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PII: S0141-8130(17)34090-4
DOI: https://doi.org/10.1016/j.ijbiomac.2018.01.026
Reference: BIOMAC 8858

To appear in:

Received date: 1 November 2017
Revised date: 21 December 2017
Accepted date: 4 January 2018

Please cite this article as: Hilal Demirkesen-Bicak, Zeynep Tacer-Caba, Dilara Nilufer-Erdil , Pullulanase treatments to increase resistant starch content of black chickpea (Cicer arietinum L.) starch and the effects on starch properties. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Biomac(2017), https://doi.org/10.1016/j.ijbiomac.2018.01.026

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ABSTRACT

This study aimed to increase resistant starch (RS) content of black chickpeas *(Cicer arietinum L.)* by using pullulanase enzyme. Physicochemical and functional properties of enzyme treated starch (NE) was compared with that of enzyme-treated and gelatinized starch (GE) and the retrograded control starch (RC). RS contents for native black chickpea starch (NS) and black chickpea flour (NF) were measured as 15.2 % and 5.0%, respectively. While for NE and GE, were found as 16.4 % and 12.3%, respectively. Treatments made on the NS, increased the amount of RDS and reduced the amount of SDS significantly ($p<0.05$). When the effect of enzyme application-autoclaving and retrogradation were compared, 41.3% increase in RS content was measured. In this study; RS3 production from black chickpea starch by a pullulanase enzyme was successfully performed. Enzymatic applications also improved the functional properties such as water absorption capacity, water solubility index value, fat binding capacity and emulsifying capacity. This enzyme treated black chickpea starch samples, being functionally improved, will possibly help to produce different products with