

DROUGHT TOLERANCE OF MODERN *HEVEA* CLONES GROWN IN THE NORTH KONKAN REGION OF MAHARASHTRA

Ravichandran, S. Meena Singh, James Jacob*, Krishnakumar, R* and Annamalainathan, K*

Regional Research Station, RRII, Dapchari, Maharashtra-401 610, India

*Rubber Research Institute of India, Kottayam-686 009, Kerala, India

Received: 18 January 2011 Accepted: 18 May 2011

Ravichandran, S., Singh, M., Jacob, J., Krishnakumar, R. and Annamalainathan, K. (2011). Drought tolerance of modern *Hevea* clones grown in the north Konkan region of Maharashtra. *Natural Rubber Research*, 24 (1): 165-169.

An experiment was conducted at Regional Research Station, RRII, Dapchari, Maharashtra to find out the tolerance of modern *Hevea* clones to drought stress at the early stages of growth. Six months old young plants of *Hevea* clones (RRII 105, RRII 208, RRII 414, RRII 429, RRII 430 and RRIM 600) were used in this study. The maximum temperature during the study period ranged between 35.5 to 43.0 °C. Visual observations on drought injury indices viz., scorching, leaf yellowing, drying and leaf fall were taken at frequent intervals (once in 4 days) after imposition of drought both in the polybag and field grown plants. Clone RRII 429 showed relatively higher scorching than the other clones. In the polybag plants, leaf yellowing was minimum in clones RRII 429 and RRIM 600, while other clones showed more leaf yellowing after 26 days of drought imposition. Clones RRII 429 and RRII 208 showed higher percentage of drying and leaf fall in the polybag plants while clone RRII 430 had the least. Similar observations have been made under field condition for these clones. Results from the field observations showed that clone RRII 430 was more tolerant to drought stress than RRII 414 under field conditions.

Keywords: Drought, Drying, *Hevea brasiliensis*, Leaf fall, Yellowing.

Hevea brasiliensis is a native forest tree species belonging to the hot and humid tropical Amazon region falling within 5° latitude on either sides of the equator. In India, *Hevea* has been traditionally grown mostly in the state of Kerala and to a small extent in the southern region of Tamil Nadu (Jacob *et al.*, 1999). Due to non availability of land in these traditional regions, attempts were made to extend rubber cultivation to less congenial but potential regions outside

the traditional areas to meet the increasing demand of natural rubber.

North Konkan region is one of the potential areas for cultivation of rubber. In this region prolonged soil moisture deficit and high summer temperature are the major environmental constraints for growth and productivity of rubber. Though the Konkan region receives about 2500 mm of rainfall during South West Monsoon period (June to October), the evaporation rate from