

Recent observations on bacterial insecticide production by semi-solid fermentation technique

Capalbo, D.M.F.¹; Moraes, I.O.² & Moraes, R.O.¹ (¹ EMBRAPA/CNPDA, CP 69, Jaguariuna, SP ; ² IBILCE/DETA, UNESP, S.J. Rio Preto, SP, Brasil) .

Abstract

The practical use of entomopathogenic microorganism, to crop protection is possible when an industrial scale production of the organism is developed. That is the case of *Bacillus thuringiensis* (Bt), one of the most studied and commercially important entomopathogenic bacterium.

In Brazil the feasibility of Bt production depends, to a large degree, on the cost at which this product can be obtained. So, the fermentation technology has to aim the production of new fermentation media and new fermentation processes to get such economical level.

In search of new fermentation process it was studied the production of Bt spores and δ -endotoxin in a low cost medium (using agro-industrial by-products) by the semi-solid fermentation in flasks.

The fermented malt and the solid residues from pulp and paper industry could both be used as a complete medium for growth and sporulation of this bacterium. Furthermore, the humidification or the supplementation of the culture media with a low price mineral salt source increases the yield of the spores production.

It was concluded that the semi-solid fermentation technique can be successfully used for Bt spores and δ -endotoxin production.