

Insect pests of vegetables in Malaysia and their management using entomopathogenic fungi

ABSTRACT

The domestic economy in Malaysia is dominated by agriculture, which accounts for about 10% of the Gross Domestic Product (GDP), and contributed more than 23% of the total export earnings. Vegetable comprises about 15% of the daily food intake of the Malaysian population. Vegetables in Malaysia are mostly produced by smallholder farmers and this industry provides millions of employments for the peoples, especially the rural dwellers. Insect pest is one of the major constraints of vegetable production in Malaysia. During growth, different species of insect pests such as armyworms, caterpillars, beetles, aphids, whiteflies, mites, and thrips cause serious damage to different vegetable crops, which reduce yield and make it unsuitable for human consumption. Integrated Pest Management (IPM) has been internationally recognized approach to pest control. IPM programme for insect pest of vegetable include, cultural control, physical control, mechanical control, biological control (parasitoids, predators, and entomopathogens), Plant Resistance to insects (PRI), and chemical control. Comparably, entomopathogenic fungi has demonstrated advantageous performance in infecting hosts directly through the integument. This paper aims to review some of the available literature on the IPM of insect pests of vegetables in Malaysia with more emphasis on insect pathogenic fungi as a contribution to components of IPM.

Keyword: Entomopathogenic fungi; Insect pests; IPM; Malaysia; Vegetables