

## Use of rice bran in developing high nutritive bread

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This study was carried out to formulate high quality nutritive bread with rice bran and also to examine the dough properties at different substitution levels of rice bran with wheat flour. To achieve this wheat flour was substituted with 0%, 5%, 10%, 15% & 20% stabilized white rice bran (particle size < 500  $\mu\text{m}$ ) and its effect on dough properties, bread quality and sensory quality were evaluated.

Farinograph studies revealed that water absorption properties of doughs containing bran decreased while dough development times increased with the increasing of bran substitution level. The 5%, 10% and 15% rice bran substitution levels produced doughs of good stability than 20% level compared to 100% wheat flour dough. Extensograph studies showed that ratio of resistance to extension value decreased while energy value increased with increasing bran substitution level. This revealed that the doughs tend to become short as well as the tolerance to fermentation become less with increasing of the bran substitution level. Therefore, the processing conditions are more critical for rice bran bread production when compared to 100% wheat flour bread production. Dough mixing, fermentation period, sheeting and moulding are the most critical steps in bran bread production. Specific volume also decreased with increasing of the bran substitution level.

According to sensory evaluation results 5% and 10% rice bran substituted breads had better sensory characteristics compared to 100% wheat flour bread. Proximate analysis was carried out to evaluate the nutritional quality of 5%

and 10% rice bran substituted breads and 100% wheat flour bread. These results revealed that nutritionally essential constituents increased significantly except protein with the supplementation of rice bran.

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