

**A CASE STUDY OF COMPARISON PERFORMANCE AND
COST ANALYSIS
BETWEEN SEMI-MECHANICAL AND TURBO SPIN
SPREADER IN
FERTILIZER APPLICATION AT JOHAWAKI PLANTATION**

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**Final Year Project Report Submitted in
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CANDIDATE'S DECLARATION

This Final Year Project is a partial fulfilment of the requirements for a degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

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ABSTRACT

Turbo spin spreader and semi-mechanical are the equipment used in fertilizer application (maintenance) in oil palm. Turbo spin spreader give constant rate in shorter time and also reduce labour requirement. Study was conducted to test the performance and cost of using semi-mechanical and turbo spin spreader . Data collected include the time taken during distribution and refill the empty trailer and hooper of turbo spin spreader. Replication was made 2 times in different plot with the same rate per palm. Results showed that the turbo spin had low working hour as 2 hours better than semi-mechanical which use 4 working hours. Effective field capacity for semi-mechanical 3.04 ha/hr and turbo spin 6.1 ha/hr. Labour requirement for semi mechanical is 4 person and turbo spin is 2 operator. The operating cost for turbo spin spreader less than semi-mechanical around RM 7.78 per ha due to low labor cost. Turbo spin spreader can save time and labour cost energy than semi-mechanical to manure the oil palm.

keywords: turbo spin spreader, semi-mechanical, labour, effective field capacity, cost