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EFFECT OF IRON AND MANGANESE ON GROWTH AND NUTRITION OF COCONUT SEEDLINGS.

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In a sand culture experiment the effect of three levels each of iron and manganese at pH4 and 7, on growth and nutrition of coconut seedlings was examined.

The height of seedlings increased significantly at pH4 and decreased significantly at pH 7, when the supply of iron was increased. The effect of manganese on the total number of leaves was significant but showed a quadratic relationship. The Fe – pH interaction for total number of leaves and the Fe - Mn interaction in respect of dry weight of roots were also significant.

The concentration of manganese in roots and leaf components was largely related to the level of supply. Iron uptake on the other hand was affected by pH, but showed no uniformtty in the relationship with the level of supply.

Determinations of Fe^{++} and Fe^{+++} in root tips by an EDTA - extraction procedure showed that immobilisation of iron occurs through conversion to the ferric form when the supply of iron was increased. The formation of the ferric form was not related to nutrient pH, but tended to decrease when the manganese supply increased.

Although evidently the uptake of iron is severely reduced through immobilisation in the roots of coconut seedlings when the supply is high, manganese does not appear to take any part in this process.