

**POWDER FORMULATION FROM BUTTERFLY PEA LEAF EXTRACT  
AND ITS MEDICAL APPLICATION FOR DIABETIC PATIENTS**

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### STATEMENT BY AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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## ABSTRACT

### POWDER FORMULATION FROM BUTTERFLY PEA LEAF EXTRACT AND ITS MEDICAL APPLICATION FOR DIABETIC PATIENTS

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*Clitoria ternatea L.*, known as butterfly pea leaves, has been studied for having hypoglycaemic effect on alloxan-induced diabetic mice. With the support from the university through Central Research Fund (CRF) program, the present study was aimed to come up with the freeze-dried butterfly pea leaf powder and to study its effect on diabetic patients. The parameter was concentration of carrier agent, namely maltodextrin, with 3 different levels. The most optimum concentration of maltodextrin was 20% which resulted in 8.67% of moisture content powder with good hygroscopicity. The maltodextrin protected 98.64% of flavonoids and 99.03% of phenols. The freeze-dried butterfly pea leaf extract powder was given to 11 diabetic patients in Dinas Kesehatan Kota Bogor, Bogor, Indonesia, to be consumed twice a day, 1-hour after breakfast and 1-hour after dinner. The results showed no significant different between pre-treatment and post-treatment whole blood haematology, kidney function, and insulin levels. However, all patients with undetected insulin levels had their insulin levels increased. The trend of fasting blood glucose levels of the diabetic patients after consuming butterfly pea leaf extract was negative. 7 out of 11 patients had their fasting blood glucose level decreased, including 3 patients had their blood glucose on the normal range.

*Keywords: butterfly pea leaves, Clitoria ternatea, diabetes mellitus, hypoglycaemic, freeze-drying, blood glucose, insulin.*



## **DEDICATION**

I dedicate this works for my God, my lovely moinch-moinch, my family, and the future of all diabetic patients.



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**I will say of the Lord, “He is my refuge and my fortress; My God, in Him I will trust.” – Psalm 91:2 (NKJV)**

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The writer hopes this report can be an advantage for the future. Additionally, the writer realizes that this report is not perfect and contains mistakes and faults. Therefore, critics and suggestions are welcomed.

Jakarta, 16 June 2015

Melisa Grace Sekarmadidjaja



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