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Chemical Compositions and Antioxidative Activity of Leek (*Allium tuberosum*) Seeds

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The chemical compositions as amino acids, minerals, fatty acids, and total polyphenolic compounds of the seeds of leek(*Allium tuberosum*) were analyzed. The antioxidative activity of water soluble extract from leek seeds was also tested in DPPH(α, α' -diphenyl- β -picrylhydrazyl) method. The chemical compositions of leek seeds were moisture 4.4%, crude protein 25.7%, crude fat 16.6%, and crude ash 2.9%. Major amino acid compositions were proline 11 g, glutamic acid 4.9 g, arginine 2.1 g, aspartic acid 1.6 g, leucine 1.3 g, valine 1.2 g, and methionine 1.1 g as per 100 g. Mineral contents were K 215 ppm, Ca 142 ppm, Fe 124 ppm, and Mg 100 ppm. Major fatty acid compositions were linoleic acid 71.9%, oleic acid 12.7%, palmitic acid 8.6%, and stearic acid 1.4%. The changes of contents in polyphenolic compound from leek seeds caused by heat treatment were also listed in the following order; 20°C(364 mg/100g), 40°C(462 mg/100g), and 60°C(551 mg/100g). Antioxidative activity as electron donating ability showed in the following order; 0.05% BHT(butylated hydroxytoluene)(45.6%) > 0.05% water-extract(31.3%) > 0.1% water extract(30.0%). On the basis of chemical analysis, the leek seeds showed to have relatively high contents of nutrients as amino acids, minerals, fatty acids.