Maximising Oil Palm Yield by High Density Planting and Thinning

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Optimal planting density for current yield is much higher in young oil palm than in palms over 10 years old. High density planting followed by thinning allows early yields to be increased, while avoiding the loss from excessive inter-palm competition in later years. At Univanich Palm Oil PCL in Southern Thailand, the trial described here confirmed that, for cumulative yield over the life of a planting, the optimum is about 145 palms per hectare. The optimal density for current yield decreased with age, reaching a minimum 11-12 years after field planting, but then increased slightly in year 13. With initial planting at 160 or 180 palms per hectare, followed by 25 per cent or 33 per cent thinning to leave 120 palms per hectare, results up to 16 years after planting gave cumulative yields at least 15 per cent higher, or up to 36 tonnes FFB per hectare more, than a fixed density of 143 palms per hectare, provided that thinning was done at year 8-9 after planting to benefit from the period of low optimal density in years 11-12.

Keywords: Oil palm, optimal density, thinning, competition, palm age.