

Universiti Teknologi MARA

**Crop Planning Optimization on Paddy
Fields under MADA using Goal
Programming**

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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

Paddy is the third most widely planted crop in Malaysia after oil palm and rubber. There is an agency under the Ministry of Agriculture and Agro-Based Industry in Malaysia that runs the development and production of paddy which is the Muda Agriculture Development Authority (MADA). The crop planning has been applied in MADA; the farmers plant each type of paddy varieties in a different plot. However, the production in MADA since 2014 until 2017 was not in outstanding order. The values were inconsistent and would affect the profit of MADA. Therefore, this study focused on optimizing the crop planning in MADA. Six paddy varieties were tested in this study. Furthermore, goal programming is used in optimizing crop planning of paddy fields under MADA. Two goals were to maximize the number of paddy varieties to plant and to maximize paddy varieties production. Based on the result of the analysis, the optimal value for six paddy varieties in MADA is 3.92 trillion. Hence, the number of paddy varieties is 43 trillion and the paddy varieties production is 2143.62 thousand tonnes in a year. The result of this study was analyzed by using QM for Windows version 4.0.

Keyword: Crop Planning, MADA, Paddy Varieties, Goal Programming

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