

Assessment of Slow Release Organic Fertiliser in Oil Palm Seedling Growth

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Oil palm waste (mill effluent and empty fruit bunches) utilisation has become the main alternative for the oil palm industry due to its great potential to be converted into compost, as a nutrient source for palm growth and reduce dependency on costly inorganic fertilisers. Quality compost should be fortified with inorganic fertiliser to provide optimum nutrient supply for vigorous plant growth. Production of slow-release organic fertiliser by the adoption of polymer coating agglomeration technology with fortified organic fertiliser has a positive impact on nutrient release while reducing fertiliser application frequency. This paper explains the outcome of field research to evaluate the effectiveness of slow release organic fertiliser (SROF) in comparison to conventional inorganic fertilisers for seedling growth and labour reduction. Seedlings treated with SROF fertiliser recorded 8.6 per cent higher seedling height, 6.5 per cent increase in frond length and 7.5 per cent higher plant dry weight compared to the standard NPK treatment (control). SROF treatment contributed to 38-70 per cent labour cost savings as it requires only two manuring rounds within eight months in the main nursery stage, thus enhancing labour efficiency. SROF application showed a positive impact in the retention of optimum chlorophyll index of seedlings up to 15 months of palm age.

Keywords: *Slow release organic fertiliser, polymer coating technology, labour cost saving, oil palm waste recycling.*