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**Intercropping Immature Oil Palm (*Elaeis guineensis*) with Banana, Ginger and Turmeric in Galle District, Sri Lanka**

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**Abstract**

Oil palm (*Elaeis guineensis*) is identified as the world's leading edible oil producing plant and is well established as a perennial plantation crop in tropical countries. Oil palm in Sri Lanka has spread over 10,000 ha in the wet zone of the island. In immature plantations, land productivity can be sustainably increased with some selected intercrops. At the initial stage of the plantations (age up to 3-5 years), there is an ample amount of free space available inside the plantations. This study attempts to determine the suitability of different intercrops during the immature phase of the oil palm. A field experiment is being conducted at Thalgaswella estate (WL2a) in Galle District, Sri Lanka. The objectives of the study are to evaluate and recommend suitable immature oil palm based intercropping system/s. The experiment was designed with Randomized Complete Block Design (RCBD) with four treatments, including three replicates and a control. Banana, ginger and turmeric were selected as intercrops. Growth parameters of intercrops (Plant height, length, width of D-leaf and yield of intercrops) girth, length and number of leaflets of 17<sup>th</sup> frond in oil palms were taken at two months intervals. In addition to this, chlorophyll content of D-leaf was also measured in both intercrops and oil palm trees. Soil chemical parameters were measured annually for two years as of now. Results were statistically analysed with SAS software. Results revealed that intercropped banana, turmeric and ginger had given the yields of 7.61 Mt/ha, 4.92 Mt/ha and 4.53 Mt/ha respectively. When comparing these yields with mono-crop; banana, turmeric and ginger intercrop yields as percentages of 16.9%, 24.6% and 30.2% respectively. Therefore, it is obvious that monocrop yields are much better than to that of these crops under immature oil palm. Results of this study could be used to make appropriate policies to increase the unit land productivity and sustainable use of lands in immature oil palm plantations in low country wet zone (WL2a) of Sri Lanka.

**Keywords:** Inter-cropping, Oil palm, Policies, Mono-crop, Land productivity, Sustainable