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# Investigations into the Correction of Iron Deficiency in Second Generation Oil Palm Replants in Mature Organic Soils in Indonesia

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*Scattered to localized pockets of iron (Fe) deficiency were observed in young second generation oil palm replants on deep and mature organic soils in North Sumatra, Indonesia. Opportunity was taken to establish four trials to evaluate the efficacy of various treatments in correcting the deficiency and their results are reported here.*

*Of the various treatments evaluated, foliar spraying with 1 per cent ferrous sulphate (FeSO) solution produced the fastest response but as translocation of Fe from older to younger fronds is minimal, multiple rounds at monthly intervals was required to sustain the re-greening effect. Foliar spraying at monthly intervals (12 rounds per year) or in three campaigns per annum (one campaign = 4 rounds x 2 weekly intervals) was superior to eight rounds of spraying conducted in two campaigns per year.*

*Soil application with chelated iron fertilizer (Fe-EDTA) was equally effective but the correction was not permanent lasting only four to six months, necessitating re-application every six months. Optimum dosage varied with palm age.*

*Root infusion of FeSO<sub>4</sub> even at a dosage as low as 2 g per palm was phytotoxic to the young palms. Application of iron via incorporation into clay balls or as iron rods buried next to palm boles was generally less effective.*

*A combination of foliar spraying followed by soil application of Fe-EDTA fertiliser is advocated for a quick re-greening response and longer term management of the deficiency.*

*Keywords : Iron deficiency, oil palm, peat.*

