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Effect of extraction solvent and drying condition on the antioxidant potential of Peel and pulp membrane of *Punica granatum*.

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Abstract

The current study was designed to study the effect of extraction solvent and drying condition on antioxidant activity of pulp membrane and peel of two varieties of *Punica granatum*. The plant material were dried under sun and shade condition. Extracts were prepared in different extraction solvents including methanol, ethyl acetate, hot water and cold water. DPPH (diphenyl-2-picrylhydrazyl) method was used to measure the negative radical scavenging potential of extracts. The study's findings reveal that all of the shade-dried extracts of plant materials had more antioxidant capacity than the extracts of plant materials dried in the sun. The sun-dried peel extracts also showed similar results of 80%, and 78% for both methanol and water extracts at 250 μ g/ml. The ethyl acetate and hot water extracts showed almost 70% activity. In contrast, the shade-dried peel methanol extracts of fruity pomegranate showed nearly 83% antioxidant activity followed by hot water with about 81%, water with 78% and ethyl acetate with 72% activity at 250g/ml. In comparison, the sun-dried peel also showed similar results for all the solvent extracts except ethyl acetate, which showed the least activity of 68% at 250g/ml. Furthermore, the extracts prepare in various solvents had varying results in terms of negative radical scavenging activity. Hot water and methanol extracts showed strong antioxidant activity of 80% to 82% while ethyl acetate and water extracts indicated almost the similar 70% antioxidant potential capacity for wild peels of pomegranate. The extracts of peel of wild pomegranate indicate higher antioxidant potential than peel of commercially available pomegranate indicating the genotypic and environmental effect on the expression of metabolites involved in antioxidant activity.

