

P202

Changes in rutin contents and antioxidant properties of tartary buckwheat seeds and groats induced by roasting

Su Jeong Kim¹⁾, Hwang Bae Sohn¹⁾, Geum Hee Kim¹⁾, Yu Young Lee¹⁾, Su Young Hong¹⁾,
Ki Deog Kim¹⁾, Dong Chil Chang¹⁾, Jong Taek Suh¹⁾, Bon Cheol Koo¹⁾ and Yul Ho Kim^{1)*}

¹⁾*Highland Agriculture Research Institute, National Institute of Crop Science, Rural Development Administration, Pyeongchang 25342, Korea*

²⁾*Department of Central Area, National Institute of Crop Science, Rural Development Administration, Suwon 16429, Korea*

Abstract

Tartary buckwheat is known for its high rutin (quercetin 3-rutinoside) content which has antioxidant, anti-inflammatory, and anticarcinogenic effects. The buckwheat tea which is popular in Korea, is dependent on the quality of applied processing methods (steaming, dehuling, and roasting). This study focused on the evaluation of changes in rutin and anti-oxidant contents during the processing of tartary buckwheat tea. Raw tartary buckwheat seeds contains the highest quantities of rutin (2,212 mg/100 g D.W.). Soaking in water and steaming the whole seeds of tartary buckwheat significantly decreased its rutin and quercetin contents. Whereas the contents of rutin and quercetin in dehulled groats increased after steaming. The process of roasting with 70-80°C for 2-3 min significantly decreased the contents of rutin (992 mg/100 g D.W.) and quercetin (12.8 mg/100 g D.W.). In the processing of tartary buckwheat tea, rutin content dropped about 45% in comparison with raw whole seeds.

Keywords: roasting, rutin, quercetin, tartary buckwheat steaming

Corresponding author*

Yul Ho Kim

Address: Highland Agriculture Research Institute, National Institute of Crop Science, Pyeongchang 25342, Korea

Tel and Fax: 82-33-330-1840, 82-33-330-1519

E-mail: kimyuh77@korea.kr