

Universiti Teknologi MARA

**Forecasting the Sales of Aromatic Dwarf Coconut: A
Case Study at Hutan Melintang, Perak**

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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ABSTRACT

Aromatic Dwarf Coconut is a Compact Dwarf coconut with a short, thick stem and a wide leaflet. It is very popular planted in Malaysia, especially in Hutan Melintang, Perak. Leaders still follow accounting techniques, instinct, and try and error assumption that makes the prediction goes wrong. Hence, the company will face bad circumstances such as shortages, and bankruptcy. Aromatic Dwarf Coconut revenues were derived from Jabatan Pertanian Teluk Bharu, Hutan Melintang, Perak from the year 2015 to the year 2019. It shows that the sales of Aromatic Dwarf Coconut increased every month, every year. Secondary data was used to achieve the main objective of this study, which is to determine the best method between the Artificial Neural Network and Linear Algebra. This study also includes two sub-objectives to predict the sales of Aromatic Dwarf Coconut for both methods and to measure the error using Mean Square Error for each method. As a result, the Artificial Neural Network is the best method. This can be demonstrated by having the lowest Mean Square Error (MSE) which is 566,829.2575 more accurate than the Linear Algebra, 2,051,909.21. The best forecast sales using ANN are RM30517.19 in January, RM30338.36 in February, RM30678.25 in March, RM31207.43 in April, RM32505.06 in May, RM32914.33 in June, RM32874.70 in July, RM31605.42 in August, RM30179.15 in September, RM29585.53 in October, RM29992.47 in November and lastly in December is RM31722.47.

Keywords: Forecasting, ANN, Linear Algebra, MSE

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