

STUDY OF GRAY MOLD DISEASE AND THRIPS ON ROSES IN BOGOR NURSERY

AKMAL RIZKY ROBBANI



DEPARTMENT OF PLANT PROTECTION
FACULTY OF AGRICULTURE
BOGOR AGRICULTURAL UNIVERSITY
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A3401221010



ABSTRAK

AKMAL RIZKY ROBBANI. Studi Penyakit Kapang Kelabu dan Trips pada Tanaman Mawar di Pembibitan Bogor. Dibimbing oleh SARI NURULITA dan HAGIA SOPHIA KHAIRANI.

Mawar (*Rosa* spp.) merupakan tanaman hias yang memiliki nilai ekonomi tinggi. Oleh karena itu, keberadaan hama dan penyakit selama proses budidayanya memerlukan perhatian yang serius. Kapang kelabu yang disebabkan oleh *Botrytis* sp. serta trips merupakan ancaman penting secara ekonomi terhadap produksi mawar. Penelitian ini bertujuan untuk menginvestigasi penyakit kapang kelabu dan mengidentifikasi spesies trips yang berasosiasi pada tanaman mawar. Survei dan pengambilan sampel dilakukan di Desa Malasari, Kabupaten Bogor. Secara khusus, penelitian mengenai penyakit kapang kelabu meliputi identifikasi cendawan serta uji patogenisitas pada petal dan tangkai. Identifikasi hama juga dilakukan secara morfologi dan molekuler menggunakan *polymerase chain reaction* (PCR). Analisis sekuens nukleotida dilakukan menggunakan MEGA12. Hasil identifikasi menunjukkan adanya penyakit embun tepung, embun bulu, puru mahkota, kapang kelabu, serta gejala mosaik. Identifikasi secara morfologi dan molekuler mengonfirmasi bahwa *Botrytis cinerea* merupakan penyebab penyakit kapang kelabu. Variasi ditemukan pada morfologi koloni dan karakter mikroskopis konidia. *B. cinerea* mampu menginfeksi petal dan tangkai dari keempat varietas yang diuji, yang menunjukkan bahwa tangkai dapat berperan sebagai inang alternatif bagi patogen tersebut. Selain itu, identifikasi hama mengonfirmasi keberadaan *Thrips parvispinus*. Hasil penelitian ini menyediakan basis data awal yang dapat menjadi landasan bagi penelitian epidemiologi pada tanaman mawar di masa mendatang.

Kata kunci: *Botrytis cinerea*, PCR, *Rosa* spp., *Thrips parvispinus*



ABSTRACT

AKMAL RIZKY ROBBANI. Study of Gray Mold Disease and Thrips on Roses in Bogor Nursery. Supervised by SARI NURULITA and HAGIA SOPHIA KHAIRANI.

Rose (*Rosa* spp.) is an ornamental plant of high economic value; therefore, the presence of pest and disease during its cultivation requires serious attention. Gray mold, caused by *Botrytis* sp. and thrips are economically important threats to rose production. The aim of this study is to investigate gray mold disease and identify the associated thrips species on rose plants. A survey and sample collection were done in Malasari Village, Bogor Regency. In particular, the study of gray mold disease involved fungal identification and pathogenicity test on petals and stems. Morphological and molecular identification of the pest was also performed using polymerase chain reaction (PCR). Nucleotide sequence analyses were conducted using MEGA12. The identification results revealed the presence of powdery mildew, downy mildew, crown gall, gray mold, and mosaic symptoms. Both morphological and molecular identifications confirmed *Botrytis cinerea* as the causal agent of gray mold disease. Variations were observed in colony morphology and conidial microscopic features. *B. cinerea* infected petals and stems of all four tested varieties, suggesting that stems could serve as alternate hosts for the pathogen. In addition, pest identification confirmed the presence of *Thrips parvispinus*. The findings of this study provide a foundational database for future epidemiological research on rose plants.

Keywords: *Botrytis cinerea*, PCR, *Rosa* spp., *Thrips parvispinus*

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STUDY OF GRAY MOLD DISEASE AND THRIPS ON ROSES IN BOGOR NURSERY

AKMAL RIZKY ROBBANI

Undergraduate thesis
In partial fulfilment of the requirements for degree of
Bachelor of Agriculture at the
Department of Plant Protection

**DEPARTMENT OF PLANT PROTECTION
FACULTY OF AGRICULTURE
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Dr. Ir. Swastiko Priyambodo, M.Si.

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Title : Study of Gray Mold Disease and Thrips on Roses in Bogor Nursery
Name : Akmal Rizky Robbani
Student ID Number : A3401221010

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Approved by

Principal Supervisor:

Dr. Sari Nurulita, S.P., M.Si.

Co-Supervisor:

Dr. Hagia Sophia Khairani, S.P., M.Si.

Acknowledge by

Head of Department of Plant Protection:

Dr. Ir. Giyanto, M.Si.

NIP 196707091993031002



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Conferral date:

11 AUG 2026



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PREFACE

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The author realizes that this undergraduate thesis is not without limitations. The author sincerely hopes that this thesis will be useful to those who find it helpful and will contribute to the advancement of scientific knowledge.

Bogor, August 2026

Akmal Rizky Robbani



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