

**Characterization of polyphenols, lipids and dietary fibre from almond skins
(*Amygdalus communis* L.).**

Mandalari, G 2010

Journal Of Food Composition And Analysis

23:166-174.

Abstract:

Almond skins and blanch water are underutilized by-products of the almond processing industry. Nevertheless, they contain exploitable components that may contribute to the health benefits associated with almond consumption. We have compared natural almond skin powder (NS) prepared by a novel freeze-thawing method with blanched almond skin powder (BS). Microstructural studies were carried out, and we analyzed both types of almond skin for phenolic compounds (by HPLC), lipids (by solvent extraction), proteins (by micro-Kjeldahl), and fibre content (by the enzymatic-gravimetric AOAC method). Antioxidant activity (by measuring the reduction of the 2,2-diphenyl-1-picrylhydrazyl radical) was also monitored. We identified a combination of flavonols, flavan-3-ols, hydroxybenzoic acids and flavanones in NS, BS and in industrially obtained blanch water (BW). As expected, the total phenolic content was higher in NS compared to BW and BS, although the latter showed high antioxidant properties. Almond skins had high fibre content as well as significant amounts of lipid; both of these components may be relevant to fermentation in the large intestine. In addition, the processing of almond skins and blanch water clearly has economic potential for lowering the environmental impact of waste fill and pollution.