

**DEVELOPMENT OF ANTI DIABETIC SOY YOGURT WITH BUTTERFLY
PEA LEAVES AND PETALS EXTRACT**

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STATEMENT BY THE 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

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Butterfly Pea (*Clitoria ternatea*) has been studied for its anti-diabetic properties. Several experiment has prove the hypoglycemic and the same hypoglycemic effect also occurs in Soy yogurt dietary. The purpose of this experiment is to study the interaction and compatibility between butterfly pea extract when added to soy yogurt. The anti-diabetic property also studied in this experiment. The development of this product could become another treatment in diabetic. The analyses that were conducted in this experiment are the stability test and *in vitro* and *in vivo* anti-diabetic analysis. Analysis of total phenolic compound, total flavonoid compound and antioxidant activity was conducted to see the stability of the product over two weeks. The phenolic compounds in soy yogurt products were stable and the flavonoid compound was decreased over time. In contrary, the antioxidant activity was increased over time. The alpha-glucosidase inhibitor assay was used in the *in vitro* anti-diabetic analysis. The inhibition of alpha-glucosidase is believed to reduce the sugar digestion and suppress postprandial hyperglycemic. Soy yogurt with petal extract and soy yogurt with leave extract has successfully 100% inhibits and soy yogurt with combination extract of petal and leaves extract has successfully 67% inhibits alpha-glucosidase. The *in vivo* experiment was conducted using Alloxan-induced mice that were treated with the product for two weeks. The lower blood glucose level in mice will indicate the hypoglycemic effect of the product.

Keywords: Soy Yogurt, Anti diabetic, Antioxidant, Alloxan-monohydrate, Alpha-Glucosidase



DEDICATION

I dedicate my work to God, family and the readers



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