Vanshika Handa et al., J Food Process Technol 2015, 6:10
http://dx.doi.org/10.4172/2157-7110.C1.030

OMICS International
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7th Indo-Global Summit and Expo on
Food & Beverages
October 08-10, 2015 New Delhi, India

Effect of different drying temperatures on the phytochemical potential of pomegranate peel and pomegranate pomace

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An attempt was made to study the effect of different drying temperatures on the phytochemical potential of pomegranate peel and pomegranate pomace. The peel from these sources were dried in laboratory drier at different temperature i.e., 45° C, 50° C and 60° C respectively and were analyzed for various physicochemical and phytochemical properties. Among the different drying temperature, highest anthocyanin content (67.50 mg/100 g), crude fat (0.45%), phenolic contents (114.18 mg GAE/100 g) and antioxidant activity (69.08%) was observed in pomegranate peel dried at 50o C irrespective to the source of peel. Whereas, ascorbic acid content (7.95 mg/100 g), tannins (291.06 mg TAE/100 g), carbohydrates (80.44%) and energy value (361.93 kcal) was highest in pomegranate peel dried at 45o C irrespective to the source of peel. The effect of drying temperatures on the carotenoids, ash, crude protein content and nitrogen content was non-significant. Among the different sources of peel, highest ascorbic acid (6.20 mg/100 g), carbohydrates (79.75%), crude fat (0.40%), energy value (352.56 kcal), phenolic contents (105.24 mg GAE/100 g) was observed in pomegranate peel powder. Whereas, highest anthocyanin content (64.75 mg/100 g), antioxidant activity (68.99%), tannin content (238.32 mg TAE/100 g) was observed in pomegranate pomace powder irrespective to the drying temperature. The effect of sources of peel was on carotenoids, ash, crude protein, nitrogen content was non-significant. Therefore, it is concluded that on the basis of the physicochemical and phytochemical properties, drying of the peel from different sources at 50o C was best, whereas, among these two sources, results were almost comparable which ensure a better utilization of the waste from pomegranate processing industry for extraction and utilization of the phytochemicals in food industry.

Biography

Vanshika Handa is currently pursuing her Master's research in the area of Nutrition and Dietetics from the Department of Food Technology and Nutrition at Lovely Professional University, Punjab, India. Her research interest includes development of health and functional foods.

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