the abdomen and dusky wings.



Adult fly

As the insects are attracted to diseased rhizomes, proper diagnosis of the disease is a pre-requisite to prevent the multiplication and spread of these insects. Selection of healthy rhizomes before planting and treatment with pesticides, proper drainage, removal and destruction of affected rhizomes, and management of diseases in the field will help in containing this insect. Application of insecticides alone will not help in preventing the infestation by the insect because rhizome maggot is primarily saprophagous and more attention should be given for the management of rhizome diseases.

