Leaf Gas Exchange Characters of *Musa* AB 'Ney Poovan' and *Musa* ABB (Pisang awak) Karpuravalli

I Ravi and M M Mustaffa
National Research Centre for Banana (ICAR),Thogamalai Road, Thayanur (P.O.),Trichy-620102, Tamil Nadu, India

ABSTRACT

Ney Poovan (AB) and Karpuravalli (ABB) are indigenous and popular banana cultivars in south India for its unique taste, sweetness and flavour. Leaf gas exchange traits for these cultivars are important for better management practices. Diploid cv. Ney Poovan recorded higher photosynthesis (12.49 μ mol m^{-2} s^{-1}) than triploid cv. Karpuravalli (9.57μ mol m^{-2} s^{-1}) during vegetative stage. Ney Poovan has erect and narrow leaves compared to Karpuravalli (broad and droopy leaves) and helps in intercepting radiation effectively during morning hours. Stomatal conductance (gs) could demarcate physiologically efficient leaves in both the cultivars, as older and youngest leaves recorded lower stomatal conductance. The older leaves transpired on par with most active leaves with lower assimilation rate in both cultivars. The gas exchange parameters recorded higher in top 2-5 leaves, therefore these leaves can be used for any physiological and biochemical studies they reflect active physiological state of the leaves. Ney Poovan manifested early vigor by increased Pn, gs than Karpuravalli. Therefore, nutrient scheduling and management practice must be worked out separately for each cultivar; thereby we can exploit production potential of both cultivars.

Key words : Banana cultivars, Karpuravalli, Ney Poovan, Photosynthesis, Stomatal conductance, Transpiration.