IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A STUDY ON DEVELOPMENT AND ORGANOLEPTIC EVALUATION OF ORANGE SUGAR BISCUITS

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Abstract: This study is synopsis of development and organoleptic evaluation of orange sugar biscuits. Biscuit was orange sugar, peanut butter, wheat flour. The purpose of study was designed to develop a convenient food which helps in overcoming the short- term hunger. The Biscuit was evaluated for its sensory properties, nutritional composition and storage properties. The developed orange sugar biscuit was formulated from orange sugar and peanut butter in different ratios. The nutritional composition was noted differently for all three variations and variation III (V-III) had the best values. The highest mean values got for variation III (V- III) 4.88 ± 0.328 was compared to control in terms of sensory attributes. The sensory evaluation was conducted and done by 50-member panel. The product was developed based on economic and nutritional factor. The product was subjected to analysis the shelf life and packaging methods.

Index Terms: Physio-Chemical Analysis, materials, methodology, Sensory Evaluation

1.Introduction: Food is any substance consumed to provide nutritional support for an organism. Food is one of the basic needs of the human being. It is required for the normal functioning of the body parts and for a healthy growth. It can be raw, processed or formulated and is consumed orally by animals for growth, health or pleasure. ***(Kenneth Carpenter, 2020)*** Biscuits are the most popular bakery items consumed by nearly everyone. Biscuits are made primarily from wheat flour, sugar, fat, and leavening agent, along with other minor ingredients. These ingredients are mixed together in accordance with one of a few approaches available for mixing in dough mixers.

11.Materials: Orange which is bought from fruit shop, Peanut butter is purchased from local market, Wheat flour is bought from local market.

111. Methods:

Pre preparation:

Orange is collected from fruit shop and peeled out and extract the juice from the pulp. Extracted orange juice is heated and made into thick jam consistency, further it is processed on Hot Air Oven at temp of 110^0F to absorb moisture and make into sugar consistency. Orange sugar is prepared.

Preparation of orange sugar biscuits:

Orange sugar is heated and made to syrup consistency and added to wheat flour and mixed with melted butter to made into dough. Dough is made into round biscuit shape and baked at 180^0F at microwave oven for 20 minutes with pre heating the oven for 10 minutes. Orange sugar biscuits are prepared.

Table 1: Organoleptic evaluation of orange sugar biscuits:

CRITERIA	CONTROL	VARIATION I	VARIATION II	VARIATION III
APPEARANCE	4.7±0.430	4.12±0.659	4.1±0.677	4.76±0.431
COLOUR	4.4±0.496	3.5±0.677	3.54±0.645	4.58±0.498
TASTE	4.9±0.439	3.66±0.592	3.86±0.495	4.82±0.437
TEXTURE	4.7±0.452	3.56±0.760	3.92±0.600	4.72±0.453
OVERALL ACCEPTABILITY	4.8±0.320	3.52±0.646	3.74±0.486	4.88±0.328

Figure 1: Figure of organoleptic evaluation of orange sugar biscuits:

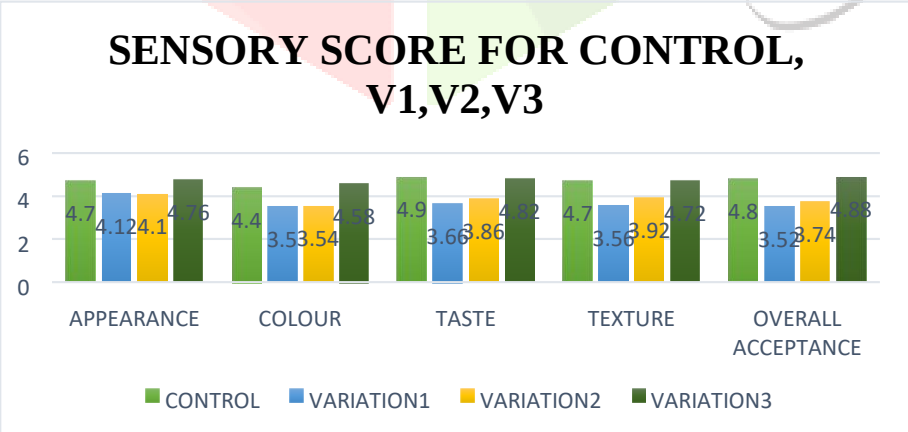


Table 11: Organoleptic evaluation of control and selected variation of formulated orange sugar biscuits:

CRITERIA	CONTROL	VARIATION III
APPEARANCE	4.7±0.430	4.76±0.431
COLOUR	4.4±0.496	4.58±0.498
TASTE	4.9±0.439	4.82±0.437
TEXTURE	4.7±0.452	4.72±0.453
OVERALL ACCEPTABILITY	4.8±0.320	4.88±0.328

