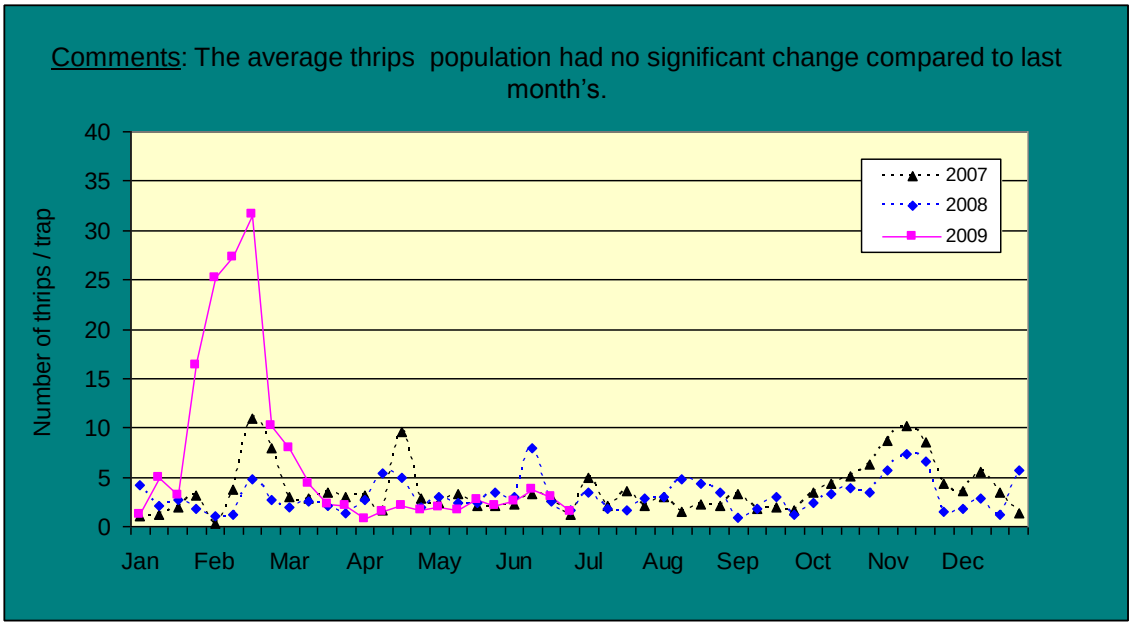
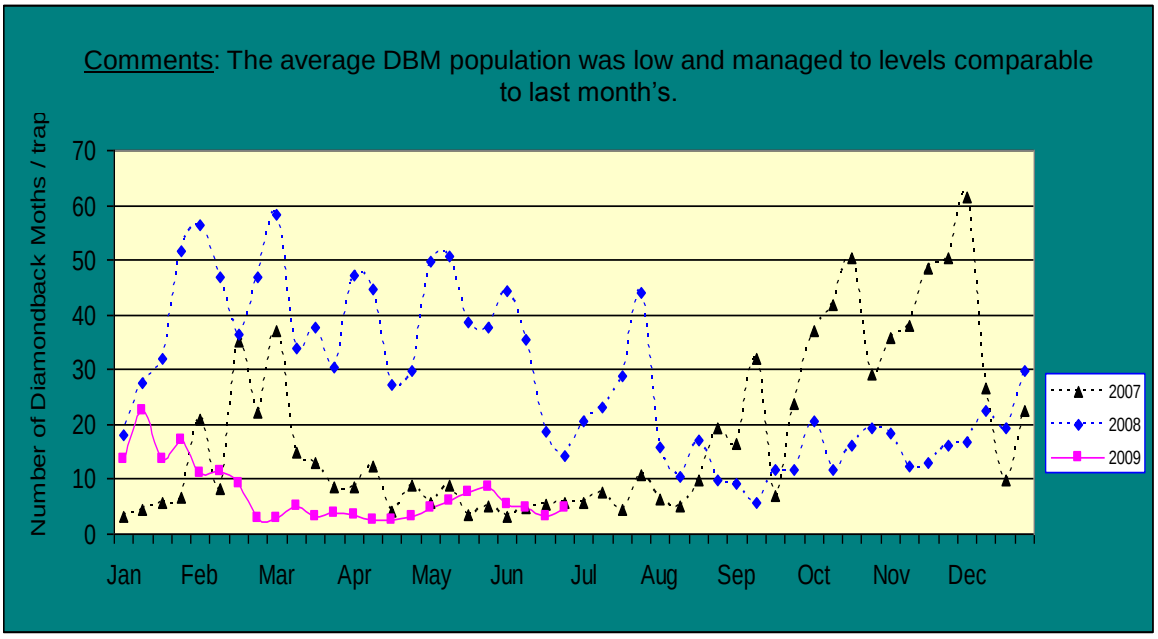
PestNews

