The Growth Performance of Sago Palms (*Metroxylon sagu* Rottb.) on Peat of Different Depth and Soil Water-table

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ABSTRACT

The sago palm is one of the highest yielding perennial starch crops in the world. Starch is accumulated progressively in the trunk and each palm is capable of producing about 200kg of dry starch. Because of the continuous production of off-shoots to replenish the harvested palm, the economic life of sago palm is theoretically perpetual. It is one of the very few crops that is highly tolerant to low pH and can be cultivated on peat and sulphidic soils.

The growth of sago palms on deep peat without maintenance and added nutrient was far inferior as compared to those grown under shallow peat and mineral soils. The soil water pH of the three studied gardens were between 3.8 to 4.6, slightly higher than the normal range of 3.2 to 4.0 found in Sarawak.

Under minimal drainage and maintenance on deep peat, about 20% of the 10-15 year-old sago palms produced trunks but none attained maturity. They possessed 6-10 fronds and their trunk lengths and diameters were 1-4 m and 41 cm respectively.

On deep peat with seasonal flooding, less than 10% of the sago palms produced trunks at 8 years after planting. In contrast, over 80% of sago palms on shallow peat produced trunks at 5-6 years after planting and possessed a crown size of 12-15 fronds. They attained maturity at 10-11 years, with trunk lengths and diameter of about 8 m and 45 cm respectively.

Key words: peat, sago palm, seasonal flooding, water-table