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The Need to Increase Profitability in Oil Palm Plantations: Matching Crop and Nutrient Management Principles with Evolving Strategies

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There is an evident need for the oil palm industry to undertake steps to increase productivity on existing planted land considering the scarcity of suitable land for further expansion. National statistics show that oil yields have stagnated over the past 20 years in Malaysia and Indonesia despite the fact that the yield potential of existing planting material is about 10 t/ha palm oil products on good land. This paper presents crop and nutrient management principles that can be used to increase productivity and reduce existing yield gaps. We identify the key principles of crop and nutrient management as i) decision-making based on relevant information, ii) development of management units based on soil and plant surveys, iii) best management practice for optimal economic yield, iv) plant-based determination of nutrient needs, and v) need-based fertiliser use for effective and environmentally sound nutrient use. Case studies are used to provide examples for the integration of tools and technologies to achieve an ecological intensification of palm oil production. We conclude with an attempt to develop a conceptual framework for site-specific nutrient management in oil palm drawing on similar developments in other crops.

Keywords: *Oil palm, ecological intensification, best management practice, nutrient management, decision support.*

