DISTRIBUTION OF MAJOR WEEDS AND THEIR ASSOCIATION WITH SOIL FERTILITY PARAMETERS IN RUBBER PLANTATIONS OF SOUTH INDIA

M.D. Jessy, Phebe Joseph, Sherin George, B. Pradeep, Joshua Abraham, Annie Philip, P. Prasannakumari, V.K. Syamala, A. Ulaganathan, K.K. Ambili, Thomas Eapen and James Jacob

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

Mapping the distribution of weeds at local/regional levels help to monitor and assess changes in their distribution over decades and relate with changes in ecology of the region. The data on the distribution of major weeds in rubber plantations of South India was collected through visual scoring in 10760 geo-referenced holdings and was mapped in GIS. *Axonopus compressus* was the major weed in rubber plantations though regional variations were observed in occurrence. *Chromolaena odorata* was also a major weed in the northern districts of Kerala *viz*. Trissur, Kannur, Kozhikode, Malappuram and Kasaragod, Dakshin Kannada district of Karnataka and Sindhudurg district of Maharashtra. Association between soil fertility status and weed distribution was observed and available calcium and magnesium status of the soil influenced weed distribution. The data gives an overall picture of the distribution of major weeds in rubber plantations of South India.

Geographical distribution of plant species is influenced by climate and other biophysical environments and at the micro level, resource availability in the immediate environment is the major determinant of species dominance. Plants respond to combinations of temperature change, atmospheric carbon dioxide (CO_2) concentration, soil nutrient availability and solar radiation and changes in geographical distribution of plants in response to climate change have been documented. Several authors reported that the presence or absence of certain weeds or plants in a field can be correlated with soil reaction, organic matter content and other nutritional factors (Vidya, 2003; Blackshaw and Brandt, 2008; Li *et al*., 2017; Metcalfe *et al*., 2019).

Rubber plantations are established in warm humid tropics and luxurious growth of natural vegetation is observed throughout the plantation cycle. In a survey conducted in rubber plantations during 1995-97, the most widespread weed species was *Cyathula*

Correspondence: Jessy M.D. (Email: jessy@rubberboard.org.in)