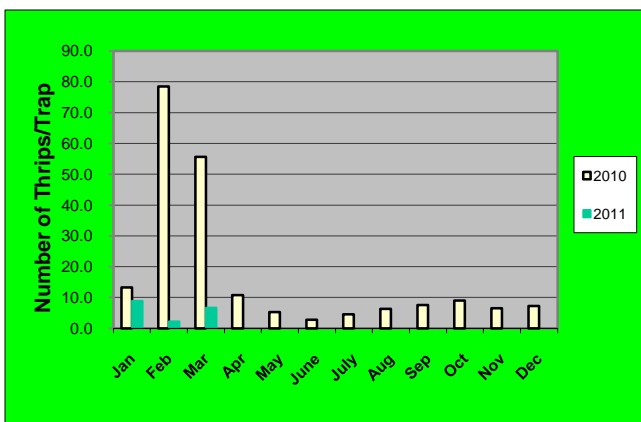
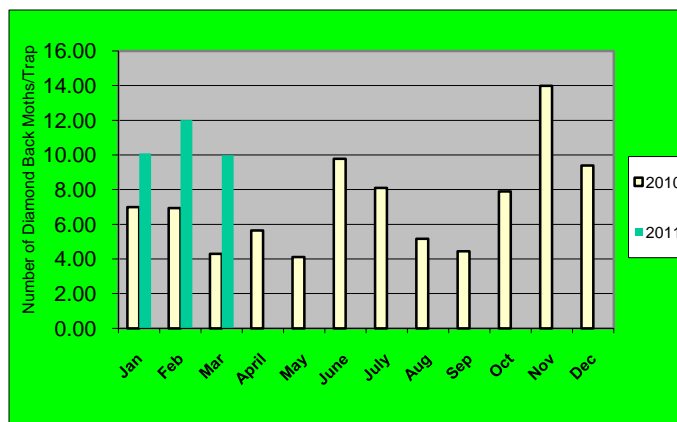


## Thrips infestation on Orchids



**Comments:** The overall average thrips populations did not show much difference as compared with the last two months. The population showed a great decline as compared with the same month last year. The population had declined considerably as compared with the first three months of last year. Persistent wet weather could be one of the reasons.

## Diamond Back Moth infestation on Vegetables



**Comments:** The overall average DBM population has increased considerably as compared with the last year population. The population is slightly on the higher side in the first three months of this year as compared with the same months last year as a few farms recorded higher moths count. The farms have been informed to take up adequate control measures

## Hemileia vastatrix- Coffee Rust Fungus detected in Singapore

One of the most feared fungal pathogens to coffee growers, *Hemileia vastatrix* Berk. and Br. (Uredinales), was detected on the plants of *Coffea* sp (Fig.1). This coffee leaf rust was first reported from Sri Lanka in 1869 and in a decade, it had devastated the whole coffee industry in that country. Now this pathogen is found throughout the world wherever coffee is grown. The coffee rust is characterized by yellow powdery lesion on the lower side of the coffee leaves (Fig. 2), and corresponding chlorotic patches on the upper side. The centre of the older lesions will become necrotic with time, and the pustules become restricted to the outermost regions of the blotches (Fig. 3). On older leaves, several lesions may merge to produce irregular diseased areas covering much of the leaf. However, diseased leaves are usually shed before this stage, and a major effect of rust is defoliation in addition to impaired photosynthesis and reduced floral initiation. The rust spores (uredinospores; Fig. 4) form on the lower leaf surfaces, and are mainly dispersed by the wind. The optimum temperature range for spore germination is 21-25°C, with germination occurring under moist conditions. Hence, while coffee leaf rust is endemic in all major coffee producing countries, those grown at higher altitudes have largely escaped the ravages of the disease, in contrast to those grown under warm humid conditions.

Control of the disease is a daunting task and mostly would be through the pruning and removal of infected leaves. Fungicides such as propiconazole, tridimenol, tridemfon and copper oxychloride are just partially effective. Amongst them, copper containing fungicides like copper oxychloride are the most effective and widely used. High solubility, variability in the target, the inability of pests to develop resistance, high adhesiveness to leaves thereby allowing for fewer applications and the ability to serve as a nutritional supplements are among other properties account for the exceptional utility of this copper based fungicide. Non-chemical control consists of pruning infected leaves and reliance on resistant cultivars. Early intervention usually can prevent the spread of this disease.



Fig. 1: *Coffea* sp. leaves infected by *Hemileia vastatrix* rust.



Fig. 2: Close-up of *Hemileia vastatrix* rust blotches and rust pustules, on the underside of the leaf



Fig. 3: Close-up of necrosis within the older *Hemileia vastatrix* blotch, and the formation of the rust pustules around its periphery.

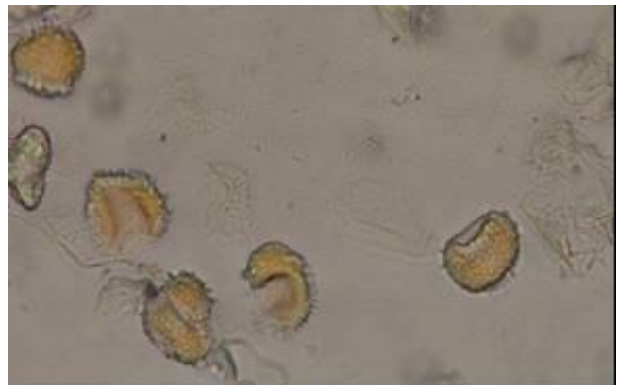


Fig. 4: Uredinospores of *Hemileia vastatrix*

### Pest Interceptions from Importing Countries ( March 2011)

The following were the interceptions from various importing countries for the month of March 2011.

**Pest Intercepted** – *Bemisia tabaci* - Whiteflies  
**Commodity** – *Roripa aquatica*, *Bacopa* spp, *Altherranthera* spp, *Hygrophila polysperma*, *Hemigraphis colorata*  
**Intercepting Country** – France, United Kingdom, Germany

**Pest Intercepted** – Immature snail, pupa of butterflies, caterpillars and moths, live immature spiders (Order: *Araneae*), live immature spiders (tangle foot spiders, widow spiders, comb-footed spiders, button spiders- *Theridiidae* family, live adult spider (*Coleosoma floridanum*), mites, live immature and adult female with egg sac spider  
**Commodity** – Foliages and Orchid cut flowers  
**Intercepting Country** – Australia

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 and mites infestations. Pre-shipment insecticidal dipping treatment will further help in the killing of whitefly pupae, mites and spiders on foliages.

### CONTACT US

Please report any unusual occurrence of pests and diseases (new or severe occurrence) to Plant Health Laboratory, AVA. It would help to protect our plant industry and the garden city from new invasive pests or diseases. Please provide the location, plant hosts attacked and suspected pests or diseases to our officers to follow-up and confirm the situation if required You can report your observations through: Email: [AVA\\_Planthealth@ava.gov.sg](mailto:AVA_Planthealth@ava.gov.sg) or Telephone: 63165168 or 188 or Fax: 63161090 or Visit us at:

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