



## **Pomegranate Peel as a Potential Source of Antioxidant Components and its Application in Agriculture and Pharmaceutical Industries**

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Pomegranate (*Punica granatum* L.) is one of the oldest known edible fruits and is extensively grown in Iran. This fruit is eaten fresh or processed. Iran is known as the biggest producer and exporter of pomegranate so that this fruit is one of the most important commercial fruits in Iran and its total production in 2005 was 670 thousand tons. Pomegranate fruit contains a higher concentration of total polyphenols in comparison with other fruits. Antioxidant activity of pomegranate peel extract is related to its phenolic components and hydrolysable tannins such as punicalagin, punicalin, gallic and ellagic acids and anthocyanins. Some in vitro studies have reported that polyphenolic components of pomegranate have antioxidant activity and are effective in prevention of atherosclerosis, inhibition of lipid peroxidation and platelet aggregation and possess anticancer effects on human breast, prostate and colon cancers, and are also effective for Alzheimer and diabetic patients. Edible oil oxidation has also been prevented by pomegranate peel extract. Based on above comments, the antioxidants are very important in food, pharmaceutical, and animal industries. Therefore, considering the fact that each year thousands of tons of pomegranate peel is produced by pomegranate juice and concentrates processing factories as unusable by-products, in this research we have investigated the possibility of pomegranate peel application in food and pharmaceutical industries and as poultry feed. The results of this study can be useful for researchers and producers active in food and pharmaceutical industries and animal husbandry.

**Keywords:** Pomegranate, Phenolic component, Tannin, Antioxidant

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