UJI KETAHANAN BEBERAPA KLON UNGGUL KAKAO (*Theobroma cacao* L.) TERHADAP INFEKSI PENYAKIT BUSUK BUAH DENGAN METODE *DETACHED POD ASSAY*

SKRIPSI

Oleh

IFTIHAL SEPTIANI
NIM. 2210241006

Dosen Pembimbing:
Nike Karjunita, S.P., M.Si
Dr. Sri Heriza, S.P., M.Sc

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UNIVERSITAS ANDALAS
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Abstrak

Penyakit busuk buah yang disebabkan oleh Phytophthora palmivora merupakan salah satu kendala utama dalam budidaya kakao karena menurunkan kuantitas dan mutu hasil. Penggunaan klon unggul tahan merupakan salah satu strategi pengendalian yang efektif dan berkelanjutan. Evaluasi ketahanan klon dilakukan menggunakan metode *Detached Pod Assay* berdasarkan masa inkubasi, luas bercak, laju perkembangan bercak, dan tingkat keparahan penyakit. Penelitian ini bertujuan mengevaluasi respons ketahanan empat klon kakao, yaitu BL 50, Sulawesi 02, TSH 858, dan ICS 60, terhadap infeksi *P. palmivora.* Penelitian dilaksanakan di Laboratorium Fitopatologi Universitas Andalas Kampus III Dharmasraya menggunakan Rancangan Acak Lengkap satu faktor dengan lima ulangan. Isolat *P. palmivora* diisolasi, dimurnikan, dan diperbanyak, kemudian diinokulasikan pada buah kakao sehat berumur ±4 bulan setelah antesis yang berasal dari Kelompok Tani Inovasi, Kabupaten Lima Puluh Kota. Data dianalisis menggunakan analisis ragam (ANOVA) dan uji DMRT taraf 5%. Hasil penelitian menunjukkan adanya perbedaan respons ketahanan antar klon terhadap infeksi *P. palmivora*. Klon Sulawesi 02, BL 50, dan ICS 60 menunjukkan respons ketahanan yang lebih baik dibandingkan TSH 858 berdasarkan masa inkubasi, luas bercak, dan laju perkembangan bercak. Meskipun demikian, seluruh klon yang diuji termasuk kategori serangan ringan berdasarkan persentase keparahan penyakit dan tergolong tahan berdasarkan kriteria luas bercak.

Kata kunci: Fitopatologi; inokulasi buatan; Phytophthora palmivora; skrining; virulensi.

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RESISTANCE EVALUATION OF SEVERAL ELIT COCOA (*Theobroma cacao* L.) CLONES TO POD ROT DISEASE INFECTION USING THE *DETACHED POD ASSAY* METHOD

Abstract

Pod rot disease caused by *Phytophthora palmivora* is one of the major constraints in cacao cultivation, as it significantly reduces both yield quantity and quality. The use of resistant elite clones represents an effective and sustainable disease management strategy. Resistance evaluation was conducted using the Detached Pod Assay method based on incubation period, lesion area, lesion development rate, and disease severity level. The objective of this study was to evaluate the resistance responses of four cacao clones, namely BL 50, Sulawesi 02, TSH 858, and ICS 60, to *P. palmivora* infection. The research was conducted at the Phytopathology Laboratory, Universitas Andalas the 3rd Campus III in Dharmasraya, using a single-factor Completely Randomized Design (CRD) with five replications. *P. palmivora* isolates were isolated, purified, and propagated prior to inoculation onto healthy cocoa pods approximately four months after anthesis, obtained from the Inovasi Farmer Group in Lima Puluh Kota Regency. Data were analyzed using analysis of variance (ANOVA), followed by Duncan's Multiple Range Test (DMRT) at the 5% significance level. The results revealed significant differences in resistance responses among the cacao clones regarding *P. palmivora* infection. The Sulawesi 02, BL 50, and ICS 60 clones exhibited better resistance responses than TSH 858, as indicated by incubation periods, lesion areas, and lesion development rates. Nevertheless, all tested clones were classified as having mild disease incidence based on disease severity percentages and were categorized as resistant according to lesion area criteria.

Keywords: Artificial inoculation; phytopathology; *Phytophthora palmivora*; screening; virulence.

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