

ABSTRAK

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Biosprospeksi Zeolit Dan Talc Terhadap Penyimpanan Entomopatogen *Beauveria bassiana* Terhadap Kepadatan Koloni, Kadar Senyawa Kitinase, dan Toksin.

Beauveria bassiana adalah fungi pathogen serangga potensial yang ramah lingkungan di bidang agrikultur. Siklus hidup pendek pada *B. bassiana* menjadikan pentingnya pengembangan penyimpanan untuk mempertahankan kualitas fungi tersebut. Zeolite dan talc adalah contoh media penyimpanan *B. bassiana* yang mempunyai daya ikat molekul tinggi, dan mempertahankan efek toksik bagi serangga. Tujuan penelitian ini adalah : Mengkaji talc dan zeolite sebagai media penyimpan *B. bassiana* terhadap kepadatan koloni dan aktivitas kitinase pada interval waktu tertentu, dan profil senyawa toksin pada perlakuan media penyimpanan zeolit dan talc. Formulasi media penyimpanan terdiri dari : aquades, 100%zeolite, 100%talc, campuran zeolite dan talc dengan perbandingan konsentrasi 20%-80%, 40%-60%, 50%-50%, 60%-40%, 80%-20%. Perhitungan kepadatan koloni dilakukan dengan metode *Total Plate Count* dan kadar kitinase menggunakan metode spektrofotometri dengan Panjang gelombang 420 nm. Rancangan percobaan adalah Rancangan Acak Lengkap dengan 8 perlakuan, tiga kali pengulangan, data dianalisis menggunakan Welch test dengan uji lanjut Games Howell Multiple Comparison. Hasil penelitian menunjukkan bahwa kepadatan koloni semua perlakuan mempunyai perbedaan yang nyata (Sig.0,00), dimana perlakuan Zeolite 100% merupakan formulasi terbaik dengan penurunan koloni sebesar 43%. Aktivitas kitinase, semua perlakuan mempunyai perbedaan yang nyata (Sig.0,017) dimana perlakuan Zeolite20%+Talc80% adalah formulasi terbaik dengan penurunan sebesar 41%. Profil zat toksin perlakuan kontrol, zeolit 100%, dan zeolit 20%+ talc 80% mempunyai beberapa zat toksin khas, selain kesamaan zat toksin utama berupa asam n-heksadekanoat, dan asam oktadesenoat.

Kata kunci: *Bauveria bassiana*, media penyimpan, talc, zeolit, toksin

ABSTRACT

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Biosprospection of Zeolite-Talc Mixture During Storage of *Beauveria bassiana* against Colony Density, Chitinase Activity, and Toxin Concentration.

Beauveria bassiana are pathogenic fungi that are eco-friendly in agriculture. *B. bassiana* biomass storage is important for maintaining quality of that fungi. Zeolite and talc are storage media that have some beneficial functions as entomopathogenic bioformulation such as high molecular binding, and improvement of toxicity. Purpose of this research to examine zeolite and talc as storage media of *B. bassiana* against colony density and chitinase activity. Formulation of this research contains aquades control treatment, 100% zeolite, 100% talc, mixture of zeolite and talc with concentration ratio: 20%-80%, 40%-60%, 50%-50%, 60%-40%, 80%-20%. Colonies are counted with Total Plate Count method, chitinase activity analyzed with spectrophotometry in 420 nm wave length. This research consists of eight variables packaged in Completely Randomized Designs with three repetitions, and data will be analyzed with *Welch & Brown-Forsythe* with Games Howell Multiple Comparison Post Hoc Test. From the results showed that can be concluded, colony density has significant difference among all of the treatments (Sig.0,000), which Zeolite 100% treatment has the best treatment with 43% decreasing in 28 days. Chitinase activity has significant difference among all treatments (Sig.0,000) which Zeolite 20%+Talc80% the best formulation with 41% decrease in 28 days. Toxin profile in control, zeolite 100%, and zeolite 20%+ talc 80% treatment has some specific toxins, beside similarity toxin such as n-heksadekanoat acid, and octadecenoat acid.

Keyword : *Beauveria bassiana*, Storage media, Zeolite, Talc, toxin