

# STUDIES ON RECIPE STANDARDIZATION AND ORGANOLEPTIC EVALUATION OF PRETZEL TRIANGLE

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## Abstract:

Pretzel is a type of baked bread product made from dough most commonly shaped into a twisted knot. Pretzels are divided into soft and hard pretzels. Pretzels originated in Europe, possibly among monks in the Early Middle Ages. The traditional pretzel shape is a distinctive non-symmetrical form, with the ends of a long strip of dough intertwined and then twisted back in to itself in a certain way. Salt is most common seasoning for pretzels. Pretzel triangles are made from replacing 2.5% and 1.5% of refined wheat flour by soya flour and flaxseed flour respectively. It is low cost and high nutrition based product. The chemical analysis revealed that pretzel triangles enriched with soya flour and flaxseed flour makes important contribution to protein, carbohydrate, fiber, etc. The percent carbohydrate, protein, fat found in pretzel triangles was 66, 9.62, 19.2 percent respectively. The resultant pretzels were evaluated for its sensory quality on 9 point hedonic scale to decide best quality.

**Keywords:** Bakery products, pretzels, Sensory Evaluation, Physical-Chemical Properties.

## Introduction

Pretzel is a bakery product originated in Europe, possibly among monks in the Early Middle Ages. The traditional pretzel shape is a distinctive non-symmetrical form, with the ends of a long strip of dough intertwined and then twisted back in to itself in a certain way. Salt is most common seasoning for pretzels. In the 18<sup>th</sup> century, southern German and Swiss German immigrants introduced the pretzel in North America. The immigrants became known as the Pennsylvania Dutch, and in the time, the popularity of many homemade pretzel bakeries had spread. Hard pretzel originated in United States in 1850, the Sturgis Bakery in Lititz, Pennsylvania, became the first commercial hard pretzel bakery. In 1949 highly innovative American Machine And Foundry Co., of New York City developed the "Pretzel Blender" for large scale production.

In 2003 Pennsylvania Governor Ed Rendell declared April 26 as "National Pretzel Day" to acknowledge the importance of the pretzel to the state's history and economy.

## Materials and methods

The raw materials utilized during present investigation like Refined Wheat flour, soy flour, flaxseed flour, sugar and packaging material were procured from local market of Pune, Maharashtra.

**Organoleptic evaluation of prepared pretzels:**

The prepared pretzel triangles was evaluated for sensory characteristics like color, flavour, texture, consistency and overall acceptability by 5 semi-trained panel members comprised of academic staff members of college of Food Technology, MIT, Pune. Judgment was made through rating of products on a 9 point Hedonic scale with corresponding descriptive terms ranging from 9 'Like Extremely' to 1 'Dislike Extremely'.

**Chemical analysis of prepared pretzels triangle:**

The randomly selected samples of pretzel triangles will be analyzed for the weight, peel percentage, pulp percentage.

**Moisture**

Moisture content will be determined by drying a known quantity of the sample in an oven at  $55 \pm 2$  °C till it gave a constant weight. It will be calculated and expressed in %, taking the weight of fresh sample as initial weight (Ranganna, 2009).

**Crude Fibre**

Fibre will be determined by subjecting the sample paste to simultaneous acid-base treatments, cooled in desiccators and weighed to determine the percentage crude fibre content (AOAC, 2004).

**Total ash**

Ash will be estimated by direct incineration of sample; igniting it in a Muffle Furnace at 550°C till greyish white residue (AACC, 2000; Method No. 08-01).

**Total carbohydrates**

Carbohydrates were estimated by phenol H<sub>2</sub>SO<sub>4</sub> method AOAC (2000)

**Protein**

Protein content will be determined by using Kjeldhal Apparatus as described in AACC (2000) Method No. 46-30.

**Total fat**

Total fat content will be determined using hexane as a solvent in Soxhlet apparatus as per the procedure given in AACC (2000) Method No. 30-25.

**Method of Preparation:****Treatment:**

S<sub>0</sub>- Only wheat flour used.

S<sub>1</sub>- Wheat flour was replaced by 2.5% soya flour and 1.5% flaxseed flour each.

