

MORE THAN A CENTURY OF HEVEA BREEDING IN SRI LANKA

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Rubber is an important industrial commodity for the world. *Hevea brasiliensis* is the only commercial source of natural rubber and more than 90 per cent of cultivation is limited to South and South East Asia due to its limited geographic and climatic range. History of *Hevea* cultivation in Sri Lanka dates back to the year 1876. Starting from unselected Wickham genetic material, progressive breeding and selection over a century incorporating also non-Wickham material, great strides in breeding have been made in the field. Until 1920's, no significant progress had been made in genetic improvement of preliminary material. But with the introduction of successful bud grafting techniques in 1918, selection of clones became possible and the clones Mil 3/2, Hil 28 and Wag 6278 were developed from selected seedlings in commercial estates by the early 1930's. Their yield potential ranged from 300-440 kg ha⁻¹ yr⁻¹. With development of *Hevea* hybridization techniques by this time, the breeding programme progressed significantly. Today, genetically improved planting material has resulted in the development of clones with a yield potential of 3,500 kg ha⁻¹ yr⁻¹ under commercial conditions. This is more than a ten-fold increase in rubber yield, since the introduction of *Hevea* breeding programme in Sri Lanka. The approaches breeding with multiple breeding objectives are discussed in six phases. The clone recommendation has been revised from time to time with achievements in development of new clones over the years.

Key words: Clone recommendation, Genetic improvement, *Hevea brasiliensis*, Sri Lanka

INTRODUCTION

The rubber industry plays a very significant role in Sri Lanka's economy, contributing Sri Lankan Rs. 122.076 million to the country's foreign exchange earnings and value added as much as 0.3 per cent of GDP (in growth and production only) (Central Bank of Sri Lanka, 2016). The total rubber are now comprises 0.137 million hectares and provides livelihood to 0.5 million persons (Central Bank of Sri Lanka, 2012).

The first introduction of the rubber, *Hevea brasiliensis* Muell. Arg. to Sri Lanka was by

Sir Henry Wickham, planter, rubber trader and naturalist. Around 70,000 rubber seeds collected from the Boim district bordering the Tapajos valley of Upper Amazon in Brazil were brought to in the Kew garden in the United Kingdom on 14th June 1876 of which 2700 seeds had germinated (Kew Garden Correspondence (1876 a, b) cited in Baulkwill (1989). Later, 1919 seedlings from this collection were sent to Sri Lanka (Ceylon) under the charge of a Kew garden employee, William Chapman (Loadman, 2005) and planted in Peradeniya and Henarathgoda Botanic Gardens in August,