

**NUTRIENT STUDIES OF GROWTH PERFORMANCE OF AEROBIC RICE
AND ARACHIS PINTOI GROWN AS INTERCROPPED**

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Partial Fulfilment of the Requirements for the
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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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I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

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ABSTRACT

NUTRIENT STUDIES OF GROWTH PERFORMANCE OF AEROBIC RICE AND ARACHIS PINTOI GROWN AS INTERCROPPED

Aerobic rice has become one of the newest varieties used in Malaysia where the rice is grown in well-drained, non-puddled and non-saturated soils. The production of paddy should be improved because of the culture and structure of soil in Malaysia with such hot-climate temperature with limited sources of water. The major problem occur in planting aerobic rice is plenty of weeds growth without controlled and one of it is *Arachis pintoii* which used as living mulch to prevent other weeds to colonies and provide nitrogen, N actually gives benefits to the hosts. As the specialty to produce nitrogen fixation to the soil. Aerobic rice seedling (MR1A variety) was used in this study conducted on the field area in UiTM Jasin campus, Melaka. The objective is to evaluate the relative nutrient uptake of Aerobic rice and *Arachis pintoii* grown as mixed cropping. The research was done by applying *Arachis pintoii* on Treatment 1 and Treatment 2 but not on Treatment 3 with difference planting distance which is 25 cm and 35 cm between rows. All the treatment has 3 replications and 3 samples are taking each. The data collected on 3 different harvest period which is on DAS 57 (Panicle Initiation), DAS 77 (Heading) and DAS 90 (Maturation). The parameter data taken is plant height, number of tiller and nutrient concentration on the analysis in the laboratory. The result shows that all of the treatment for plant height and number of tiller shows significant different ($P < 0.05$) after the data being analyzed by using ANOVA calculation and experimental design was arranged in Randomized Complete Block Design (RCBD). Although the result for the nutrient analysis gives small value as the result, but it shows great result on plant height and number of tiller when using the legume cover crops, *Arachis pintoii* with Aerobic paddy. The competitive effects of *Arachis pintoii* on available soil nutrient resources and the relation yield component of rice with total nutrient uptake under mixed cropping also been evaluated. The yield differences were attributed to the different in planting distance between row within and without *Arachis pintoii*, spikelet number per panicle and the grain weight.