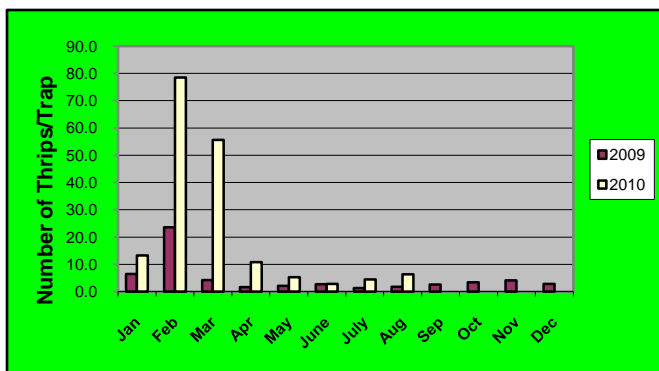
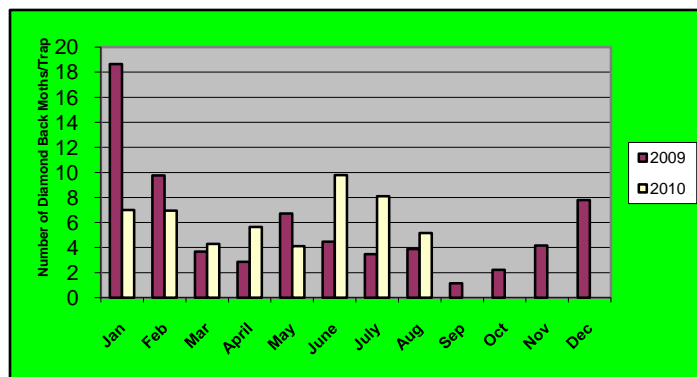


Thrips infestation on Orchids



Comments: The overall average thrips populations showed some increase as compared to last two month. As compared with the same month last year the population showed considerable increase .

Diamond Back Moth infestation on Vegetables



Comments: The overall average DBM population is on the decline as compared with the last two months. However the population is slightly on the higher side as compared with the same month last year.

Western Flower Thrips- *Frankliniella occidentalis* (Pergande) in Singapore

Frankliniella occidentalis, also known as Western flower thrips, has originated from the South Western States of the USA, which has now spread to countries such as Europe, New Zealand and North America and has become cosmopolitan. Presently *F. occidentalis* is considered a quarantine pest by some countries such as Taiwan as it is a vector of tomato spotted wilt tospovirus (TSWV) which is serious virus disease affecting many vegetable crops and ornamentals. The movement of horticultural materials such as potted plants, seedlings, and cuttings, and development of insecticide-resistant strain/s due to the intensive usage of insecticide in horticulture industry are some of the factors that contribute to the international spread of *F. occidentalis*. In Singapore, *F. occidentalis* has been recorded on *Saraca cauliflora* from our surveillance activities. Unlike *Thrips palmi* which is a serious thrips affecting orchids, *F. occidentalis* is yet to be recorded in orchids.

F. occidentalis is generally yellow in color with dark areas (Fig.1). Males are similar to females, but are paler and slightly smaller, with some morphological differences. The species feeds on a wide range of plants of more than 500 species in 50 families. Crops attacked by this pest include beans, capsicum, cucumber, eggplant, lettuce, onion, tomatoes and watermelon. Ornamental crops include carnation, chrysanthemum, orchids and roses. Usually the thrips puncture the leaves, flowers, or young stems with their mouth parts and suck up the exuding sap.

Generally thrips injury on foliage causes a characteristic silvery appearance which eventually turns brown and die. Leaf tips can also wither, curl and die. Black specks can also be seen on the undersides of leaves. Affected flowers become spotted and deformed and many buds fail to open. The western flower thrips is primarily a flower feeder that affects both the flower petals and pollen. The higher density of thrips mainly on the flowers is due to the plant morphological structure such as trichomes or hairs which help the thrips to hold on securely during feeding. For growth and reproduction, pollens are preferred.

Various insecticides such as imidacloprid or profenofos can be effective in reducing the pest population. The thrips can also be biologically controlled by foliar spray using the bio-control fungus *Beauveria bassiana*. *F. occidentalis* are also attacked by a few parasitic wasps and flies and entomopathogenic nematodes. Weed hosts of the western flower thrips in fallow fields and outlying areas of the field serve as reservoir hosts of the thrips and TSWV. The removal of these reservoir weeds is recommended to reduce the thrips populations and TSWV disease incidence.



Fig. 1. *F. occidentalis* – Close up view

Pest Interceptions from Importing Countries (Aug 2010)

AVA was notified of two pest interceptions from exported aquatic plants/orchid cut flowers/foiliages consignments for Aug 2010.

Commodity: *Vallisneria* sp
Pest Intercepted: *Hirschmaniella* sp
Intercepting Country: France

Commodity: *Hygrophilla* sp
Pest Intercepted: *Bemisia tabaci*
Intercepting Country: United Kingdom

Exporters are advised to implement pest control management on farm with yellow sticky traps and insecticide applications (rotation of insecticides and correct dosage will help in reducing the insect resistance) to control whiteflies infestations. Pre-shipment insecticidal dipping treatment will further help in the killing of whitefly pupae on foliages. In addition, apply nematicides in the aquarium beds to control the nematodes .

CONTACT US

Please report any unusual occurrence of pests and diseases (new or severe occurrence) to Plant Health Laboratories, AVA. It would help to protect our plant industry and the garden city from new invasive pests or diseases. You can report your observations through:

Email : AVA_Planthealth@ava.gov.sg or Telephone: [63165168](tel:63165168) or [188](tel:188) or Fax: [63161090](tel:63161090).

Please provide the location, plant hosts attacked and suspected pests or diseases to our officers to follow-up and confirm the situation if required.

Visit us at:

<http://www.ava.gov.sg/AgricultureFisheriesSector/PlantHealthServices/PlantHealthLabServices/index.htm>