

PHYSICO-CHEMICAL QUALITY AND ACCEPTABILITY OF β -CAROTENE RICH EXTRUDED SNACK FOOD WITH CHICKPEA *DHAL* / DSF

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ABSTRACT: β -carotene rich extrudates were prepared from rice, wheat, 8% chickpea *dhal* (T_1) or defatted soya flour (DSF) (T_2) and dried carrot (0 to 12.5%), using single screw (collet) extruder at 14% feed moisture, 25 kg/h feed rate and 500 rpm/min screw speed. Expansion in diameter and bulk density of T_1 and T_2 extrudates with dried carrot were in the range of 2.86-4.17 and 2.89-3.89, and 0.132-0.319 and 0.14-0.328 g/cm³, respectively, which were significantly affected with the level of dried carrot and type of legume in feed material. Increased level of dried carrot in feed material resulted in increase of WAI while WSI was unaffected but it was affected with the type of legume in feed material. Colour quality was found affected and resulted in darker extrudates at increased level of dried carrot in feed material, which affected the sensory acceptability for appearance and colour. Protein, fat, ash, dietary fibre and β -carotene content (w.b.) in both types of carrot incorporated extrudates were in the range of 8.74-10.96%, 0.67-1.21%, 1.02-2.06%, 0.48-1.61 and 35.96-1105.84mg/100g, respectively. Although addition of dried carrot affected the overall sensory quality of extruded snack food samples but type of legumes (chickpea *dhal* / DSF) did not bring significant difference in the overall sensory quality. Sensory acceptability score >7 and β -carotene content for extrudates up to 7.5% dried carrot indicated the commercial scope of its incorporation in extruded products based on cereal and legume.

Key Words: Dried carrot, extrusion, physical properties, water absorption index, β -carotene, sensory acceptability.