

2019

August

## Effect of Soil Water Deficits on Annual Fresh Fruit Bunch Production in Central Kalimantan

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*The soil water deficits have an after-effect over the time lagged fruiting activities of palms, which subsequently affects the annual fresh fruit bunch (FFB) production in the oil palm plantation. Field data from 2014 to 2018 in a reasonably well managed oil palm estate with three soils of the greater groups of Typic Dystrudept (Inceptisol), Typic Haplohumod (Spodosol) and Typic Haplohemist (Histosol) were analysed. The palms were planted in the years 2004 and 2005, and were producing FFB at its prime plateau age of yield life cycle. The amount of monthly water deficits that results in single or multiple fruiting activities responded quadratically to subsequent annual FFB production in all three soils. With two consecutive total soil water deficits in the years 2014 and 2015, the multiple time lagged fruiting activities from bunch failure to sex differentiation with change in sex ratio favouring male inflorescences resulted in reduced yield in 2016 in all three soils. Typic Haplohumod soils being sandy achieved the lowest yield in 2016. The palms planted on Typic Haplohemist showed rapid decline in crop with the slightest water deficit. The soil derived from Typic Dystrudept gave relatively high FFB production at low water deficit.*

**Keywords:** *Water deficit, fruiting activity, fresh fruit bunch production, El nino, drought.*

SENTIASA MAJU

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