IDENTIFICATION OF DROUGHT TOLERANCE ACCESSIONS OF TEA (*Camellia sinensis*) IN UVA REGION OF SRI LANKA.

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ABSTRACT

High moisture stress is a severe problem in the tea plantations. It reduces the yield and this severe moisture stress caused the death in tea plants. Tea is a perennial crop. To extend the plants life during the drought conditions and to secure tea plantations from the drought several mitigation practices are used to protect the tea plants from drought. The planting of drought tolerant cultivar is a good solution to this problem. This study was attempted to differentiate the new accessions by comparing with known drought tolerant cultivars according to their drought tolerant ability. Physiological parameters such as Photosynthesis, Transpiration, Stomatal Conductance and Relative Water Content and a biochemical parameter Total Soluble Sugar were used to differentiate the accessions. Following known cultivars and accessions were used. Known cultivars are TRI 2025, TRI 3019, TRI 4042 and DN. Accessions are 243, 199, 210, 88, 89, 5, 17, 21 and 208. Results showed that accessions N89 and N199 were identified the most suitable drought tolerant accessions. Further studies need to conduct before make the recommendations.

Key words: Drought, Accessions, Photosynthesis, Transpiration, Stomatal Conductance