A Publication of the Agri-Food & Veterinary Authority of Singapore **June 2009**

Endemic Pest Surveillance: A – *Thrips* infestation on Orchid plants



Endemic Pest Surveillance: B - Diamond Back Moth infestation on Vegetables



Flea Beetles, a Pest of Local Vegetables

Phyllotreta spp. are commonly known as flea beetles causing damage to many vegetables in Singapore. The dominant flea beetles found at the local farms are the crucifer flea beetles (*Phyllotreta cruciferae*) infesting mainly the Brassica crops grown here. The adult is a small oval shaped blackish beetle with a bright metallic sheen about 2-3 mm length (Fig. 2). The larva is a whitish worm with tiny legs and brown head. The adults are the most destructive to young plants chewing small round holes on the leaves causing shot-hole appearance (Fig. 1). These holes are avenues for disease pathogens causing secondary leaf infections. The adults when disturbed jump like fleas, hence the common name, flea beetles.

The adults thrive for about 2-3 weeks and lay eggs, scattered on the soil beneath the host plants. The eggs hatch in 2-4 days and the emerging larvae feed on and tunnel into underground stems causing added damage the roots. There are 3 larval instars and the pupae remain in the soil for 3-5 days before emerging as adults. Another less common species is the striped flea beetles (*Phyllotreta striolata*) that has two yellowish strips along the length on the wing covers (Fig. 3). These two species are common in South East Asia.

Farm sanitation to remove infested crop debris from farm and garden trash is a critical control strategy. Placing yellow sticky traps over the plant rows at 5-10 metre intervals would help to snare the flying adults. If pest populations become intolerable, the use of insecticides such as carbaryl, cypermethrin, deltamethrin, profenofos, chlorpyrifos or pyrethroids could reduce the population but preferably as a last resort. In home gardens with flea beetle infestations, spot treatments with botanical insecticides such neem extract or pyrethrin can be useful. Trap crops, such as mustard and radish, can also be planted at the garden edges to trap the flea beetles away from the main vegetable beds.

Fig. 1: Flea beetle damage on caixin

Fig. 2: Black Crucifer flea beetles

Fig. 3: Striped flea beetles

Pest Interceptions from Importing Countries (May 2009)

AVA was notified of four pest interceptions from exported plant consignments for June 2009. These were:

Commodity - *Anubias barteri*
Pest Intercepted - *Radopholus similis* (Burrowing nematodes)
Intercepting Country – France

Commodity - *Alternanthera* sp.
Pest Intercepted - *Bemisia tabaci* (White flies)
Intercepting Country – France

Commodity - *Cryptocoryne becketti*
Pest Intercepted - *Hirschmaniella* sp. (Rice root nematodes)
Intercepting Country – France

Commodity- Solid Wood Packaging Material
Pest Intercepted - *Sinoxylon conigerum*- (False powder post beetles)
Intercepting Country – Canada- Intercepted in January 2009

Exporters are advised to implement pest control management on farm with sticky traps and pesticide applications to control whiteflies infestations. Pre-shipment chemical dip treatments for whiteflies will further increase kill of the whitefly pupae on aquatic plants. In addition, apply nematicides in the aquarium beds to control the nematodes. For Solid Wood Packing Materials, the fumigation or heat treatment of the wooden pallets as per the ISPM-15 guidelines should be carried out.

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 or 188 or

Fax: 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