

A Review :

## Insect pests of banana with special reference to weevil borers

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Banana is fourth most important commodity in the world after rice, wheat and corn. It is cultivated over 130 countries in the tropical and subtropical world (Anonymous, 2000). The fruit is preferred for high nutritive value, year round availability and low price (Robinson, 1996). Banana contains large quantities of energy but without any cholesterol. It contains high carbohydrate, low sodium and high potassium (Chandler, 1995). India is the largest producer of banana and plantain in the world. Banana is attacked by more than 200 species of insect and non-insect pests (Simmonds, 1966 and Singh, 1970). In India, more than 15 insect pests attack banana which include insects, mites, mollusks and birds. Insect attack noticed from planting to harvest at different stages of crop growth. Among the major insect pests, weevil borers are very important and most destructive because they not only destroy the crop but also affect the yield and quality of the product. Rhizome weevil, *Cosmopolites sordidus* and pseudostem weevil, *Odoiporus longicollis* are the two most important weevil borers. In this article an attempt has been made to review the damage, biology and management of these destructive pests of banana.

### Banana rhizome weevil, *Cosmopolites sordidus* (Coleoptera: Curculionidae):

Distribution:

The banana rhizome weevil evolved in Southeast Asia has spread to all banana and plantain production regions in the tropics and subtropics. Weevil problems appear to be most severe in plantains, highland cooking bananas and ensete. Pest status may vary across sites and farms: in one study, 100-fold differences in weevil densities were found among farms in a single watershed. Weevil pest status in other groups of bananas is variable. In commercial Cavendish plantations, the banana weevil has been reported to be relatively unimportant. Banana rhizome weevil, *Cosmopolites sordidus* has been recorded from various parts

of India viz., Kerala, Karnataka, Tamilnadu, Assam, Maharashtra, Gujarat and Delhi (Viswanath, 1976, Charles *et al.*, 1996). This pest has also been recorded from the non-traditional banana growing areas of some state (Padmanaban and Sundararaju, 1999).

Damage and yield loss:

The grubs burrow into the rhizome at different locations creating a net work of galleries. The attacked rhizome gets riddled with holes and weakness the plant. In the initial stages of infestation, one can find yellow lines on the green leaf and reduction in leaf size, whereas in the advanced stage, rhizome shows extensive patches of tunneling, weak appearance of plant, apical stem tapering and reduction in the yield. If the grub damage occurs during bearing stage of the crop, the yield loss up to 85 per cent was reported (Rukazambuga, 1996). Most of the commercial cultivars like Malbhog, Robusta, Kanthali, Adukkann, Thellackarakeli, Nendran are susceptible to this pest. Banana weevil attack has been reported to interfere with root initiation, kill existing roots, limit nutrient uptake, reduce plant vigour, delay flowering and increase susceptibility to other pests and diseases. Yield reductions are caused by both plant loss (plant death, rhizome snapping, toppling) and lower bunch weights. Toppling, more commonly attributed to nematodes, has been observed under conditions of high weevil attack in the absence of nematodes.

Biology:

The adult rhizome weevil is black and measures 10-15 mm. It is free living, though most commonly found between leaf sheaths, in the soil at the base of the mat or associated with crop residues. The weevil is nocturnally active and very susceptible to desiccation. Adults may remain at the same mat for extended periods of time, while only a small proportion will move > 25 m within 6 months.

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