

ABSTRAK

PENGARUH KONSENTRASI ASAP CAIR CANGKANG KELAPA MUDA TERHADAP PATOGEN *Alternaria solani* PADA BUAH TOMAT (*Lycopersicum esculentum* Mill.)

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Cendawan *Alternaria solani* merupakan salah satu patogen penyebab penyakit bercak coklat pada buah tomat pasca-panen dan menjadi penyebab utama kehilangan hasil pada buah tomat. Asap cair dapat menjadi alternatif pengendalian penyakit ramah lingkungan karena mengandung senyawa antijamur seperti fenol dan asam organik. Penelitian ini bertujuan untuk mengetahui pengaruh asap cair cangkang kelapa muda terhadap pertumbuhan patogen *Alternaria solani* pada penyimpanan buah tomat. Penelitian ini dilaksanakan pada bulan Februari sampai April 2023 di Laboratorium Mikrobiologi Fakultas Pertanian Universitas Siliwangi. Percobaan dilakukan menggunakan Rancangan Acak Lengkap yang terdiri dari 6 taraf konsentrasi pada uji *in vitro* (0%, 2%, 4%, 8%, dan 10%) dan 6 taraf konsentrasi pada uji *in vivo* (0%, 20%, 40%, 80%, dan 100%). Data hasil penelitian dianalisis menggunakan sidik ragam dan dilanjutkan dengan Uji Jarak Berganda Duncan dengan tingkat kepercayaan 95%. Hasil pengujian *in vitro* menunjukkan konsentrasi asap cair cangkang kelapa muda 2%, 4%, 6%, 8% dan 10% mampu menghambat pertumbuhan miselium *Alternaria solani* hingga 100%. Hasil penelitian menunjukkan asap cair cangkang kelapa muda dapat menghambat pertumbuhan patogen *Alternaria solani* baik secara *in vitro* maupun *in vivo*. Konsentrasi asap cair cangkang kelapa muda 40% efektif menekan pertumbuhan patogen *Alternaria solani* pada buah tomat dalam penyimpanan

Kata kunci: *Alternaria solani*, antijamur, asap cair, tomat.

ABSTRACT

EFFECTIVENESS OF YOUNG COCONUT COAT LIQUID SMOKE FOR *Alternaria solani* PATHOGEN OF TOMATO FRUIT (*Lycopersicum esculentum* Mill.)

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Alternaria solani fungus is one of the pathogens that cause brown spot disease in post-harvest tomatoes and is the main cause of yield loss in tomatoes. Liquid smoke can be an environmentally friendly disease control alternative because it contains antifungal compounds such as phenols and organic acids. This research aims to determine the effect of young coconut coat liquid smoke on the growth of *Alternaria solani* pathogen in tomato fruit storage. This research was conducted from February to April 2023 at the Microbiology Laboratory, Faculty of Agriculture, Siliwangi University. The experiment was arranged by completely randomized design consisting of 6 concentration levels in the in vitro test (0%, 2%, 4%, 8%, and 10%) and 6 concentration levels in the in vivo test (0%, 20%, 40%, 80%, and 100%). The results of in vitro testing showed that the concentration of liquid smoke from young coconut coat of 2%, 4%, 6%, 8% and 10% was able to inhibit the growth of *Alternaria solani* mycelium up to 100%. The results showed that young coconut coat liquid smoke can inhibit the growth of *Alternaria solani* pathogen both of in vitro and in vivo. The concentration of 40% young coconut coat liquid smoke effectively suppresses the growth of *Alternaria solani* pathogen on tomato fruit in storage.

Keyword: *Alternaria solani*, antifungal, liquid smoke, tomato.