

Extent of phytate degradation in breads and various foods consumed in Saudi Arabia

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Abstract

The extent of phytate degradation in breads and various foods consumed in Saudi Arabia was followed after baking or cooking. Phytate phosphorus content in raw and baked or cooked food was determined by ion-exchange and colorimetric methods. White bread containing soda, namely Tamees, had a lower degree of phytate degradation followed by pita brown bread, namely Burr, in comparison to pita, French and pan white breads not containing soda, namely Mafrud, Samouli and Toast, respectively. The phytate content in breads ranged from 0.11 to 0.28%. Wheat-based food made from whole wheat flour, namely Margoog, had a lower degree of phytate degradation in comparison to other wheat-based foods made from bulgur, grits and partially debranned grains, namely Kibbah, Gerish and Harees, respectively. The phytate content in these foods ranged from 0.08 to 0.25%. Rice-based foods made from parboiled rice, namely Kabsa, or not drained from steeping or cooking water, namely Saleeg, had a lower phytate degradation than rice drained from steeping or cooking water, namely Baryani or Rus Abiedh. The phytate content in these foods was lower and ranged from 0.04 to 0.1%. Similarly, faba beans-based food not drained from cooking water, namely Food Jerra, had a lower degree of phytate degradation than faba bean or chick pea-based foods drained from cooking water, namely Foul Mudames, Falafe and Balila. The phytate contents in these foods ranged from 0.11 to 0.4%. Food recipes and baking conditions or cooking procedures are the main factors that affect the extent of phytate degradation. To avoid adverse effects on mineral nutrients, reduction in the phytate content of the phytate-rich foods such as Burr bread, Margoog and Foul Jerra foods, is recommended.

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