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Tomatillo: The Edible Chinese Lanterns

Physalis minima, the wild cape gooseberry or tomatillo, like the tomato and the potato, belongs to the Solanaceae family of plants. Tomatillo berries are enclosed in enlarged reticulated calyxes and resembles pendulous Chinese lanterns (Fig. 1). This tropical American plant has become naturalized in South East Asia and can be seen growing wild on Singapore's wastelands.

The tomatillo, so called because of their slightly sweet tomato flavour when ripe, contains a number of beneficial vitamins and minerals. The plant is propagated from seeds and may take up to 2 weeks to germinate. The plant matures and yields its first berries in about 3 months and fruits continuously for up to a month (Fig. 2). These elegant, dainty, thumb-sized berries are commercially marketed as high-end exotic produce, either eaten as is, served as fresh fruits, or used in salads or as decorative components on desserts or cakes.

The Horticulture Branch, AVA is currently conducting comparative growth and performance trials of two tomatillo varieties, the *Physalis minima* and the *Physalis pruinosa* (a species with golden yellow berries), for introduction to the local farms as lucrative cash crops. The local farmers should consider growing the tomatillo commercially given its high yield and attractive pricing, as the berries currently retail at \$40-\$50/kg. Hopefully, the tomatillo, once a wayside weed, will in the future, not only play a nutritive role in our daily diet, but also give consumers the choice of an additional exotic and novel fresh produce.



Fig. 1: The *Physalis minima* berry and its enclosing calyx.



Fig. 2: A cultivated crop of *Physalis minima*

Tree Planting Day & Carnival

The official opening of the Sengkang Riverside Park on Tree Planting Day (2nd November, 2008) was commemorated by the Ang Mo Kio - Yio Chu Kang Town Council with a carnival. Together with the respective MPs and town council representatives, PM Lee Hsien Loong officiated the park opening by planting trees.

AVA's Horticulture Branch was invited to showcase popular leafy vegetables that can be easily grown for food resilience and landscaping, and such vegetables were also available for sale by Kok Fah farm in a nearby booth. AVA's Plant Health Laboratories also set up its signature plant clinic to provide diagnosis and plant health advice for common plant pests and diseases. Both were received enthusiastically by the estimated 1200 visitors to the event (Fig. 3).

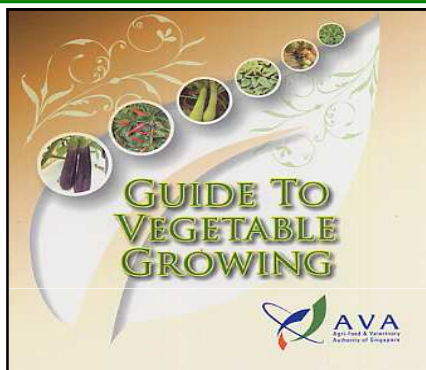


Fig. 3: Visitors and PM Lee making enquiries at AVA's booth

Other activities were set up by the PUB and NEA, and included games and activities promoting water conservation. Four primary schools and eight town councils also contributed with environmental protection projects and community garden displays.



Launch of the eBook “Guide to Vegetable Growing”



The highlight of AVA’s participation at the Singapore Garden Festival 2008 was the launch of the eBook “Guide to Vegetable Growing”. As observed by AVA’s CEO Dr Chua Sin Bin in the eBook’s foreword, “Young Singaporeans are more accustomed to getting their vegetables from supermarkets rather than the land. As a result, many have little or no idea of vegetable cultivation. This guide on vegetable growing could help revitalize the fun of growing your own food, as well as provide

essential vegetable growing skills to those with green fingers.”

The eBook was a joint innovation project by Horticulture Branch and The Plant Health Laboratories. The pages are turned by clicking the right or left side of the screen, and specific topics are accessed by clicking on titles in the content page. The eBook gave a guide to:

- A quick reference to the common vegetables in Singapore
- Planting and maintenance of leafy vegetables
- Soil and fertilizer management of vegetables
- Diseases of vegetables
- Insects and pests of vegetables
- Management and control of plant pests and diseases

Some of the best practices used for successful vegetable cultivation are highlighted in this book. This serves as a timely educational aid for the novice, and a useful reference for the serious grower. Judging from the keen interest (Fig. 4) and speedy sales of the eBook, each costing only \$5, and with further orders available through AVA_Planthealth@ava.gov.sg, it might not be too long before we see fresh vegetables sprouting from Singapore’s balconies and home gardens!



Fig. 4: Mr. Ma Bow Tan, Minister for National Development, viewing the eBook

Soil Boron and Bulk Density Tests

Boron, an essential plant micro-nutrient, is required in the formation of plant cell walls. Acidic, sandy soils in regions of high rainfall and soils low in organic matter are usually boron deficient, as the mobile borate ions are leached from the root zone. Plants, especially palms grown in such soils, tend to show stunting and “Hook Leaf” symptoms (Fig. 5), where the leaflets bend backwards towards the bases of leaf stalks at an acute angle. Boron deficiency is usually more pronounced during droughts.



Fig. 5 : Hook-leaf symptom in palm with Boron deficiency

Bulk density (BD) is the mass of dry soil per unit of bulk volume, including the air space. It is an important physical characteristic that influences plant growth and biomass productivity. BD of soils & soil mixes can affect aeration, soil-water regime, runoff and erosion. The measurement of BD in soil mixes differs from *in situ* testing of undisturbed soil, and must be done accurately.

Both soil boron and the BD testing for soil mixes are now available at the Soil Management Laboratory, Animal & Plant Health Centre, 6 Perahu Road, Singapore 718827.

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The aim of this bulletin is to disseminate horticulture and plant health information to plant growers, exporters and importers in Singapore. If you have any suggestions, comments or enquiries, please contact us at :

Tel : 63165168 / 63165188 Fax : 63161090 (Plant Health) Email : AVA_Planthealth@ava.gov.sg

Editor : Dr. Wong Jia Yih.

Advisors : Mr Ong Keng Ho, Dr Yik Choi Pheng.

Contributors : Mr Tay Jwee Boon, Mr Thomas Tan, Dr Varughese Philip

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