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“Amazing Biochemistry”

Production and application of pectinases in the liquefaction of apricot and blueberry juice

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Pectinases are widely used in the fruit juice industry for clarification, liquefaction and stabilization of juices¹. One of the biggest problems in the production of fruit juices is the turbidity of the juice, which is mainly caused by the presence of pectin polysaccharides. Therefore, pectinase is used in juice clarification, which breaks down the pectin structure and reduces unwanted cloudiness and sediment². In this work, the production of pectinases was optimized by solid state fermentation using *Aspergillus tubingensis* strain, which proved to be an efficient producer of these enzymes. Statistical method Design of Experiment was used to optimize the medium and conditions for enzyme production. The total pectinase activity obtained was determined by the DNS method (47 U/mL). Endo-pectinases activity is determined by reduction of viscosity of pectin solutions. The resulting complex of pectinase enzymes was used for the liquefaction of apricot and blueberry pulp, with a juice yield of 72% and 81%, respectively. Also, apricot juice treated with enzymes was clarified by 77% compared to juice that was not treated with enzymes. Blueberry juice obtained after treatment with pectinase enzymes has a higher antioxidant activity than the untreated juice, as determined by the DPPH assay.

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