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Further Evaluation of Bio-Compounds, Organic Supplements and Specialty Fertilisers for Use in Oil Palm Nurseries

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Use of traditional standard manuring regimes in large oil palm nurseries can be difficult to implement effectively especially where labour discipline, supervision and availability is a problem. As such, more practical, effective and economical substitutes are required to sustain good seedling growth over the entire nursery retention period. With these objectives in mind, a series of trials were established between 1994 - 1998 and 2001 - 2005. This paper summarises results obtained from the second period.

Of the four bio-compounds evaluated in Trial no.1, only Super Willfer applied inconjunction with 100 per cent standard manuring regime produced seedling growth superior to the standard manuring regime used alone, even upto 12 months after treatment. Use of other bio-compounds such as Mycogold, Ostindo and Tricho-B provided no additional growth benefits. A similar trend was recorded in Trial no.3. None of the six bio-compounds and organic fertilisers/supplements (Mycogold, Ostindo, OST-Rajawali, Humega Crumble, Compound RSPO, Mashitam KS) evaluated showed any positive results. Instead, the best responses and seedling growth was recorded in plots where palm oil mill by-products such as decanter solids were mixed into polybag soil at a ratio of 1:6 (solids : soil). With decanter solids addition, the dosage of the standard manuring regime could be reduced by as much as 50 per cent.

Trials no.2 and 3 confirmed earlier findings that a single application of controlled release fertilisers was incapable of sustaining good seedling growth over the entire eight to nine months retention period in main nurseries and re-application or supplementary manuring would be required. In Trial no.2, irrespective of dosage applied (30 or 50g/seedling), a single application of either formulation of Sumicoat, could only sustain satisfactory seedling growth upto six months after transplanting into the main nursery. On the otherhand, in Trial no.3, application of 50 g/seedling of either Agroblen or Meister at transplanting followed by re-application of 30 g/seedling six months later, supported vegetative growth comparable to 17 rounds of the standard manuring regime. However, leaf N, P and K levels were lower in seedlings treated with controlled release fertilisers, with fertiliser cost per seedling being 33 per cent higher than those fertilised with the standard manuring regime.

Keywords : Bio-compound, nursery, organic supplements, oil palm