Assessment and Characterization of Oil from Roasted Peanut Skins.

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Peanut skins are a low-value material from peanut processing and are a good source of phenolic compounds. Peanut skins do not have a significant use other than as a small component of animal feed. Studies indicate that the compounds in the skin have high antioxidant activity, while little is known specifically about the oil composition from these skins. The aim of this research was to evaluate peanut skins and oil from the skins. Roasted peanut skins were ground, and color, moisture content, oil content, fatty acid profile, tocopherols and heavy metal content were determined. Oxidative stability index was used to determine the resistance of the oil to oxidation. The Hunter L color, moisture and oil contents were 28.6, 7.6% and 11.9%, respectively. Cold solvent extracted oil was used for all analyses. The fatty acid profile of the oil from the skins was similar to published findings on peanut oil. Specifically, the oil contained 55.6 and 23.2 g/100g of oleic and linoleic acid, respectively. Alpha-tocopherol was not detected, while beta, gamma and delta-tocopherols were present at 53.0, 57.1, and 13.6 mcg/g, respectively. These results were unexpected since peanut oil typically has a higher concentration of alpha-tocopherol. Gamma-tocopherol was present in the highest concentration in the oil from peanut skins. Oxidative stability index of skin oil was 1.7 hrs compared to 16 hrs for peanut oil. Peanut skins contained substantial levels of copper (55.6 ppm) and iron (182 ppm). Reasons for the differences in oil composition and stability of skin oil compared to peanut oil are not currently known.