

RESISTANCE OF SELECTED COCOA (*Theobroma cacao* Linn.) CLONES TO POD ROT, STEM CANKER AND VASCULAR STREAK DIEBACK DISEASES

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ABSTRAK

ASYILA AULIA MAHARANI PUTRI IRAWAN. Ketahanan Klon Kakao (*Theobroma cacao* Linn.) Pilihan terhadap Penyakit Busuk Buah, Kanker Batang, dan *Vascular Streak Dieback*. Dibimbing oleh ABDUL MUNIF dan AGUS PURWANTARA.

Produksi kakao mengalami penurunan akibat infeksi penyakit oleh *Phytophthora palmivora* dan pembuluh kayu oleh *Ceratobasidium theobromae*. Salah satu cara mengendalikan penyakit ini adalah menanam klon tahan. Penelitian ini bertujuan mengetahui dan mengevaluasi ketahanan klon kakao terpilih (BB01, ICCRI09, MCC01, MCC02, S1, dan S2) terhadap penyakit busuk buah, kanker batang, dan pembuluh kayu. Penelitian dilakukan di MCRS Pangkep, Sulawesi Selatan. Uji ketahanan klon terhadap busuk buah dilakukan dengan infeksi buatan pada buah dipetik di laboratorium, buah di lapang, dan infeksi alami di lapang. Uji ketahanan terhadap kanker batang menggunakan infeksi buatan dan infeksi alami pada batang di lapang. Uji ketahanan klon terhadap pembuluh kayu dilakukan dengan menghitung insidensi dan keparahan penyakit dengan skoring 0 - 6. Uji ketahanan terhadap busuk buah dengan infeksi buatan dan infeksi alami pada buah di lapangan membuktikan bahwa MCC02 adalah klon yang paling tahan, sedangkan infeksi buatan pada buah di laboratorium menunjukkan bahwa S1 merupakan klon yang paling tahan. Uji ketahanan klon dengan infeksi buatan dan infeksi alami pada batang membuktikan bahwa MCC02 merupakan klon yang paling tahan. Uji ketahanan terhadap penyakit VSD menunjukkan bahwa ICCRI09 merupakan klon yang paling tahan.

Kata kunci: *Phytophthora palmivora*, *Ceratobasidium theobromae*, infeksi alami, inokulasi buatan, uji resistensi

ABSTRACT

ASYILA AULIA MAHARANI PUTRI IRAWAN. Resistance of Selected Cocoa (*Theobroma cacao* Linn.) Clones to Pod Rot, Stem Canker and Vascular Streak Dieback Diseases. Supervised by ABDUL MUNIF dan AGUS PURWANTARA.

Cocoa production has decreased due to disease infections caused by *Phytophthora palmivora* and vascular streak dieback (VSD) caused by *Ceratobasidium theobromae*. One of the way to control it is to plant resistant clones. This study aims to evaluate and determine the resistance of selected cocoa clones (BB01, ICCRI09, MCC01, MCC02, S1 and S2) to pod rot, stem canker and VSD. The research was conducted at MCRS Pangkep, South Sulawesi. Resistance to pod rot was evaluated following artificial infection of detached pods in the laboratory and attached pods in the field, and natural infection in the field. Resistance to stem canker was evaluated following artificial infection and natural infection of stem in the field. Resistance tests to VSD were conducted by calculating disease incidence and severity in the field using scoring 0 - 6. Resistance tests against pod rot by artificial infection on attached pods and natural infection proved that MCC02 was the most resistant clone, while artificial infection on detached pods showed that S1 was the most resistant clone. Stem resistance tests with artificial and natural infection proved that MCC02 was the most resistant clone. Resistance tests against VSD showed that ICCRI09 was the most resistant clone.

Keywords: *Phytophthora palmivora*, *Ceratobasidium theobromae*, artificial inoculation, natural infection, resistance test



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Undergraduate thesis
In partial fulfillment of the requirements for the degree of
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at the
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**DEPARTMENT OF PLANT PROTECTION
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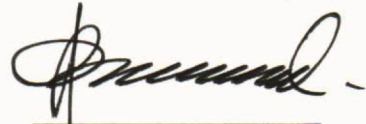
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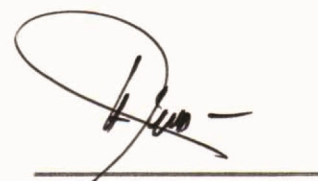

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PREFACE

All praise and gratitude to Allah *subhanaahu wa ta'ala* for all His blessings so that the undergraduate thesis with the title of “Resistance of Selected Cocoa (*Theobroma cacao* Linn.) Clones to Pod Rot, Stem Canker and Vascular Streak Dieback Diseases” has been well completed.

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The author realizes that this thesis still has many shortcomings thus constructive suggestions and criticisms from all parties are highly expected. Hopefully this scientific work will be useful for people in need and for the advancement of knowledge.

Bogor, August 2024

Asyila Aulia Maharani Putri Irawan



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