Figure 11: Figure of control and selected variation of formulated orange sugar biscuits:

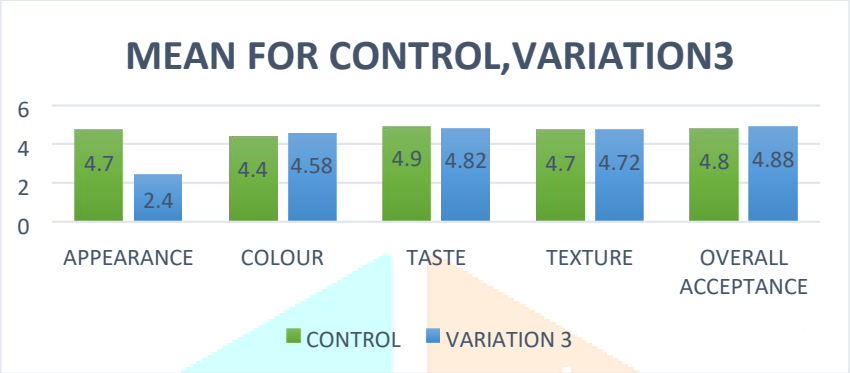
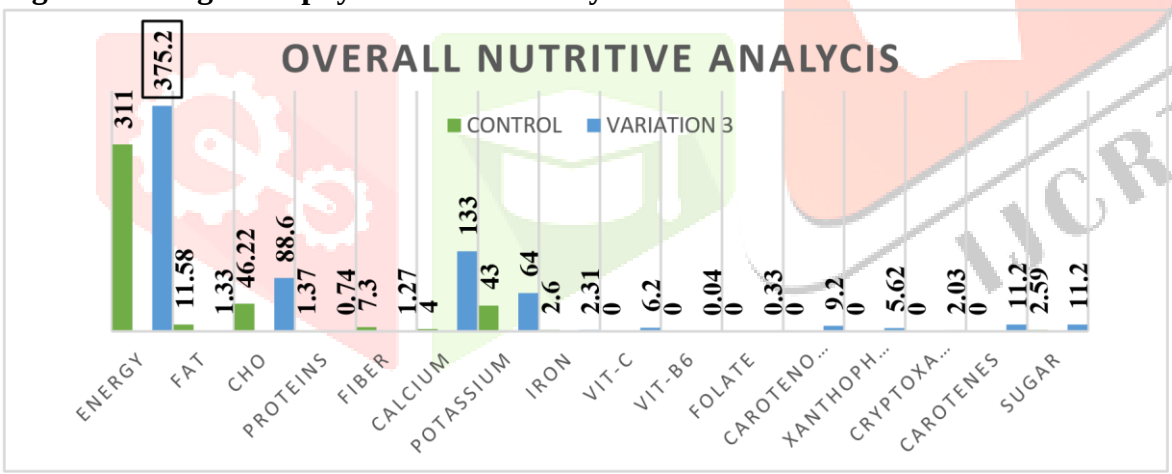


Table 111: Physio-chemical analysis table:

PARAMETERS	CONTROL	VARIATION 3
ENERGY	311KCAL	375.2KCAL
FAT	11.58g	1.33g
CHO	46.22g	88.6g
PROTEINS	1.37g	0.74g
FIBER	7.3g	1.22g
CALCIUM	4mg	133mg
POTASSIUM	43mg	64mg
IRON	2.6mg	2.31mg

VITAMIN C	-	6.2mg
VITAMIN B6	-	0.04mg
FOLATE	-	0.33mg
CAROTENOIDS	-	9.2mg
XANTHOPHYLL	-	5.62mg
CRYPTOXANTHINS	-	2.03mg
CAROTENES	-	11.2mg
SUGAR	2.59g	11.2g

Figure 111: Figure of physio-chemical analysis:



1V. Figure of orange sugar biscuits:

1V. Cost calculation:

Cost of development of orange sugar biscuits incorporated with orange sugar and peanut butter has been calculated using a standard price list from the local market where the ingredients were purchased. The total cost of production for orange sugar biscuits for 100g is 31/-, commercially available biscuits cost for 100g is 10/-.

V. Conclusion:

From the findings it was concluded that the variation III was selected as the best among the control and other two variations. The formulated biscuits are good in terms of nutritional composition like energy, carbohydrate, protein, fat, iron, fibre, calcium, vitamin-C, vitamin-B6, carotenoids, xanthophyll, carotenes, folate, cryptoxanthins, sugar. Therefore, the formulated biscuits prepared from the orange sugar and peanut butter, was found to be advantageous to the industry and increase the health status of all the age groups peoples and especially diabetic persons.

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