

**Some aspects on growth, yield, phenology and grape quality of 'Isabella' Grapevine (Vitis x labruscana) planted in Sandakan, Sabah as ornamental plant**

**ABSTRACT**

In wet tropical areas, a successful planting of grapevines will depend on several factors including the use of greenhouse and the effort to carry out intensive pruning. These requirements are expensive especially for using these plants for home decoration. Thus, in the present study, growth and development of 'Isabella' grapevine (*Vitis x labruscana*) grown in pot system without the use of greenhouse to beautify a semi-shaded home sidewalk were studied to assess its potential to serve as ornamental and fruit-bearing plants. The seedlings from the woodcuts of 'Isabella' grapevine were planted on organic soil in 55 L plant pots. The pots were placed in 19 L water basins and positioned at 84 cm interval on a walkway (0.9–1.2 m width) of a house (310 cm tall wall; 76 cm long roof extension). Tap water was supplied as 2–4 L/grapevine following a 1-1-0-0-1-0-0 cycle per week (1 = watered; 0 = not watered). Initial fertiliser was added as 20 g NPK 15:15:15 and maintenance fertiliser was supplied monthly as 8 g NPKMg+TE 12: 12: 17: 2 per grapevine. After 3 months, pruning was carried out once a week. Data were recorded for vine vigour, berry, cluster and yield attributes, phenology, grape quality, fruit predators, pests and diseases. It was found that the grapevines have no issues in terms of vigour, cluster production, grape ripening and grape quality. The average physical size of the grapevines was 1.25 m (tall) x 0.75 m (width). Trunk diameter was 18 mm/grapevine. Cordon, cane and shoot number per grapevine was 14, 49 and 53, respectively. Fruitful shoot diameter was 3.8 mm/shoot/grapevine. The grapes achieved veraison at day 78 and berry ripe at day 124 after bud burst. The average yield was 37 grape clusters/grapevine, 16 g/cluster or 3 g/berry. Hens and chicks berry problem was 64% vs. 36% per cluster. The average sugar content (<sup>o</sup>Brix) was 18.5; the berries were sweetsour. The titratable acidity was 1.55 g/100 mL of juice. The pH was 3.3. There was, however, a marked grape loss due to a predation by yellow-vented bulbul and bats. 'Isabella' grapevine grown in pot system has a potential to serve as ornamental and fruit-bearing plants without the use of greenhouse.