Effect of Addition of Phenylalanine and Alanine on Beauvericin Production

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ABSTRACT

In this study, beauvericin (BEA) was produced by Beauveria bassiana A1 in shake flasks. The two-time interaction test of phenylalanine – β-alanine addition was used to investigate the most adequate combination and concentrations of amino acid, respectively, for increasing the BEA productivity by B. bassiana A1. With the previous medium (initial pH 5.7) composition comprising 25.0 g/L glucose, 10.0 g/L NZM broth, 5.0 mL/L corn steep liquor and 2.0 g/L K2HPO4 determined by response surface methodology, the yield of BEA production was 1.34 mg/L at 26°C and 150 rpm after 6 days. After the two-time interaction test of phenylalanine – β- Alanine addition, with adding 0.2 g/L phenylalanine only in these medium mentioned above, the BEA production could be enhanced between 2.74 and 2.99 mg/L. However, the addition of β-alanine might have inhibitive effect upon BEA production.

Keywords : Beauveria bassiana, Beauvericin (BEA), Phenylalanine, β-alanine

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