

Abstract

Three root vegetables, carrot (*Daucus carota*, subspecies sativus), beetroot (*Beta vulgaris* Linn.) and Chinese radish (*Raphanus sativus* Linn.) used in home vegetable juice extraction were selected to develop bread contained the vegetable by-product. Carrot was the most suitable vegetable to use while beetroot and Chinese radish produced strong grassy objectionable flavor in the bread. The carrot was dried at 60-65°C for 10 hours before grinding into powder and used to replace bread flour in a white pan bread formula. The amount of dry carrot powder was varied into 2.04, 4.17, 6.38, 8.70, 11.1 and 17.65% on a flour weight base (fwb). Adding carrot powder more than 6.38% was unable to make bread due to high interfering of gluten network. Just-about-right test of 2.0% carrot bread indicated that the amount of carrot was too low. Increasing carrot powder to 3.09% produced bread that was rated as 'slightly like' to 'moderately like' by the untrained test panelists. In a consumer acceptance test, 200 consumers in Bangkok rated the bread with 6.3 out of 9-point scale at 'slightly like' level. The results showed that 99% of the consumers accepted the bread and were willing to buy it at the price of 20-25 baht per 250 grams. The carrot bread consisted of 2.04% crude fiber. Prototype formula on the flour weight base of carrot bread were 100.00% flour, 3.09% carrot powder, 60.80% water, 6.70% sugar, 2.06% salt, 4.12% shortening, and 2.06% yeast.