

Utilization of Mustard Leaves (*Brassica juncea*) Powder for the Development of Cereal Based Extruded Snacks

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Abstract : Mustard leaves are rich in folates, vitamin A, K and B-complex. Mustard greens are low in calories and fats and rich in dietary fiber. They are rich in potassium, manganese, iron, copper, calcium, magnesium and low in sodium. It is very rich in antioxidants and Phytonutrients. For the optimization of process variables (moisture content and mustard leave powder), the experiments were conducted according to central composite Face Centered Composite design of RSM. The mustard leaves powder was replaced with composite flour (a combination of rice, chickpea and corn in the ratio of 70:15:15). The extrudate was extruded in a twin screw extruder at a barrel temperature of 120°C. The independent variables were mustard leaves powder (2-10 %) and moisture content (12-20 %). Responses analyzed were bulk density, water solubility index, water absorption index, lateral expansion, hardness, antioxidant activity, total phenolic content and overall acceptability. The optimum conditions obtained were 7.19 g mustard leaves powder in 100 g premix having 16.8 % moisture content (w.b).

Keywords : extrusion, mustard leaves powder, optimization, response surface methodology

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