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## Replanting for Sustainable High Yield\*

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*The average crude palm oil (CPO) yield in Malaysia has been stagnating at around 4 tonnes per hectare per year. Production and hence profit of most plantation companies had been increased and temporarily sustained largely by expanding the areas of planting. However, due to shortage of suitable agriculture land, we will have no other option but to increase and sustain the productivity of the existing cultivated land. Other than implementing good agro-management practices to achieve high yield of existing palms, one of the most promising ways by which the productivity of existing land can be significantly improved is to replant i.e. replacing existing old palms with higher yielding materials. This can be supported by the fact that 16 per cent of improvement in fresh fruit bunch (FFB) yield and 35 per cent of improvement in oil yield has been achieved over the past 10 to 15 years through breeding efforts. With the advancement of technologies and knowledge, we can also take the rare opportunity in replanting to optimise the planting density and planting pattern under different environment conditions in ways that have not been possible before to enhance the yield and productivity of the improved planting materials. With the introduction of useful spatial data and geo-spatial analysis tools, efficient road system should be planned to reduce the long-term maintenance cost in hilly areas while effective drainage scheme can be designed to enhance the yield productivity of low-lying areas. In addition to these, large amount of nutrients, equivalent to about 1500 kg per hectare of ammonium sulphate, 220 kg per hectare of rock phosphate, 1330 kg per hectare of muriate of potash and 360 kg per hectare of kieserite that are 'stored' in the palm biomass can also be reutilised by young palms. At the same time, 'free' nitrogen from the air, equivalent to 1190 kg per hectare of ammonium sulphate can possibly be fixed and incorporated into the soil by leguminous cover plants during the immature period.*

**Keywords:** *Oil palm replanting, yield improvement, geo-spatial tools.*