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NUTRITIOUS - QUICK MIX SNACK - HEALTHY CRUNCHY BHEL

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ABSTRACT

A nutrient rich healthy snack was designed with all health benefits for general crowd as well as diabetic and obese people. Healthy crunchy bhel was developed with oats, flax seeds, Ragi, garlic as functional food ingredients etc. The product provides good amount of fiber, calcium, proteins, omega 3 fatty acids and energy. Shelf life study was done for the product which included sensory evaluation by scoring test. Evaluation was done to know the characteristics of taste, appearance, texture, after effect etc. the other aspects covered in the study were Budgeting, packaging, Nutritional labeling etc.

Key words: Nutrient, Snack, Flax, Ragi.

INTRODUCTION

Healthy crunchy Bhel is a snack which provides good amount of calories and satiety value. This product is targeted for general crowd. But can be consumed by the people with different conditions as well ; like diabetes, obesity, constipation. It is made up of oats, flaxseeds and other healthy foodstuffs which are rich in fiber, omega-3, calcium, proteins, etc. Oats are the main ingredient of the healthy snack. Oat grain has mild and pleasant taste. Whole grain oat is high in soluble dietary fiber beta-glucan, known to lower cholesterol and postprandial Glycemic response¹. Five main nutrients required by the body to maintain and repair the tissues namely, energy, protein, phosphorous, thiamin and niacin are found in good quantity in groundnuts². Flax seeds contain high levels of dietary as well aligning; an abundance of micronutrients and omega-3 fatty acids .it is also used as a laxative due to its dietary fiber content⁶.Ragi contains negligible fat and about 10% protein with the essential amino acid methionine and lecithin⁴. Therefore one serving of this healthy crunchy snack provides maximum energy and is nutrient rich.

OBJECTIVES

- To standardize an innovative and healthy snack.
- To learn the various entrepreneurship skills.
- To design a nutritional label.
- To identify a cost effective packaging material.
- To study the shelf life of the product by sensory evaluation.
- To understand the marketing and budgeting aspects of the product.
- To design a nutritive rich and healthy product.

- To understand the product well and to do research based study on the ingredients.

METHODOLOGY

Many products were thought off namely: High calorie chocolate, dehydrated soup powder, diabetic khakhra and healthy bhel. Out of these diabetic khakhra and healthy bhel were prepared and a sensory evaluation test was carried out. Based on the sensory evaluation scores and acceptability “Healthy *crunchy bhel*” was finalized as the final product. “Healthy Crunchy Bhel” is a healthy snack which is rich in fiber, proteins, omega-3 fatty acid. It also provides good amount of calcium, alanine (functional food in garlic), etc.

MATERIALS

Materials used to prepare this product (ingredients) are: oats, palak-sev, nachni -sev, grounds, chana dal, flax seeds, garlic, turmeric, red chilli powder, chat masala.

PRODUCT BEFORE STANDARDIZATION

Ingredients	Amount
Oats	30 gm
Palak sev	5gm
Nachni sev	5gm
Groundnuts	5gm
Chana dal	5gm
Flax seeds	5gm
Red chilli powder, chat masala	To taste

It was observed that there was no binding agent to the product for enhancing the flavor. Each ingredient had a typical after effect taste and there was no specific color to

the product for attractive and innovation. It was therefore standardized again by adding garlic and turmeric powder for flavor and taste and color.

PRODUCT AFTER STANDARDIZATION

Ingredients	Amount
Oats	30 gm
Palak sev	5gm
Nachni sev	5gm
Groundnuts	5gm
Chana dal	5gm
Flax seeds	5gm
Red chilli powder, chat masala	To taste
Garlic	8-9pods
Turmeric powder	To taste

METHOD OF PREPARATION

- Roast all the ingredients separately & mix well
- ↓
- Take little oil and put garlic, turmeric, red chilli powder
- ↓
- Mix it well with the ingredients which are roasted
- ↓
- Healthy crunchy bhel is ready to serve (Also can be consumed by adding tomato, onion for extra flavor)

RESULT OF FIRST SENSORY EVALUATION BEFORE AND AFTER STANDARDIZATION OF THE BHEL

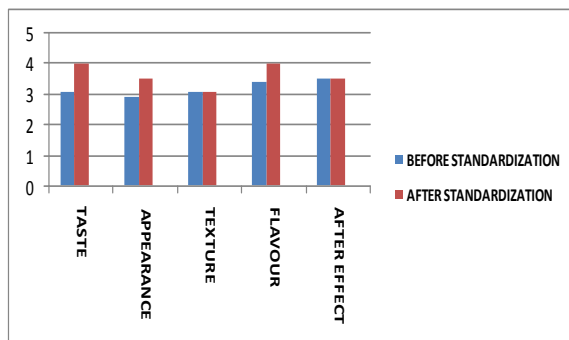


Fig: 1.1 result of sensory evaluation before and after standardization

RATING CHARACTERISTICS

Sensory evaluation was carried out by 22 trained panelists. It was done by score card method. A five point scale was maintained with characteristics of taste, texture, flavour, after effect, and appearance. Result was thus noted down after the sensory evaluation. Before standardization and after standardization had many changes in terms of flavor, texture, appearance. Sensory evaluation helped us to finalize our product before selling.

