

**PHYSICAL AND CHEMICAL PROPERTIES OF SOIL  
ON OIL PALM (*Elaeis guineensis* Jacq) WITH TWO TYPES OF REPLANTING  
IN SUNGAI BAHAR DISTRICT, MUARO JAMBI REGENCY,  
JAMBI PROVINCE**

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**ABSTRACT**

Oil palm plantations in Sungai Bahar District entered the final stage of the production cycle, so it is necessary to replant. This research aims to determine the physical and chemical properties of soil on oil palm land with two types of conventional and underplanting. The research was conducted using a survey method. Soil samples were taken at a depth of 0–15 cm, and 15–45 cm samples were taken to the laboratory for analysis. The results of the analysis show that conventional types have a loam texture class, while underplanting types have a sandy loam texture. The conventional types have higher BV values at depths of 1.53 g/cm<sup>3</sup> and 1.57 g/cm<sup>3</sup>. Meanwhile, the underplanting types have higher values for both depths: porosity 47.00% and 50.68%; permeability 10.22 cm/hour and 10.80 cm/hour; organic matter 3.55% and 3.45%; soil pH 4.64% and 4.24%; available P 9.55 ppm and 20.12 ppm; N-total 0.07% and 0.06%; and KTK 8.55 cmol(+)/kg and 7.52 cmol(+)/kg. Conventional types with a depth of 0–15 cm and 15–45cm have a higher BJ value of 2.70 g/cm<sup>3</sup>. Available K 6,40 meq/100g. Underplanting types at a depth of 15–45 have higher values at BJ 2,93 g/cm<sup>3</sup>. K is available at 10,66 meq/100g. The parameters of production value (1,360 kg) and plant height value (6,246 m). Underplanting types have a higher value than conventional types in terms of the parameters of the circumference of the rod (2,748 m). The conventional types have higher values than the underplanting types.

**Keywords:** *conventional, oil palm, replanting, underplanting.*