

## **Effect of empty fruit bunches (EFB) application on oil palm yield, soil properties and costbenefits analysis**

### **ABSTRACT**

Due to limited area for dumping empty fruit bunch (EFB), an environmentally sustainable approach of EFB utilization is needed in oil palm plantations. The estimated production of EFB generated from 100 tons of fresh fruit bunches (FFB) is about 20%, which is equivalent to 20 tons. A study was conducted in 2015 at an 8-year-old oil palm estate owned by Ladang Rakyat Trengganu Sdn. Bhd. (LRTSB), located in Cheneh, Terengganu. It is estimated that the LRTSB palm oil mill's annual production is about 240 000– 250 000 tons of FFB that will produce about 48 000 – 50 000 tons of EFB. In this research, the application of EFB at different rates of 60 t/ha (T1), 80 t/ha (T2) and 0 t/ha (T3) were conducted from 2015-2019. The EFB was applied along the frond heap (alternate row), once a year. The data collected consisted of oil palm yield, soil chemical properties and cost benefit analysis. Results showed that after 6 years of EFB application, the oil palm yield increased when compared to the plot without EFB application. In addition, the EFB helped in increasing soil nutrient content, moisture and reduced soil compaction. In short, application of EFB increased soil fertility and improved oil palm yield.

**Keyword:** Oil palm yield; Soil properties; Empty fruit bunches (EFB); Root biomass

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