

# Accepted Manuscript

Effect of high pressure processing on rancidity of brown rice during storage

Hao Wang, Songming Zhu, Hosahalli S. Ramaswamy, Feifei Hu, Yong Yu

PII: S0023-6438(18)30266-4

DOI: [10.1016/j.lwt.2018.03.042](https://doi.org/10.1016/j.lwt.2018.03.042)

Reference: YFSTL 6971

To appear in: *LWT - Food Science and Technology*

Received Date: 18 October 2017

Revised Date: 8 March 2018

Accepted Date: 16 March 2018

Please cite this article as: Wang, H., Zhu, S., Ramaswamy, H.S., Hu, F., Yu, Y., Effect of high pressure processing on rancidity of brown rice during storage, *LWT - Food Science and Technology* (2018), doi: 10.1016/j.lwt.2018.03.042.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



1 **Effect of high pressure processing on rancidity of brown rice**  
2 **during storage**

3 Hao Wang <sup>a</sup>, Songming Zhu <sup>a</sup>, Hosahalli S. Ramaswamy <sup>b</sup>, Feifei Hu <sup>a</sup>, Yong Yu <sup>a,\*</sup>

4 <sup>a</sup> College of Biosystems Engineering and Food Science, Zhejiang University, 866  
5 Yuhangtang Road, Hangzhou 310058, China

6 <sup>b</sup> Department of Food Science, McGill University, St-Anne-de-Bellevue, QC H9X 3V9,  
7 Canada

8 \* Corresponding author. Tel.: +86 571 88982181; fax: +86 571 88982181.

9 E-mail address: yyuzju@zju.edu.cn (Yong Yu)

10

11 **Abstract** Hydrolytic and oxidative rancidity are the main cause of brown rice quality  
12 deterioration during storage. Brown rice was soaked in water and treated with high  
13 pressure (HP) at 100-400 MPa, for 0-10 min. The effect of HP treatment on moisture  
14 content, fat acidity, conjugated dienes (CD) and 2-thiobarbituric acid (TBA) value  
15 during 3 months storage at room temperature, was evaluated and compared with soaked  
16 (0.1 MPa) brown rice and untreated brown rice. After storage, moisture content of HP  
17 treated brown rice were significantly higher than the untreated but lower than the  
18 soaked, apart from the brown rice treated at 400 MPa – 0 min, which was the lowest in  
19 moisture content. HP treatment at 400 MPa enhanced the fat acidity immediately after  
20 the treatment, while samples treated at 200 MPa – 0 min showed lower level of  
21 hydrolytic rancidity during storage. Better stabilities based on CD content and TBA

Download English Version:

<https://daneshyari.com/en/article/8891034>

Download Persian Version:

<https://daneshyari.com/article/8891034>

[Daneshyari.com](https://daneshyari.com)