THE EFFECT OF N, K AND CL ON WATER RELATIONS AND VEGETATIVE GROWTH OF COCONUT SEEDLINGS

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The effect of N, K and Cl on water relations and dry matter accumulation in coconut palm seedlings was studied in a glasshouse experiment. Amputated coconut seedlings were grown in three levels (0mM, 5mM, 10mM) of N, K and Cl with other macro and micro-nutrients available in half strength Hoagland solution in sand culture.

With increasing treatment levels of potassium transpiration rate was significantly increased and stomatal diffusive resistance was decreased, though leaf water potential was not affected. Leaf chlorophyll concentration, total soluble sugars and shoot dry matter accumulation were increased, with increase in the nitrogen supply. However, root dry matter accumulation was not affected. The shoot and root dry matter accumulation was increased with increasing K levels. An interactive effect of N, K and Cl on water relations and dry matter accumulation was also observed. These observations suggest that K has influenced the water relations and dry matter partitioning within the seedlings whereas N mainly affects the dry matter production and partitioning into shoots.