

Utilization of amaranth seeds (*Amaranth caudatus*) for the development of micro-nutrients rich gluten free recipes

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ABSTRACT: The present study was undertaken to develop the value added food products by incorporating puffed amaranth seeds as well as to evaluate organoleptic quality, to analyze nutritional composition of puffed amaranth seeds and to determine nutritive value and cost of prepared food products. Puffed Amaranth seeds were analyzed for proximate constituents using the standard method of AOAC (2005). Four value added products namely *Laddoo*, *Cutlet*, *Kheer* and *Muffins* were made by incorporating amaranth seeds at 30 per cent, 40 per cent and 50 per cent level refers as T₁, T₂, T₃, respectively and the control T₀ for all the prepared products was made without the incorporation of puffed amaranth seeds. The product was organoleptically evaluated for the color and appearance, body and texture, taste and flavor and over all acceptability using Nine point Hedonic scale. The data obtained during study were analyzed statistically using analysis of variance and C.D. techniques. Nutrients constant of the prepared products were calculated using food composition table given by Gopalan *et al*, (2007). Nutrients content in 100 g puffed amaranth seeds found moisture 6.8%. Ash 2.9g, carbohydrate 59g, protein 18.9g, fat 5.9g, calcium 250 mg, fiber 5.5 g and iron 14.9 mg, respectively. Sensory acceptability of *Laddoo*, *Kheer* and *Muffins* with incorporation level 30 percent of amaranth seeds scored highest, with regard to colour and appearance, body and texture, taste and flavor and over all acceptability. Treatment T₁ (30:60:10) contained higher amount of energy, protein, fat, calcium, fiber and iron as compared to control and other treatments. However all the treatments were found to be acceptable. Sensory acceptability of *Cutlet* with incorporation level 40 percent of amaranth seeds scored highest, with regard to colour and appearance, body and texture, taste and flavor and over all acceptability. Treatment T₁ (40:50:10) contained higher amount of energy, protein, fat, calcium, fiber and iron as compared to control and other treatments. Cost of the four products namely *laddoo*, *cutlet*, *kheer* and *muffins* per 100g of raw ingredients ranged from Rs. 8.6-12.9, Rs. 5.1-12.5, Rs. 51.1-57.48 and Rs. 20.26-26.64, respectively. However, all the treatments were found acceptable. It is therefore concluded that amaranth seeds can be suitably incorporated in various gluten free products.

Key Word: Puffed, amaranth seeds and dehydration, carrot, powder, acceptability, nine-point hedonic scale.