

## OPTIMIZATION OF THE PRODUCTION OF CELLULASE IN *Trichoderma reesei*

Emerson Santos<sup>1</sup>; Marcela S. Casali<sup>2</sup>; Rosemeire C.L.R. Pietro<sup>1</sup>

<sup>1</sup>Departamento de Fármacos e Medicamentos, Faculdade de Ciências Farmacêuticas, UNESP, Araraquara, Brazil. <sup>2</sup>Centro Universitário de Araraquara, UNIARA, Araraquara, Brazil.

The production of enzymes represents one of the great interest areas of the biotechnological industry. Cellulase has been used specially in the paper, textile and pharmaceutical industry. Some parameters as temperature, pH and the medium composition can affect the production and secretion of enzymes. The objective of this work was to evaluate the production of cellulase with a strain of *Trichoderma reesei* QM 9414 (ATCC 26921). The medium composition was optimized on a shake-flask scale and the activities of cellulase were compared to other five described in literature. The inoculum was  $1 \cdot 10^6$  spores/mL in 50 mL of final volume that was incubated in shaker at 180 rpm during 10 days at 28° C, being evaluated the cellulase activity, protein and biomass. The results showed that among different carbon sources tested the maximum enzyme activities were obtained with cellulose (10%) and lactose (10%). The optimized culture medium provide 1.72 times than the second producer, while that for the other batch production the increase were 5.16 and 31.26 times. However, the protein content and biomass had not presented many significant variations remaining 1.3 and 3.78 times higher, respectively. The study reveals that cellulase production was highly influenced by carbon source.

Support: CAPES