

DEVELOPMENT AND SHELF LIFE EVALUATION OF COOKIES PRODUCED FROM COMPOSITE BLENDS OF WHEAT AND SWEET POTATO FLOUR

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A study was conducted to develop incorporated wheat and sweet potato flour cookies and to assess the quality of cookies during storage. The mature sweet potatoes (cv. *Wariapola Red*) were procured locally from the field of a commercial grower. Tubers were washed, peeled, cut into thin slices of 1 mm thickness and dried in the sun until the pieces were quite brittle. The dried chips were milled, sieved (250 μ) and packed in an air tight container. Different composite blends of wheat flour and sweet potato flour were produced in the ratios of 80:20, 60:40 and 40:60. Cookies were developed from the various formulated blends using established procedures. These cookies were packed in sealed laminate aluminium foil which is commercially used to pack the cookies. Cookies were stored under ambient conditions of average temperature of 30+1°C and relative humidity 75 – 80% for evaluation of the shelf life. Cookies were subjected to nutritional, sensory and shelf life evaluations at two week intervals for the entire storage period of 12 weeks. Among the treatment, the composite cookies supplemented with 40% sweet potato flour contained 1.75% ash, 4.15% fibre, 5.42% fat, 6.76% protein and 84.4% soluble carbohydrate at the end of 12 weeks of storage. However, moisture content of these cookies increased from 1.35 to 2.01% which is within acceptable range for long term storage. The results of organoleptic assessment revealed that there were no significant differences ($p < 0.05$) between the treatments in terms of colour, mouth feel and overall acceptability while taste and texture had significant differences ($p > 0.05$) among the tested treatments. Composite cookies supplemented with 40% sweet potato flour showed the best overall acceptability and no remarkable changes in organoleptic characters compared to other combinations. From the results of quality assessments, the composite cookies supplemented with 40% sweet potato flour was found to be superior and could be stored at ambient conditions of 30+1°C and relative humidity of 75 – 80% for a minimum period of 12 weeks without any significant changes in the quality attributes. The supplementation of sweet potato flour with wheat flour could be successfully used for the formulation of cookies of good quality and with characteristics of universally accepted standards.

Keywords: Cookies, Nutritional quality, Organoleptic evaluation, Sweet potato, Wheat flour