Title Physico-chemical Properties, Vitamin C Content, and Antimicrobial Properties of Pomegranate Fruit (*Punica granatum* L.)

Author Linus U. Opara, Majeed R. Al-Ani and Yusra S. Al-Shuaibi

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Abstract

Pomegranate (*Punica granatum* L.) fruit is widely used in the food and process industries due to its excellent nutritional and health value and as a raw material for the manufacture of secondary products such as jellies, dyes, and cosmetics. The objectives of this research were to determine the vitamin C content and antimicrobial properties of fresh and dried fractions of fruit peel and arils of locally grown and imported pomegranate in Oman. A significant variation in vitamin C content was found among the five varieties of pomegranate studied, ranging from 52.8 to 72.0 mg/100 g fresh weight (fw) for arils and 76.8 to 118.4 mg/100 g fw for peels. Irrespective of the variety of pomegranate, vitamin C content in the peel was significantly higher than the aril, with differences ranging from 24.4% to 97.0% depending on variety. Fruit fractions showed antimicrobial effects (inhibition zone) on *Staphylococcus aureus* and *Pseudomonas aeruginosa* but not *Escherichia coli*. Sun drying of fruit peel significantly ($p \leq 0.05$) enhanced vitamin C retention and antimicrobial effects in comparison with oven drying presumably due to lower rate of moisture removal associated with low temperature drying over longer duration in comparison with short-time high-temperature oven drying.

http://www.springerlink.com/content/0645g1303660kr14/fulltext.pdf