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Fortification of orange juice with *Withania somnifera* and *Solanum nigrum* extract- A potential functional fruit beverage and its quality evaluation

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Withania somnifera and *Solanum nigrum*, well known for their nutraceutical potential have been explored as a functional ingredient in a wide array of health foods and drinks. Processing of fruits and herbal botanicals into functional beverage is an emerging sector in food industry. The present study was undertaken to develop a functional ready to serve (RTS) beverage blend using *Withania somnifera* (Ashwagandha) and *Solanum nigrum* (Makoi) separately with orange (*Citrus sinensis* L.). Orange juice (85%), sucralose (10%), citric acid (0.1%), *Withania somnifera* and *Solanum nigrum* (6%), colouring (carmosine E122) (0.05%), flavouring propylene glycol (E1520) (0.05 %) were mixed in given proportion to prepare the blend with TSS of 8.2 °Brix. The product was bottled, pasteurized and stored at room temperature. The quality characteristics and storage stability of orange juice were compared with ashwagandha fortified beverage blend (AFBB) and Makoi fortified beverage blend (MFBB). Periodic analysis were carried out upto 90 days for various physicochemical parameters, nutritional profile, microbial quality, color and sensory acceptability. Both AFBB and MFBB exhibited more or less comparable quality characteristics both in fresh and in stored samples and both were acceptable till 90 days when stored at room temperature. The results indicate that antioxidant rich *Withania somnifera* (AFBB antioxidant activity: 899 ± 22.4 $\mu\text{mol TE}/100$ gms) and *Solanum nigrum* (MFBB antioxidant activity: 750 ± 21.8 $\mu\text{mol TE}/100$ gms) could be successfully utilized to develop functional fruit beverage to improve quality of nutrition in today's lifestyle.

Biography

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