

Título: TIME COURSE OF α -ARABINOFURANOSIDASE PRODUCTION FROM *Aspergillus* sp GROWN ON LIQUID MEDIUM WITH CITRUS PULP

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Resumo: α -L-Arabinofuranosidases are enzymes involved in the hydrolysis of L-arabinofuranosyl residues present in hemicellulose. This enzyme, associate with other xylanolytic complex enzymes, participates in agro-industrial waste degradation and saccharification. The carbon source is the main factor influencing the enzyme production by microorganisms since their structural components induce the production of specific enzymes for microorganism nutrition and growth. The pellet citrus pulp is a orange industry byproduct, composed by bagasse, bark and seeds. This waste have been used as an energy supplement in cattle feed. It has about 25% (w/w) of pectin, 15% cellulose, 3% hemicellulose and 1% lignin. The *Aspergillus* sp strain was isolated from saline and alkaline lakes of Pantanal Matogrossense in Nhecolândia region. It was previously evaluated for α -arabinofuranosidases production in different agroindustrial wastes. The highest α -arabinofuranosidase activity was verified when the fungus grown on citrus pulp. The main of this study was to determine the time-cours α -arabinofuranosidase production by *Aspergillus* sp under static and shacked conditions (120 rpm). Cultivations were carried out in liquid Vogel medium supplemented with citrus pulp 1% (w/v), pH 6.5 at 40 °C for 15 days at static condition and for 10 days at shacked condition. The cultures were vacuum filtered, and the filtrate was used as the enzyme source. In static condition, the highest enzyme activity was of 47.7 U/L observed at 4 days-old cultures, and in shacked condition the highest activity was of 25.2 U/L at 6 days-old cultures. For all period analyzed the static cultures produced higher enzyme activity then the shacked cultures. From the results we can see that agitation influences α -arabinofuranosidase production by this strain, decreasing this activity. Then the best conditions for this enzyme production are static cultures, using citrus pulp as substrate for 4 days.

Palavras-chave: α -arabinofuranosidase, citrus pulp, *Aspergillus* sp, byproduct, enzyme production.

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