Impact of different water levels on growth, plant water relations and leaf characteristics in seedling of Tongkat Ali (Eurycoma longifolia Jack)

ABSTRACT

The effects of water availability on growth, water relations and related plant leaves characteristics of young Tongkat Ali (Eurycoma longifolia jack) plants were investigated. Plant vegetative growth was inhibited with reduced water availability. Leaf water potential and relative water content were reduced with increasing soil water stress. The total leaf area and specific leaf area (SLA) in Tongkat Ali decreased in response to the stress treatments especially from moderate stress (75%FC), to severe stress (25% FC), compared with the control. Therefore by decreasing the SLA plant can preserve the internal water led to increase the tolerance of plant in case of water deficit condition.

Keyword: Eurycoma longifolia Jack; Leaf water potential; Relative water content; Total leaf area; Specific leaf area; Photosynthetic rate