

Antioxidant activity of almonds and their by-products in food model systems.

Wijeratne, SSK 2006
Journal Of The American Oil Chemists Society
83(3):223-230.

Abstract:

Antioxidant activities of almond whole seed, brown skin, and green shell cover extracts, at 100 and 200 ppm quercetin equivalents, were evaluated using a cooked comminuted port mode, a β -carotene-linoleate model, and a bulk stripped corn oil system. Retention of β -carotene in a β -carotene-linoleate model system by almond whole seed, brown skin, and green shell cover extracts was 84-96, 74-83, and 71-93% respectively. In a bulk stripped corn oil system, green shell cover extract performed better than brown skin and whole seed extracts in inhibiting the the formation of both primary and secondary oxidation products, while in a cooked comminuted port model system, green shell cover and brown skin extracts inhibited the formation of TBARS, total volatiles and hexanal more effectively than did the whole seed extract. HPLC analysis revealed the presence of caffeic, ferulic, p-coumaric and sinapic acids as the major phenolic acids in all three almond extracts examined.