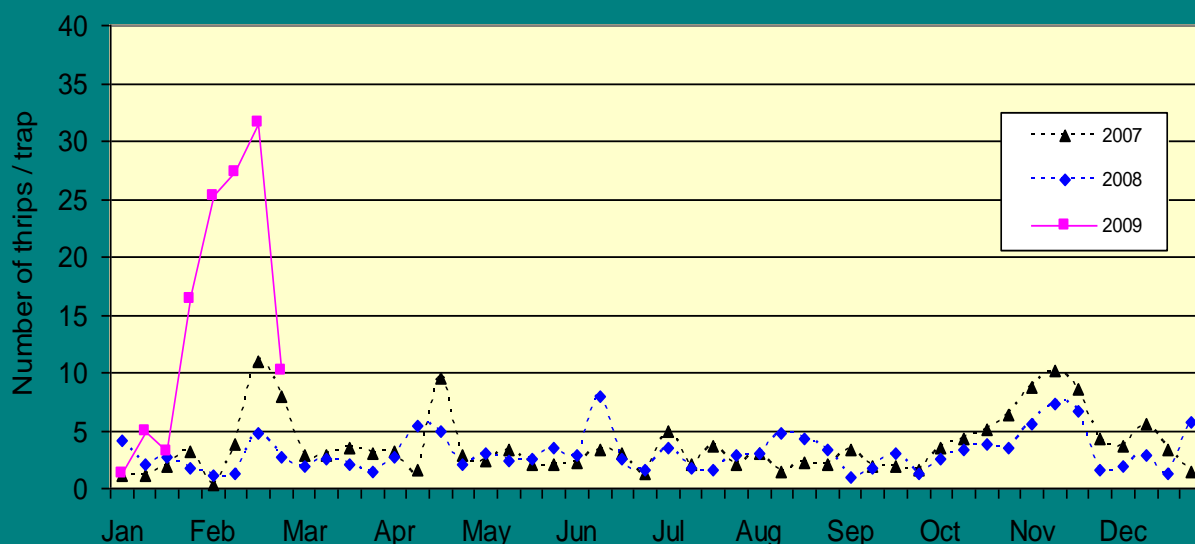


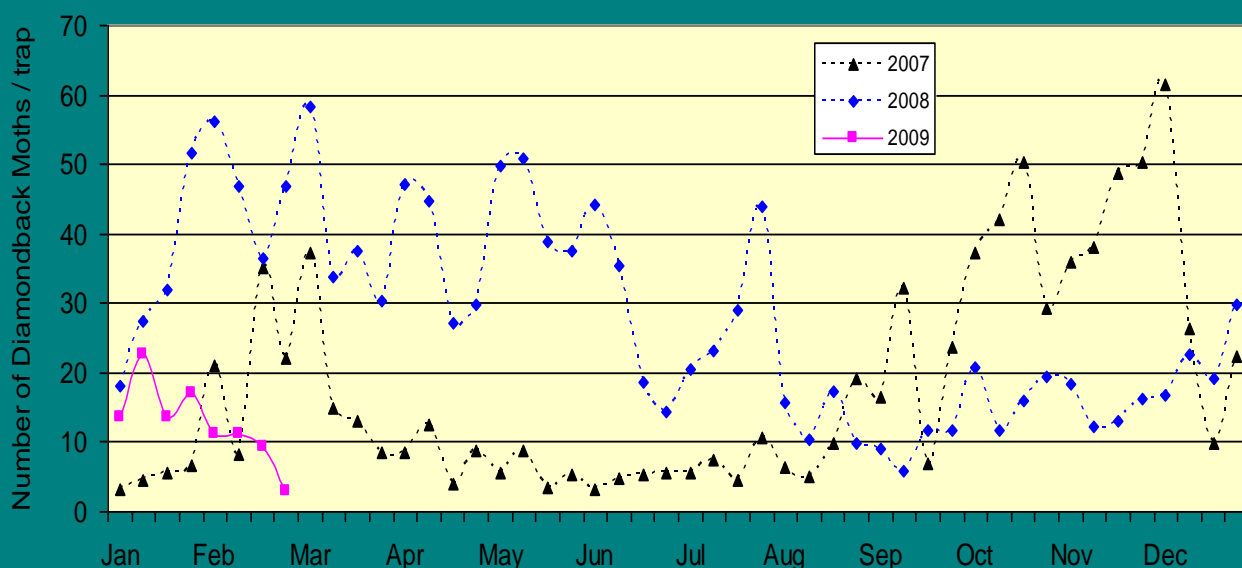
Endemic Pest Surveillance: A – *Thrips* infestation on Orchid plants

Comments: The average thrips populations showed a marked increase from late January to mid-February. All 5 orchid nurseries had higher than normal numbers of thrips. Farmers are advised to step up on control measures and to observe good sanitary practices.



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

Comments: The average DBM populations are on a decreasing trend since the beginning of 2009.



Damping-off Disease in Seed Beds

Damping-off is a common plant disease problem of seedlings. Most seedlings are likely susceptible when planted from expired poorly stored seeds; in high seed densities; and a common problem with seed-tray sowing in glasshouses.

Damping off is due to several soil and water-borne fungi particularly the *Pythium spp.*, *Phytophthora spp.*, *Rhizoctonia solani* and *Fusarium spp.*. These can act collectively to the demise sown seeds and seedlings. Pre-emergent damping off occurs when sown seeds are attacked before or soon after seed germination, thus causing apparent seed germination failure. Damping off is termed post-emergent and occurs after the seedlings have emerged from the soil. The disease attacks the young roots, stems at the soil line or up the hypocotyls causing their stems to become thin and brown, and the seedlings to collapse over and die (Fig. 1). In severe infestations, damping off is evident with the presence of fluffy white fungal threads (Fig. 2) webbing over the collapsed seedlings and dead seeds. The disease is encouraged by cool, humid conditions, over-watering and overcrowded seedlings.



Fig. 1: Damp off seedlings with infected roots or stem at the soil line collapsed over (↔).



Fig. 2: Fluffy fungal threads infecting a seed bed.

Prevention and Control

Good sanitary measure is a start in preventing seedling damping off. For pots and seed tray germination, use clean containers washed in 5-10% clorox and sow seeds in sterilized soil or soil mix. Strong viable seeds treated with a thin coating of fungicide e.g. thiram, benomyl, thiophanate methyl or captan would keep *Rhizoctonia solani* and *Fusarium spp.* at bay to increase germination chances. Sow the seeds to recommended density. Overcrowding of seeds and seedlings increase the chances of disease. After sowing, finely mist or control the watering of the beds, pots or trays just to moisten the soil and ensure that there is good drainage so that the beds and containers are not saturated with water.

Fungicides such as metalaxyl, fosetyl-Al or terrazole may be applied to the beds a few days after sowing to prevent the pythiaceous fungi of *Pythium spp.* and *Phytophthora spp.* from setting in. Soil with any sign of the fungal threads should be immediately removed and discarded not to be reused. Thin out the seedlings and cull away those with infected stems leaving strong health ones to grow. Infected seedlings that may seemingly have survived the disease usually would not grow to be healthy plants anyway and are best removed.

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## **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](mailto: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>