

**MATHEMATICAL MODELLING OF RICE MILL PRODUCTION
BY USING CUBIC B-SPLINE AND DISCRETE LEAST SQUARE
METHOD**

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DECLARATION BY CANDIDATE

I hereby declare that the thesis is based on my original work except for quotations and citations which have been acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Teknologi MARA or other institutions.



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ABSTRACT

As a developing country, the growth in per capita of Malaysia brings higher demand of rice, which is the main food in the country. The objective of this study is to observe the production pattern of rice at the chosen rice mill, which is BERNAS Pasir Puteh, Kelantan. Then, through the graph plotted by using cubic B-spline and discrete least square method, the production of the rice will be estimated and interpolated. By using data from the rice mill, both methods are applied to analyse them. This study obtains that both cubic B-spline and discrete least square methods can show the production patterns successfully and there is continuous supply of rice in Malaysia. However, by using Mean Square Error(MSE) and Root Mean Square Error(RMSE), it is concluded that B-spline method is more efficient than discrete least square method since it has the lower total RMSE.

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