



UNIVERSITAS  
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**Quality and Structure Detection Algorithm of Chocolate with X-ray Computed Tomography**  
Yoga Arif Firmansyah, Bayu Nugraha, S.T.P., M.Sc., Ph.D.; Dr. Arifin Dwi Saputro, S.T.P., M.Sc.  
Universitas Gadjah Mada, 2025 | Diunduh dari <http://etd.repository.ugm.ac.id/>

## **THESIS**

# **QUALITY AND STRUCTURE DETECTION ALGORITHM OF CHOCOLATE WITH X-RAY COMPUTED TOMOGRAPHY**



YOGA ARIF FIRMANSYAH

23/524548/PTP/02017

**AGRICULTURAL AND BIOSYSTEMS ENGINEERING**

**FACULTY OF AGRICULTURAL TECHNOLOGY**

**UNIVERSITAS GADJAH MADA**

**YOGYAKARTA**

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## THESIS

# QUALITY AND STRUCTURE DETECTION ALGORITHM OF CHOCOLATE WITH X-RAY COMPUTED TOMOGRAPHY

In partial fulfilment of the requirements for the degree of **Master of Science**  
Department of Agricultural and Biosystems Engineering  
Faculty of Agricultural Technology



Submitted by:

YOGA ARIF FIRMANSYAH

23/524548/PTP/02017

To

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

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# THESIS

## Quality and Structure Detection Algorithm of Chocolate with X-ray Computed Tomography

Submitted and composed by  
**Yoga Arif Firmansyah**  
23/524548/PTP/02017

Has been defended before the Board of Examiners

On the date, 4 July 2025

Composition of the Board of Examiners

Supervisor

Bayu Nugraha, S.T.P., M.Sc., Ph.D.

Examiners

Dr. Joko Nugroho Wahyu Karyadi, S.T.P., M.Eng.

Co-Supervisor

Dr. Arifin Dwi Saputro, S.T.P., M.Sc.

drg. Isti Rahayu S, M.Biotech., Sp.Rad.O.M (K),  
Ph.D.

This thesis has been accepted as a partial fulfilment of the requirements  
For the degree of Master of Science  
Master of Agricultural Engineering

Date: 09 SEP 2025  
Faculty of Agricultural Technology  
Universitas Gadjah Mada

Dean



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