

**Identifikasi dan Karakterisasi Molekuler Virus *Foot and Mouth Disease* Berbasis Fragmen Gen VP1 pada Sapi Madura dan Sapi Peranakan Ongole di Boyolali, Jawa Tengah**

Tesis  
untuk memenuhi sebagian persyaratan  
mencapai derajat Sarjana S-2  
Program Studi Magister Sains Veteriner



diajukan oleh  
**Erna Sulistyaningrum**  
21/489780/PKH/00788

Kepada  
PROGRAM STUDI MAGISTER SAINS VETERINER  
FAKULTAS KEDOKTERAN HEWAN  
UNIVERSITAS GADJAH MADA  
YOGYAKARTA  
2023

**Identification and Molecular Characterization of *Foot and Mouth Disease* Virus Based on VP1 Gene Fragments in Madura Cattle and Ongole Crossbreed Cattle in Boyolali, Central Java**

Thesis

Presented as partial fulfilment for the requirement  
to obtain the Master Degree  
in Master of Veterinary Science



submitted by

**Erna Sulistyaningrum**

21/489780/PKH/00788

to

MASTER OF VETERINARY SCIENCE  
FACULTY OF VETERINARY MEDICINE  
UNIVERSITAS GADJAH MADA  
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TESIS

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dipersiapkan dan disusun oleh

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telah dipertahankan di depan dewan penguji  
pada tanggal 08 Desember 2023

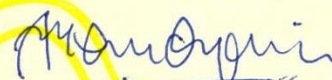
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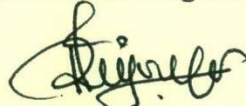
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Tesis ini diterima sebagai salah satu  
persyaratan untuk memperoleh gelar master  
Tanggal 08 Desember 2023

Ketua Program Studi Magister Sains Veteriner



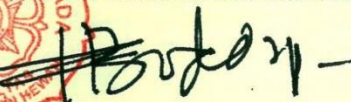
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THESIS

**Identification and Molecular Characterization of *Foot and Mouth Disease Virus* Based on VP1 Gene Fragments in Madura Cattle and Ongole Crossbreed Cattle in Boyolali, Central Java**

prepared by  
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was defended before the Board of Examiner  
on the date 08<sup>th</sup> December 2023

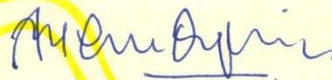
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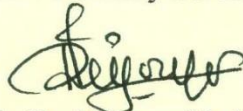


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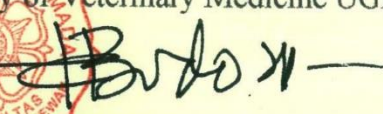

This thesis was declared acceptable  
to obtain the master degree  
Date 08<sup>th</sup> December 2023

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