RESULT OF SECOND SENSORY EVALUATION OF THE SNACK: (HEALTHY CRUNCHY BHEL) AFTER 4 WEEKS

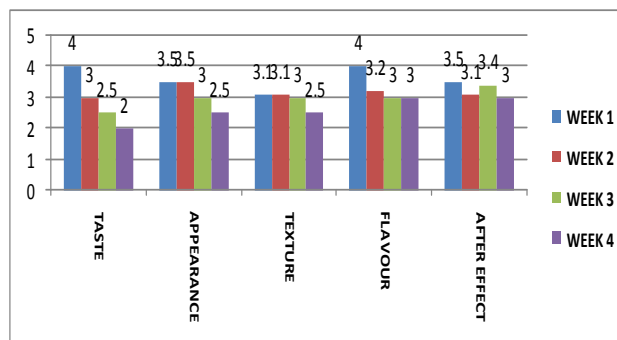


Fig: 1.2 sensory evaluation of healthy crunchy bhel of 4 weeks

RATING CHARACTERISTICS

There were many changes observed in the characteristics after sensory evaluation of the product. During the 1st week the characteristics were highly rated. The product had good taste, flavor, color and after effect and appearance. Later after 2 weeks few changes were noted in taste, flavor, and after effect. Major changes were noted in the after effect, it found to be little bitter after two weeks. Although there were no changes observed in the color, the appearance changed, oats were broken up and seemed to be in powder form. Major changes were observed during the last week in all the characteristics and therefore the product was finally labeled as edible before 15 days of packaging.

NUTRITIONAL LABEL

Nutrients	Amount
Energy	513 Kcal
Protein	14gm
Fiber	8 gm

A nutritional label was designed for the product. It had all major nutrient amounts and other information like NET WT, MANUFACTURING DATE, MAJOR NUTRIENTS, VEG LOGO, and INGREDIENTS ETC. This helps to enhance the products sale by innovation for good marketing and to attract customers.





PACKAGING-MATERIAL: BOPP (BIAXIALLY ORIENTED POLYPROPYLENE).



BOPP films have by far the highest moisture barrier of all plastic films. BOPP films have good barrier to flavors and aromas, particularly at the levels of concentration normally encountered in packaged products. BOPP films have outstanding optical properties and the gloss/transparency/sparkle obtained are among the best available on any material. BOPP films have extremely high strength - particularly tensile strength, puncture resistance, bursting strength, stiffness, tear strength and abrasion resistance BOPP films have very high chemical resistance to fats/oils - particularly of vegetable origin, most chemicals and many solvents. The basic material (polypropylene) is essentially a highly compatible with most packaged products. It is particularly suitable for direct food contact (www.ril.com).

BUDGETING

Materials	Amount
Oats (1 ½ kg)	Rs.320/-
Groundnuts (½ kg)	Rs.85/-
Chana dal (½ kg)	Rs.60/-
Flaxseed (½ kg)	Rs.50/-
Palaksev (1kg)	Rs.85/-
Nachnisev (1kg)	Rs.85/-
Garlic (250gm)	Rs.30/-
Plastic packets (25 nos)	Rs.35/-
Nutritional label- 2 types (50nos)	Rs.50/-
Total	Rs.800/-

25 samples were prepared and were sold at rs.30/- each (total rs.750/-). The profit made was Rs.50/- which includes the cost of spices, oil, cooking gas, electricity, labor charge. There was no profit no loss result in the sale of our product. Budgeting helped us to know more about the management and financing the contents of the product for good sale. Budgeting the product gave us more ideas to improve upon for next product sale in terms on feedback from the target group about the pricing and other aspects.

MARKETING

Firstly a survey was undertaken on the healthy products available in the market (MATUNGA AREA) with oats as the major ingredient. On further analysis we developed our own product which is not made and sold in the market as yet. Many marketing strategies were considered before selling the product. Target group was chosen, it was the age group of 20-40 years. This group was targeted so as to create awareness of the nutrient rich product and its good effects on individual. This group is generally health conscious and so it was easy to sell the product in the market. Feedback was noted and more quantity of our snack was ordered to be sold other than our fixed samples. That was a positive feedback point. Sales goals, Sales activities, Target accounts, Timelines etc aspects were kept in mind before selling the product (www.entrepreneur.com).

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