

## **Evaluation of polyphenols enriched traditional Indian sweet products from black carrot (*Daucus carota L*)**

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Black carrot is a purplish-black root vegetable grown in northern part of India. This crop is considered as a functional food as it contains an abundant amount of polyphenols and minerals. Despite the extraordinary nutritional and nutraceutical profile of black carrot, its utilization is limited to the production of fermented beverage (Shikanji). In the present study, an effort has been made to study the suitability of black carrot in traditionally red carrot based popular products particularly Halwa (Pudding) and Burfi (dense milk-based sweet).

Black Carrot Halwa (BCH) and Black Carrot Burfi (BCB) were developed using standard methods. In BCH, 100% black carrot was used, however in BCB; condensed milk was replaced at 10, 20, 30, 40 and 50% level with red and black carrot pulp. The developed product was analyzed for sensory attributes. The most acceptable product was further analyzed for mineral content, bioactive compound content and shelf life stability.

The sensory analysis by the panelists showed that BCH was equally acceptable as traditional red carrot Halwa however; BCB was highly acceptable up to 30 percent level of black carrot pulp incorporation. Estimation of mineral content revealed that both BCH and BCB had significantly higher Mg, Fe and Zn content as compared to red carrot based similar product. BCH and BCB further reported very high levels of anthocyanins, total phenols, flavonoids and significantly higher antioxidant activity than red carrot based similar product. The storage analysis revealed that BCH was most acceptable up to 10 days and BCB for 30 days of storage at refrigerated condition. Hence, the present study recommends that black carrots have potential use as ingredient in different food products. It helps to improve food quality by providing a diet rich in bioactive compounds, which are beneficial for human health.

### **Biography**

Pragya Pandey is working as Assistant professor (Food Technology and Nutrition) at Lovely Professional University, Punjab, India. She obtained her doctorate in Food and Nutrition from Punjab Agricultural University, Ludhiana and Masters from University of Agricultural Sciences, Dharwad, Karnataka and B.Sc. from Narendra Deva University of Agriculture and Technology, Faizabad, Uttar Pradesh, India. Her master's research work was supported by Minister of Foreign Affairs of Canada through the Canadian International Food Security Research Fund (CIFSRF). She received DST-INSPIRE fellowship from Govt. of India for her doctoral degree. She has been awarded national and international fellowships such as CSIR Foreign Travel grant, MASHAV fellowship for her participation in International trainings and conference.

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