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Antioxidant Compounds and Activities of Extracts from Oat Sprout Cultivars

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[Introduction]

Oats (*Avena sativa* L.) were evaluated in recent years as a promising crop for increasing the nutritional quality of foods, due to their abundance in many bioactive compounds. Oat sprouts or young leaves of oat contain various ingredients that are beneficial to health. The objective of this study was to investigate the antioxidant compounds and antioxidant activities of extracts from oat sprout cultivars.

[Materials and Methods]

The contents of total polyphenolics and flavonoids in oat sprout cultivars were analyzed by spectrophotometric methods. ABTS radical and DPPH radical scavenging activities were used to compare the relative antioxidant activities of extracts from oat sprout cultivars.

[Results and Discussion]

Total polyphenolic contents, which are known to be related to antioxidation, ranged from 23.20 to 28.98 mg gallic acid equivalents(GAE)/g residue. Donghan(28.98 mg GAE/g residue) and Samhan(28.25 mg GAE/g residue) cultivars contained higher polyphenolic contents compared to other cultivars. High levels of flavonoids contents were found in Donghan(2.99 mg catechin equivalents/g residue) and Samhan(2.62 mg catechin equivalents/g residue). Also, Donghan and Samhan cultivars showed higher ABTS and DPPH radical scavenging activities compared to other cultivars. Total polyphenolic contents were positively correlated with ABTS and DPPH radical scavenging activities. The results of this study could have an impact on oat sprouts consumption by enhancing consumer awareness of the health benefits of oat sprouts.

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