Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DIVERSITY OF LIGNOCELLULOSE-DEGRADING BACTERIA FROM THE GASTRO-INTESTINAL TRACT OF BAWEAN DEER (*Axis kuhlii*)

DISSERTATION

by:
ARIEF MUAMMAR
21/484762/SBI/00194

FACULTY OF BIOLOGY
UNIVERSITAS GADJAH MADA
2026

UNIVERSITAS
GADJAH MADA
Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DIVERSITY OF LIGNOCELLULOSE-DEGRADING BACTERIA FROM THE GASTRO-INTESTINAL TRACT OF BAWEAN DEER (*Axis kuhlii*)

DISSERTATION

by:
ARIEF MUAMMAR
UGM Student ID: 21/484762/SBI/00194
BOKU University Student ID: 12340628

COTUTELLE DOCTORAL DEGREE
FACULTY OF BIOLOGY UNIVERSITAS GADJAH MADA
AND
BOKU UNIVERSITY
2026

UNIVERSITAS
GADJAH MADA
Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DIVERSITY OF LIGNOCELLULOSE-DEGRADING BACTERIA FROM THE GASTRO-INTESTINAL TRACT OF BAWEAN DEER (*Axis kuhlii*)

Dissertation submitted for the cotutelle doctoral degree
Faculty of Biology Universitas Gadjah Mada
and
BOKU University

Defended before the Graduate Program Examination Committee of
Faculty of Biology, Universitas Gadjah Mada
on 15 July 2026

by:

Arief Muammar

UGM Student ID: 21/484762/SBI/00194
BOKU University Student ID: 12340628

COTUTELLE DOCTORAL DEGREE
FACULTY OF BIOLOGY UNIVERSITAS GADJAH MADA
AND
BOKU UNIVERSITY
2026

UNIVERSITAS
GADJAH MADA
Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

This dissertation was accepted as one of the requirements for the award of a doctoral degree.

Date: 21 JUL 2026

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc.
Dean Faculty of Biology, Universitas Gadjah Mada

UNIVERSITAS
GADJAH MADA
Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DISSERTATION SUPERVISORY COMMITTEE APPROVAL PAGE

Prof. Dr. Endah Retnaningrum, M.Eng. Date: 16 July 2026
Promotor

Assoc. Prof. Dr. Clemens Karl Peterbauer Date: 16 July 2026
Promotor

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc. Date: 16 July 2026
Co-promotor

Prof. Irfan Dwidya Prijambada, Ph.D. Date: 16 July 2026
Co-promotor

UNIVERSITAS
GADJAH MADA

Diversity of Lignocellulose-Degrading Bacteria from the Gastro-Intestinal Tract of Bawean Deer (Axis kuhlii)
Arief Muammar, Prof. Dr. Endah Retnaningrum, M.Eng.; Assoc. Prof. Dr. Clemens Karl Peterbauer; Prof. Dr. Budi Se
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DISSERTATION APPROVAL PAGE

Diversity of Lignocellulose-Degrading Bacteria from The Gastro-Intestinal Tract of Bawean Deer (*Axis kuhlii*)

by
Arief Muammar
21/484762/SBI/00194

has been defended in the front of Team of Examiners on 15 July 2026
and declared to have fulfilled the requirements

Team of Examiners:

Chairperson

Prof. Rina Sri Kasiamdari, S.Si., Ph.D.
NIP. 196712101994032001

Examiner I/Promotor

Prof. Dr. Endah Retnaningrum, M.Eng.
NIP. 197203191999032002

Examiner II/Promotor

Assoc. Prof. Dr. Clemens Karl Peterbauer

Examiner III/Co-Promotor

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc.
NIP. 197003261995121001

Examiner IV/Co-Promotor

Prof. Irfan Dwidya Prijambada, Ph.D.
NIP. 196111301986121001

Examiner V/ Examiners Team Leader

Prof. Dr. Niken Satuti Nur Handayani, M.Sc.
NIP. 196512281991032006

Examiner VI/ Examiners Team Member

Prof. Dra. Tuty Arisuryanti, M.Sc., Ph.D.
NIP. 196604291991032001

Examiner VII/ Examiners Team Member

drh. Dyah Ayu Widiasih, Ph.D.
NIP. 196903201997032001

Examiner VIII/ Examiners Team Member

Prof. Dr. Puspita Lisdiyanti, M.Agr.Chem.
NIP. 196708141987012001

This dissertation has been accepted as one of the requirements
for the fulfilment of the Doctoral degree
Date: 21 JUL 2026

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc.
Dean/Responsible Person for the Doctoral Program
in Faculty of Biology, Universitas Gadjah Mada