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Effect of Temperature on Germination, Mycelial radial growth and Virulence of *Beauveria bassiana* (Bals.) Vuill. (Deut.: Moniliaceae) on *Chilo suppressalis* Walker (Lep.: Pyralidae)

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ABSTRACT

Effect of temperature on germination, radial growth and virulence of six isolates of *Beauveria bassiana* (Mcb1, Mcb6, Mcb8, Mcb11, Mcb12, Mcb18) on striped stem borer, *Chilo suppressalis*, was studied in the laboratory. About 2400 dead larvae were collected during this study. Six fungal isolates were purified and then germination, radial growth and virulence of the isolates were studied by exposing them to temperatures ranging from 3 to 38°C. Germination, vegetation growth and virulence for all isolates observed at 10°C. Optimum temperature for germination, radial growth and pathogenic activity ranged from 20 to 30°C. Germination of conidia for all isolates was low at 5, 10, 15, 35 and 38°C. There was no significant difference in germination between isolates Mcb1 and Mcb18 at 5 to 35°C. Mycelial growth was observed at all temperatures except 3 and 38°C. The lowest mycellium growth was occurred for all tested isolates at temperatures 5, 10, 35 and 38°C.

Comparison of daily radial growth rates day^{-1} showed that Mcb1, Mcb11 and Mcb18 were superior to other isolates at 20, 25 and 30°C.Singnificant differences were found in mortality for isolates Mcb1, Mcb6 and Mcb18 at 10-30°C. Pathogenic activity of these isolates were high. Mcb18 had the lowest LT_{50} value (5.35 days) at 25°C. Mcb1 and Mcb18 showed pathogenic activity against striped rice stem borer, in a broad temperature range.

Key words: *Beauveria bassiana*, Temperature, Virulence, Germination, Mycelial radial growth, Mortality, Rice, *Chilo suppressalis*

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