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Control of *Alocasia* sp. and *Etlingera brevilabrum* in Oil Palm Plantations in the Kinabatangan Region

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Weed management is one of the most important operations in oil palm plantations. It is the second most costly operation after fertilizer application. Hence, it is important that noxious weeds in oil palm plantations are managed with the best chemical solution to control them. In Genting Plantations Berhad (GENP) estates in the Kinabatangan region, the main noxious weeds present are Alocasia sp. and Etlingera brevilabrum. Trials have been conducted to assess the effectiveness of some selected herbicides on these weeds. All trials were conducted on undulating to hilly terrain with annual rainfall of more than 3000 mm. Equipment used in the trials was the knapsack sprayer which was calibrated to 450 L of blanket spraying using solid cone adjustable nozzle (1.30-1.45 L/min). All spraying was completed within a day. Post treatment assessments were based on visual observation of the symptoms on the weeds and photo collection after spraying. Results on Alocasia sp. show that the standard estate practice of manual slashing provided only temporary control with new shoots regenerating two days after treatment (DAT). Spraying single herbicide using 2,4-D dimethylamine and also metsulfuron-methyl provided the best control, where even three months after treatment (MAT), there is still no sign of regeneration of Alocasia sp.. In terms of cost, the use of 2,4-D dimethylamine is cheaper than metsulfuron-methyl. Metsulfuron-methyl costs 12 per cent more compared to 2,4-D dimethylamine. When 2,4-D dimethylamine is combined with other herbicides such as paraquat and glyphosate, the control is more effective whereby the Alocasia sp. is killed much faster but the cost is more expensive at 31 per cent more when combined with paraquat and 73 per cent more when combined with glyphosate. Results on control of Etlingera brevilabrum also show that the standard operation practice of manual slashing provides temporary control whereby regeneration occurs at 22 DAT. The best control is using 2,4-D dimethylamine where after 3 MAT, there is no regeneration of new shoots of E. brevilabrum. Metsulfuron-methyl however shows no effect on E. brevilabrum even when higher dosage is applied. The use of 2,4-D dimethylamine costs RM 10.28 per hectare (under assumptions E. brevilabrum covers 50% per hectare). It can be concluded that the best control both on bio-efficiency and costing for Alocasia sp. and Etlingera brevilabrum is 2,4-D dimethylamine.

Keywords: Etlingera brevilabrum, Alocasia sp., weed, oil palm.

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