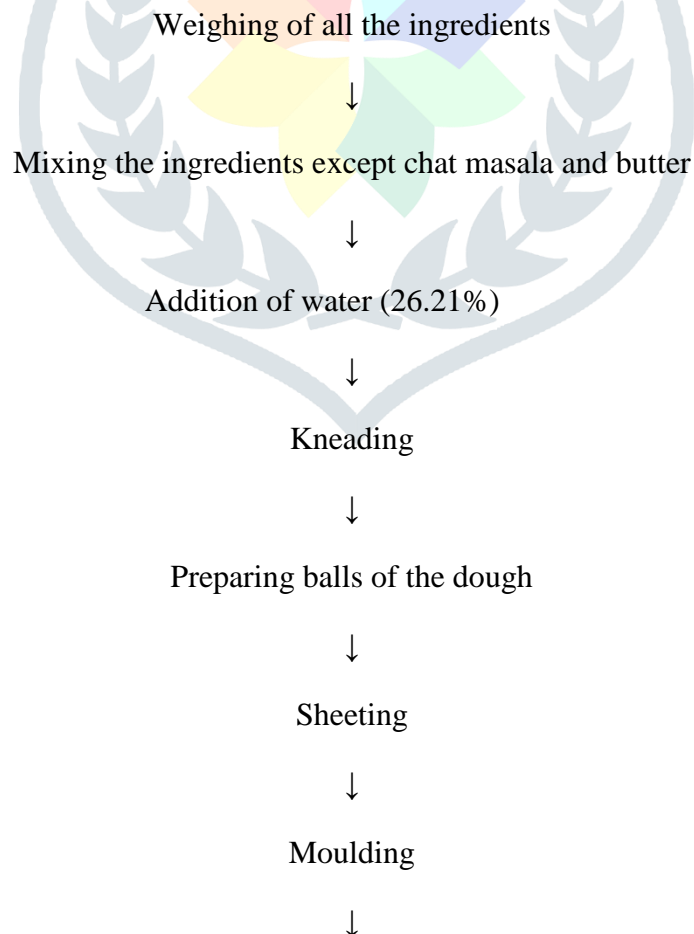
S<sub>2</sub>- Wheat flour was replaced by 5% soya flour and 1.5% flaxseed flour each.

S<sub>3</sub>- Wheat flour was replaced by 7.5% soya flour and 1.5% flaxseed flour each.

**Ingredients: (Per 100gm)**

All the ingredients are taken according to recipe and treatments were given.

Sr. No.	Ingredients	S <sub>0</sub> (gm.)	S <sub>1</sub> (gm.)	S <sub>2</sub> (gm.)	S <sub>3</sub> (gm.)
1	Refined Wheat Flour	100	93.5	88.5	83.5
2	Soya Flour	0	5	10	15
3	Flaxseed Flour	0	1.5	1.5	1.5
4	Sugar	8	8	8	8
5	Cumin	6	6	6	6
6	Chili Powder	1	1	1	1
7	Water	50	50	50	50
8	Baking Powder	4.7	4.7	4.7	4.7
9	Salt	1.4	1.4	1.4	1.4
10	Margarine	17.64	17.64	17.64	17.64
11	Chat Masala	1	1	1	1
12	Butter	1	1	1	1

**Processing method:**

Placing the molded pieces in the greased trays



Baking (150<sup>0</sup>C for 15 minutes)



Cooling



Seasoning with butter and chat masala



Packaging



Labelling



Storage

**Flowchart: Preparation of pretzel triangles**

## Result and Discussion

### Sensory evaluation of prepared pretzel triangles

Data pertaining to sensory evaluation of prepared pretzel triangles with respect to color, flavor, taste, texture, appearance. Data indicated in above table: 2 showed that Sensory evaluation of prepared pretzel triangles was analyzed by semi trained panalist of college of food technology. Panelist scored the highest for S1 in color (8.5), flavor (7.8) and texture (8.02) in appearance (8.7) and its taste was recorded 8.5. The least score (7.5) was recorded for S3. It is revealed from organoleptic evaluation that panelist had preferred control sample in appearance and color, but they equally preferred the taste and texture of control along with that of S1.

Sample	Color	Appearance	Texture	Taste	Flavor	Overall acceptability
S <sub>0</sub>	8.7	9	8.2	8.5	8.5	8.6
S <sub>1</sub>	8.5	8.7	8.02	8.5	7.8	8.3
S <sub>2</sub>	7.5	8.0	7.6	7.2	7.5	7.5
S <sub>3</sub>	7.0	7.6	7.9	8.1	7.6	7.6
SE±	0.154	0.136	0.108	0.155	0.123	0.157
CD at 5%	0.453	0.444	0.354	0.507	0.403	0.473

### Chemical analysis of prepared pretzel triangles:

The prepared pretzel triangles were analyzed chemically to know nutrient contents of final product. The different methods were used and randomly selected samples are analyzed. Data represented in below table is chemical parameters found in prepared pretzel triangle.

parameter	Value (per 100 gm.)
Moisture	3.6 %
Carbohydrate	66 %
Protein	9.62%
Fat	19.2%
Calcium	280 mg
Crude fiber	2.5%
Ash	1.3 %

\*Each value represents the average of the three determinations.

### 3. Conclusion:

The prepared pretzel triangle is type of snack product. It is bakery product so that the easy to prepare and not a deep fried product which is healthy and better than other deep fried snacks. The replacement of what flour with soya flour and flex seeds makes it highly nutritious and beneficial for health.

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