

1. INTRODUCTION AND OBJECTIVE

In the early 1980s, Sime Darby Plantations (SDP) exploited the availability of high yielding and Vascular Streak Dieback (VSD) disease tolerant clones, mainly the PBC 100 series (Chong & Shepherd, 1986) for the purpose of upgrading its low yielding and VSD ravaged hybrid cocoa plantings.

Encouraged by the novelty and success of the double hedgerow system in the Philippines, SDP experimented with the hedgerow high density planting (HDP) of selected clones in 1986 on Merlimau Estate in Malacca, with the objective to evaluate the feasibility of the novel HDP systems on four selected PBC clones under local inland soil conditions which are relatively less favourable and amendable than the Philippines. Early yield results showed a strong clonal response to planting pattern/density. Clone PBC 159 with inherent sparse canopy responded best to hedgerow high density range of 3,333 to 5,000 trees/ha with irrigated plots out-yielded the control by ca 40% (Lam & Lim, 1991).

Three spacing trials were subsequently established in the same locality (Merlimau, Malacca region was to be SDP's main cocoa area) with the main objective to arrive at the optimum spacings in terms of planting pattern and stand per ha for the selected commercial PBC 100 series clones. The ultimate objective was to bring together management resources, expertise and desirable attributes of different clones in an attempt to maximise production per unit area.

The findings and experiences derived from the aforementioned clonal density trials for the full duration until their premature termination in mid 1994 (as a result of SDP's shift in crop policy) will form the basis for the present deliberation on the agronomic implication of HDP of budded clonal cocoa established on an inland soil (Rengam series) in Malacca, Peninsular Malaysia.

The objectives of present study are summarised as follows:

- i. to evaluate the agronomic feasibility of the novel hedgerow HDP system of selected budded cocoa clones under irrigated and rain-fed conditions
- ii. to determine the optimum spacing requirement of selected commercial cocoa clones in terms of planting pattern and actual stand per unit area
- iii. to identify the clones that are best suited to the HDP systems
and
- iv. to assess the economic viability of the various clonal HDP systems under inland soil condition at Merlimau, Malacca.