

**THESIS**

**OPTIMIZATION AND VALIDATION OF AN ULTRASOUND-BASED  
TECHNIQUE FOR THE ANALYTICAL EXTRACTION OF  
TRYPTOPHAN IN RED ALGAE (*Kappaphycus* spp.)**



**Arranged by:**

**NUZULIA IZMI**

**21/490247/PTP/01895**

**FOOD SCIENCE AND TECHNOLOGY STUDY PROGRAM  
DEPARTMENT OF FOOD AND AGRICULTURAL PRODUCT  
TECHNOLOGY  
FACULTY OF AGRICULTURAL TECHNOLOGY  
UNIVERSITAS GADJAH MADA  
YOGYAKARTA**

**2023**

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**OPTIMIZATION AND VALIDATION OF AN ULTRASOUND-BASED  
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TRYPTOPHAN IN RED ALGAE (*Kappaphycus* spp.)**

**To fulfill the requirements for  
Master Degree (S2)  
of Food Science and Technology Program  
Faculty of Agricultural Technology**



**Arranged by:**

**NUZULIA IZMI**

**21/490247/PTP/01895**

**GRADUATE PROGRAM  
FACULTY OF AGRICULTURAL TECHNOLOGY  
UNIVERSITAS GADJAH MADA  
YOGYAKARTA**

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LEGALIZATION SHEET

OPTIMIZATION AND VALIDATION OF AN ULTRASOUND-BASED  
TECHNIQUE FOR THE ANALYTICAL EXTRACTION OF  
TRYPTOPHAN IN RED ALGAE (*Kappaphycus* spp.)

Presented and compiled by:

Nuzulia Izmi

21/490247/PTP/01895

has been defended in front of the Examiner Board  
On December 15, 2023

Examiner Board Composition

Thesis Supervisor



Dr. Widiastuti Setyaningsih, S.T.P., M.Sc  
NIP. 198407212012122002

Board of Examiners 1



Prof. Dr. Ir. Chusnul Hidayat  
NIP 196409191994031002

Thesis Co-supervisor



Prof. Miguel Palma Lovillo

Board of Examiners 1



Dr. Manikhanda, S.T.P., M.Agr.  
NIP 111198901202001201

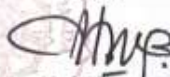
This thesis has been accepted as a requirement for completing a Master's degree  
in Food science and Technology Study Program

Date: 20 DEC 2023

Faculty of Agriculture Technology  
Universitas Gadjah Mada



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Prof. Dr. Ir. Eni Harmayani, M.Sc