

## INTISARI

Pemanfaatan jamur entomopatogen *Beauveria bassiana* merupakan salah satu pengendalian *Spodoptera exigua* yang ramah lingkungan. Selain faktor lingkungan, viabilitas konidia, dan jenis hama, patogenitas jamur juga dipengaruhi oleh interaksi jamur dan bakteri. Penelitian ini bertujuan mengetahui pengaruh perubahan komposisi bakterioma terhadap morfologi dan patogenisitas *Beauveria bassiana* dalam menginfeksi ulat bawang. Perubahan komposisi dilakukan dengan penambahan antibakteri berupa *kanamycin* dan *chloramphenicol* sebanyak 20 µg/ml pada media PDA. Perubahan bakterioma diamati melalui identifikasi morfologi secara makroskopis dan mikroskopis serta analisis molekuler dengan metode *Ribosomal Intergenic Spacer Analysis* (RISA). Selanjutnya, dilakukan uji patogenisitas *Beauveria bassiana* terhadap mortalitas *Spodoptera exigua* dengan metode *dipping* pada suspensi konidia dengan konsentrasi 10<sup>7</sup> konidia/mL. Hasil penelitian menunjukkan bahwa pemberian antibakteri pada *Beauveria bassiana* mengakibatkan perlambatan pertumbuhan serta perubahan warna koloni, dan tekstur. Perubahan bakterioma akibat penambahan antibakteri ditunjukkan dengan adanya perubahan jumlah pita (*band*) dan ukuran fragmen DNA. Perubahan tersebut meningkatkan patogenitas *Beauveria bassiana* terhadap ulat bawang merah secara signifikan dalam kurun waktu 3 hari setelah penetrasi.

Kata kunci : bakterioma, *Beauveria bassiana*, *Spodoptera exigua*, biokontrol.

## ABSTRACT

The utilization of the entomopathogenic fungus *Beauveria bassiana* is a promising eco-friendly approach to control *Spodoptera exigua* or beet armyworms. Besides environmental factors, conidial viability, and host species, the pathogenicity of this fungus is also influenced by its interaction with bacteria. This study aimed to investigate the impact of altering the bacterial community on the morphology and pathogenicity of *B. bassiana* in infecting beet armyworms. The bacterial community was modified by adding 20 µg/mL of *kanamycin* and *chloramphenicol* to potato dextrose agar (PDA) media. Changes in the bacterial community were observed through macroscopic and microscopic morphological identification, as well as molecular analysis using *ribosomal intergenic spacer analysis* (RISA). Furthermore, the pathogenicity of *B. bassiana* against *Spodoptera exigua* mortality was analyzed using the dipping method in a conidial suspension at a concentration of  $10^7$  conidia/mL. Results showed that the addition of antibiotics to *B. bassiana* cultures resulted in growth retardation and alterations in colony color and texture. Changes in the bacterial community due to the addition of antibiotics were indicated by alterations in the number and size of DNA fragments. These changes significantly increased the pathogenicity of *B. bassiana* against beet armyworms within 3 days post-penetration.

**Keywords:** bacteriome, *Beauveria bassiana*, *Spodoptera exigua*, biocontrol.