

Relationship between leaf photosynthetic rate and environmental factors In Yacon (*Plymnia sonchifolia*)

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Abstract

This study was conducted to examine whether the leaf photosynthetic rate in Yacon plant under different nitrogen(N) and stable manure application regimes is related to environmental factors. Yacon plants were grown in plastic pots (20 cm in diameter, 18 cm in depth), under two N levels and stable manure, which were equivalent to 0.5kg-N/1000m²(N-0.5 Plot), 1.5kg-N/1000m²(N-1.5 Plot) and 80% stable manure/pot(S-1 Plot). Leaf photosynthetic rate increased in the plants grown at S-1 and N-0.5, while in N-1.5 and control the rates reduced. The results of this study indicate that soil environmental factors were highly related to leaf photosynthetic rate. And the estimated light saturation point were 1200 μ mol m⁻² s⁻¹ at 34 \pm 3 $^{\circ}$ C.