

**THESIS**

**ULTRASOUND-ASSISTED EXTRACTION OF FLAVONOID  
GLYCOSIDES FROM SAFFLOWER (*Carthamus tinctorius* L.):  
DEVELOPMENT, VALIDATION, AND APPLICATION TO  
DIFFERENT DRYING METHODS**



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**UNIVERSITAS GADJAH MADA**

**YOGYAKARTA**

**2025**

## THESIS

# ULTRASOUND-ASSISTED EXTRACTION OF FLAVONOID GLYCOSIDES FROM SAFFLOWER (*Carthamus tinctorius* L.): DEVELOPMENT, VALIDATION, AND APPLICATION TO DIFFERENT DRYING METHODS

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



Arranged by:

AMIRAH ULFAH

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## LEGALIZATION SHEET

# TESIS

**Ultrasound-assisted Extraction of Flavonoid Glycosides from Safflower  
(*Carthamus tinctorius* L.): Development, Validation, and  
Application to Different Drying Methods**

Dipersembahkan dan disusun oleh

**Amirah Ulfah**

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Telah dipertanggungjawabkan di depan Dewan Penguji

Pada tanggal, 5 Desember 2025

Susunan Dewan Penguji

Pembimbing Utama



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

Pembimbing Pendamping I



Prof. Miguel Palma Lovillo

Anggota Dewan Penguji Lain



Dr. Manikharda, S.T.P., M.Agr.



Dr.nat.techn. Aulia Ardhi, S.T.P., M.Sc.

Tesis ini telah diterima sebagai salah satu persyaratan  
untuk memperoleh gelar Magister  
Magister Ilmu dan Teknologi Pangan

Tanggal : **18 DEC 2025**

Fakultas Teknologi Pertanian

Universitas Gadjah Mada

Dekan



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