 Phenolic composition and antioxidant activities of 11 celery cultivars.

Yao Y, Sang W, Zhou M, Ren G.

Abstract

Eleven cultivars of celery, belonging to 2 species, were collected and analyzed for their phenolic compound composition and antioxidant activities. Major phenolic acids identified in the extracts of these celeries were caffeic acid, p-coumaric acid, and ferulic acid, while the identified flavonoids were apigenin, luteolin, and kaempferol. The contents of total phenolics were measured using a Folin-Ciocalteu assay and the total antioxidant capacity was estimated by the 1, 1-diphenyl-2-picrylhydrazyl radical (DPPH) and 2, 2'-azino-bis (3-ethylbenzthiazoline-6-sulphonic acid) (ABTS.+) methods. Apigenin was the major flavonoid in these samples and the most abundant phenolic acid was p-coumaric acid. Many of the investigated cultivars had high levels of phenolics and exhibited high antioxidant capacity. Among these 11 cultivars, Shengjie celery had the highest antioxidant activity whereas Tropica had the lowest. An extremely significant positive correlation between the antioxidant activity and the contents of total flavonoids, total phenolic acids, or total phenolics was observed in this study.

PMID: 20492156 [PubMed - indexed for MEDLINE]