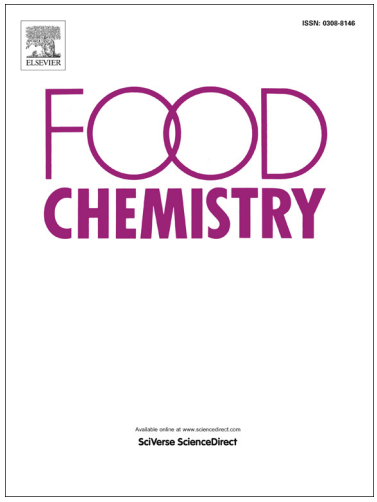

Functional and technological potential of dehydrated *Phaseolus vulgaris* L. flours

A.K. Ramírez-Jiménez, R. Reynoso-Camacho, S. Mendoza-Díaz, G. Loarca-Piña

PII: S0308-8146(14)00552-4
DOI: http://dx.doi.org/10.1016/j.foodchem.2014.04.008
Reference: FOCH 15669

To appear in: *Food Chemistry*

Received Date: 29 October 2013
Revised Date: 28 March 2014
Accepted Date: 1 April 2014

Please cite this article as: Ramírez-Jiménez, A.K., Reynoso-Camacho, R., Mendoza-Díaz, S., Loarca-Piña, G., Functional and technological potential of dehydrated *Phaseolus vulgaris* L. flours, *Food Chemistry* (2014), doi: http://dx.doi.org/10.1016/j.foodchem.2014.04.008

Functional and technological potential of dehydrated *Phaseolus vulgaris* L. flours

A.K. Ramírez-Jiménez[a], R. Reynoso-Camacho[a], S. Mendoza-Díaz[a], G. Loarca-Piña[a*]

[a] Posgrado en Ciencia y Tecnología de los Alimentos, Research and Graduate Studies in Food Science, School of Chemistry, Universidad Autonoma de Queretaro, Centro Universitario, Santiago de Queretaro, C.P. 76010, Qro. Mexico.

*Corresponding author. Tel./fax: +52 442 192 1307

E-mail address: loarca@uaq.mx (G. Loarca-Pina).

Abstract

The effect of cooking followed by dehydration was evaluated on the bioactive composition, antioxidant activity and technological properties of two varieties (Negro 8025 and Bayo Madero) of common beans. Quercetin, rutin, and phenolic acids were the most abundant phenolics found. Cooking processes resulted in decreased values of some phenolic compounds and antioxidant capacity. A subsequent dehydration increased TEAC values, resistant starch content and decreased starch digestibility. Oligosaccharides and dietary fiber were preserved in both treatments. Variety had a strong impact on phytochemical profile, being Negro 8025 that exhibited the highest content of most of the compounds assessed. Water absorption index (WAI) and oil absorption capacity (OAC) were determined in order to measure technological suitability. Dehydration produced flours with stable WAI and low oil pick up. The results suggest that the flours of Negro 8025 beans have a good potential to be considered as functional ingredient for healthy food products.