

Studies on the Pathogenicity Against the Pests on Cabbage and Diphasic Cultivation Characteristics of *Beauveria bassiana* Bals. CCC 801¹

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Abstract

In this experiment, *Beauveria bassiana* Bals. CCC 801 was isolated from the diseased coffee beetle (*Hypothenemus hampei* (Ferrari)). The pathogenicity of the conidial suspension of CCC 801 (10^7 conidia/ml) as the inoculum under high relative humidity in the laboratory (25°C) against other pests such as *Phyllotreta striolata* (Fabricius), *Plutella xylostella* (Linnaeus) and *Lipaphis erysimi* (Kaltenbach) on cabbage was conducted. The results showed that the average mortality was above 77% at 7 days after inoculation, indicating that CCC 801 possess broad-host pathogenicity. Six different kinds of grains were used for mass spore production of CCC 801 by solid cultivation. The results showed that the strain had the fastest sporulation rate and the largest spore production at 14 days after cultivation by rice substrate, which could reach 1.9×10^8 conidia/g. In addition, CCC 801 liquid cultivation was performed in a dark environment using four kinds of liquid medium with rotatory shaking. The results showed that the highest blastospore concentration of CCC 801 reached 1.8×10^8 blastospore/ml for SMAY liquid medium at 7 days after cultivation. Besides, the CCC 801 blastospore suspensions produced by the above four liquid medium after 7 days cultivation were diluted to 10^7 blastospore/ml and inoculated on the rice substrate for diphasic cultivation test. The results showed that the highest spore concentration of CCC 801 reached 8.2×10^8 conidia/g inoculated with SMAY blastospore suspension at 14 days after cultivation. This study suggests that *B. bassiana* CCC 801 strain possesses excellent infective effects on a variety of vegetable pests, and the diphasic cultivation results of CCC 801 in the laboratory can be used for mass spore production and field application of them in the future.

Keywords: *Beauveria bassiana*, Pests on cabbage, Blastospore, Diphasic cultivation

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