



Journal

J. Biol. Chem.
Environ. Sci., 2017,
Vol. 12(4): 307-3019
<http://biochemv.blogspot.com.eg/>

PHYSICO-CHEMICAL PROPERTIES AND QUALITY OF BALADY BREAD MADE OF WHEAT FLOUR AND RICE BRAN BLENDS

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ABSTRACT

This study aimed to evaluate the effect of using rice bran flour as partial substitute (5, 10, 15 and 20%) of wheat flour in making bread on physico-chemical properties and quality of the produced doughs. The organoleptic properties and chemical composition of the produced breads were investigated and compared with the wheat bread as a control sample. The Farinograph results showed that the increase of substitution level decreased the water absorption, mixing time and dough stability; but increased the dough weakening time. Also, extensograph results showed that dough energy, the resistance to extension and the proportional number were decreased with the increasing the rice bran flour level in the blends, while the dough extensibility was increased. Regarding the chemical composition of tested bread samples, it could be noticed that the contents of protein, fat, crude fiber and ash were gradually increased from 11.04, 1.57, 1.76 and 1.46% in the control sample to 12.11, 3.62, 2.98 and 2.75% in WRB4 sample, respectively. While, carbohydrates content was slightly decreased in tested bread samples. Also, the results showed that the contents of Ca, Mg, K, Fe, vitamin B1 (Thiamin), B2 (Niacin) and vitamin B3 (Riboflavin) for tested breads increased with the increasing substitution level of rice bran. Finally, tested bread samples exhibited good sensory properties and there were no significant differences between those samples containing 5 or 10 % rice bran and the control in all organoleptic properties.

Key words: bread - Chemical composition - Rheological properties -rice bran