

## **Fibre from pumpkin (*Cucurbita pepo* L.) seeds and rinds : physico-chemical properties, antioxidant capacity and application as bakery product ingredients.**

### ABSTRACT

**Introduction:** The aims of this study were to determine the proximate composition, functional properties and antioxidant activity of pumpkin seeds and rind. Besides, the effects of dietary fibre in pumpkin seeds and rinds on bread qualities and properties were evaluated. **Methods:** Formulations for bread substituted with 0%, 5% and 10% pumpkin seed and rind, respectively were produced. Sensory evaluation of the prepared bread samples for such attributes as appearance, aroma, flavour, texture and overall acceptability was undertaken. The physical properties of the bread samples, including dough expansion, loaf volume, crumb colour and bread texture, were determined. Proximate analysis and determination of antioxidant activity of the bread samples were also conducted. **Results:** Crude fibre of the pumpkin seeds and pumpkin rinds was high at 31.48% and 14.83%, respectively. The total phenolic compound (TPC) and DPPH radical scavenging activity for the pumpkin rinds were 38.60 mg GAE/ 100 g dry weight and 69.38%, respectively, which were higher than those of pumpkin seeds. A 5% level of pumpkin rind bread gave the best overall acceptability and sensory attributes, followed by 5% pumpkin seed bread. Total dietary fibre, total phenolic compound and DPPH radical scavenging activity in breads substituted with 5% pumpkin seed and 5% pumpkin rind flour were higher than the values in control bread. **Conclusion:** Pumpkin seeds and rinds can be used as dietary fibre sources in bakery.

**Keyword:** Pumpkin seeds and rinds; Dietary fibre; Bread; Sensory evaluation