



PRELIMINARY INVESTIGATIONS ON THE CHANGES OF SOME PHYSIOLOGICAL PARAMETERS OF FIELD GROWN RUBBER PLANTS FOR THE DRY PERIOD IN THE DRY ZONE OF SRI LANKA

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Traditionally, rubber cultivation in Sri Lanka was mostly practiced in the Wet Zone (WZ). With the grown demand and lack of suitable land area in the wet zone, its cultivation has extended rapidly to the Intermediate Zone (IZ) of the country. With the success in IZ, government of Sri Lanka intends to cultivate rubber in Dry Zone (DZ), particularly in war-torn region of North.

To investigate physiological responses leading to the success in field establishment, observational plots were established with three popular *Hevea* genotypes i.e. RRIC 121, RRISL 203 and RRISL 2001 in Vavuniya with smallholder farmers under irrigation. This area comes under the agro-climatic zone of DL 1b. At three months intervals, stomatal conductance and chlorophyll content (indirect) were measured together with weather condition in those areas for a period of one year after establishment. Crop micro environment was assessed at the time of measurements.

Despite the irrigation, soil moisture content decreased during the dry period. In general, stomatal conductance and chlorophyll content decreased with the decreased in soil moisture content. However, the values of declined of those parameters were less in clone RRIC121 indicating its possibility for dry zone. Need of further study are discussed to ascertain its suitability interns of photosynthesis of growth.

Keywords: *Chlorophyll content, Dry zone, irrigation, stomatal conductance, water stress*