

APPLICATION OF LOW TEMPERATURE FLUIDIZED BED DRYING
FOR *CLITORIA TERNATEA*

By

Brendan Louis Vigo Mulyadi
12004001

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CHEMICAL ENGINEERING –
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FACULTY OF LIFE SCIENCES & TECHNOLOGY



SWISS GERMAN UNIVERSITY
The Prominence Tower
Jalan Jalur Sutera Barat No. 15, Alam Sutera
Tangerang, Banten 15143 - Indonesia

Revision after the Thesis Defense on 16 January 2025

STATEMENT BY THE AUTHOR

Name of Student : Brendan Louis Vigo Mulyadi
Student ID : 12004001
Faculty : Life Sciences & Technology
Study Program : Chemical Engineering - Pharmaceutical Chemical
Engineering concentration
Date of Defense : 16 January 2025
Thesis Title : APPLICATION OF LOW TEMPERATURE FLUIDIZED BED
DRYING FOR CLITORIA TERNATEA

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Brendan Louis Vigo Mulyadi
(Name of Student)

Approved by:

Date: 30 January 2025



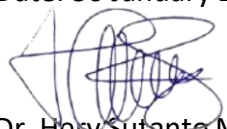
Dr.-Ing. Diah Indriani Widiputri
(Thesis Advisor)



Dr. Iryan S. Kartawiria ST. MSc.
(Thesis Co-Advisor)

Acknowledged by:

Date: 30 January 2025



Dr. Hery Sutanto M.Si. S.Si.
(Dean of Faculty of Life Sciences & Technology)

The Prominence Tower, Alam Sutera
Jalan Jalur Sutra Barat No.15, Tangerang 15143 –
Indonesia
Telp : (+62) 21 2977 9596/9597 | Fax : (+62) 21 2977
9598
www.sgu.ac.id



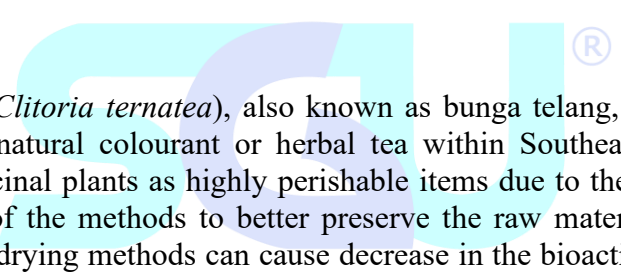
ABSTRACT

APPLICATION OF LOW TEMPERATURE FLUIDIZED BED DRYING FOR *CLITORIA TERNATEA*

By

Brendan Louis Vigo Mulyadi
Dr.-Ing. Diah Indriani Widiputri
Dr. Irvan S. Kartawiria ST. MSc.

SWISS GERMAN UNIVERSITY



Butterfly pea (*Clitoria ternatea*), also known as bunga telang, is commonly used as an ingredient for natural colourant or herbal tea within Southeast Asia. Considering the nature of medicinal plants as highly perishable items due to their high moisture content, drying is one of the methods to better preserve the raw materials. However, increased temperature in drying methods can cause decrease in the bioactive compounds. Fluidized bed drying methods is chosen as an alternative, due to its ability to provide uniform temperature and moisture content of particles due to intensive particle mixing occurring in the bed. The aim of this study is to compare the drying time and bioactive compound retention of butterfly pea flower utilizing the fluidized bed drying method in comparison to other methods. The butterfly pea flowers were dried using the fluidized bed drying method and oven drying method. The samples were then taken out for moisture content analysis, anthocyanin content analysis, and total phenolic content analysis. Decrease in sample load shows lower drying time, with 50 grams of load requiring approximately 166.78 minutes. Drying of butterfly pea flowers shows better drying efficiency in the fluidized bed dryer requiring less time in comparison to the oven dryer. Drying of butterfly pea flower utilizing the fluidized bed dryer with 50 grams of load shows best anthocyanin retention at approximately 131.46 mg/L, and total phenolic content retention at approximately 16.07 mg/L.

Keywords: fluidized bed drying, butterfly pea flower, moisture content, anthocyanin content, phenolic content

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DEDICATION

I dedicate this thesis work to my family who supported me during my study, to my respected lecturer who guided me throughout the thesis work, and my friends who encouraged me to keep going.



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