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Field Decomposition of Pruned Oil Palm Frond and Its Nutrients Release Pattern

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The analysis of litter quality and quantity and its rate of decomposition are important for the understanding of nutrient cycling to support plant productivity and sustainability of the productivity. Decomposition is a key process in the control of nutrient cycling and formation of soil organic matter. Decomposition of leaf litter is also an integral and significant part of biochemical nutrient cycling and food webs; this refers to both the physical and chemical breakdown of litter and the mineralization of nutrients. Plant production depends on the recycling of nutrients within the system; recycling depends on the rate of decomposition of organic matter and the release pattern of nutrients. However, although many studies have examined the potential of litter decomposition to transfer back the nutrients but very little is known about the oil palm frond decomposition and its rate of decomposition and nutrient content. This study, therefore, focuses on the amount of nutrient contents in pruned and decomposed frond of oil palm and its rate of decomposition. This study is conducted in four (4) oil palm plots of CRC 990 research project located in Jambi Province. Litterbag technique is used to study the pattern and rate of litter decomposition and nutrient release of pruned oil palm frond. One hundred and ninety two (192) litter bags will be distributed equally to four plots. Sixteen (16) litter bags are retrieved randomly from the plots at 1 month intervals for 12 months. Nutrient concentration such as C, N, P, Mg, Ca, K, Fe, Zn, Mn and Ni in decomposed oil palm frond will be examined.
Keyword: litter, decomposition, nutrient, litterbag