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Effect of Roasting Process on Phenolic Compounds and Antioxidant Activity of Peanut(*Arachishypogaea* L.) Hull Extracts

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[Introduction]
This study was performed to investigate the influence of roasting condition on phenolic compounds and antioxidant activities of peanut(*Arachishypogaea* L. cv. Sinpalkwang) hull extracts.

[Materials and Methods]
Peanut hull was roasted at different temperatures (160, 180, 200, 220, 240°C) and for different time periods (15 and 30 min), and followed by analysis of total polyphenol content(TPC), total flavonoid content(TFC), luteolin(LT) and eriodictyol(ED) content, and antioxidant activities.

[Results and Discussion]
The highest TPC was observed at peanut hull extracts (321.60 mg gallic acid equivalent/g) upon roasting at 240°C for 30 min, and increased with roasting temperature and time. TFC of roasting peanut hull increased up to 200°C(43.89～44.73 mg catechin equivalent/g), and then decreased at higher temperature. In addition, LT(2.65 mg/g) and ED(1.76 mg/g) were most abundant as accessed in peanut hull extracts upon roasting 200°C for 15 min. The radical scavenging activities, using 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2'-azino-bis-3-ethylbenzothiazoline-6- sulphonic acid(ABTS) scavenging, increased with roasting temperature and time. ABTS and DPPH radical scavenging activities of raw peanut hull extracts increased from 120.27 and 190.13 mg trolox equivalent/g to 180.56 and 273.79 mg trolox equivalent/g at 240° for 30min, respectively. These result suggest that roasting process is efficient method for enhancement of functionality in peanut hull, and provide valuable information for the use of peanut byproduct as a functional materials.

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