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### To standardisation and sensory evaluation of poppy seed product

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#### Abstract

The objective of this study was to determine the effect of poppy seed in the world of diet as it is said to promote weight loss. Poppy seeds are a high rich sources in a dietary fibre and iron and calcium. The high content of unsaturated fatty acids in poppy seeds is the main source of nutritional quality, but it is also the source of danger when it deteriorate. Oxidation of fat is frequently alluded to as autooxidation because the rate of oxidation increases as reaction proceeds. The iron and calcium contents of poppy seeds play a significant role in the development of the health of nervous system. Developed product of poppy seed are salad, phirmi, smoothy, poppyseed paneer, and churma laddu by using score card method (9–point hedonic scale). The result of poppy seed based product for poppy seed paneer, phirni, salad, smoothy, churma laddu (T1), (T2), (T3) were the best in all treatment in case of sensory attribute were 8.8, 8.9, 8.9.8.9.8.8 respectively. Development product were accepted by panel members.

**Keywords:** Poppy Seeds, KhusKhus, oil seed, poppy flower, (*Papaver somniferum*) seed

#### Introduction

Poppy seed is an oil seed obtained from the opium poppy (*Papaver somniferum*). The tiny, kidney-shaped seeds have been harvested from dried seed pods by various civilizations for thousands of years. It is still widely used in many countries, especially in Central Europe and South Asia, where it is legally grown and sold in shops. The seeds are used whole or ground into meal as an ingredient in many foods – especially in pastry and bread – and they are pressed to yield poppyseed oil. Poppy seed is an oilseed obtained from the poppy flower. Poppy seeds (KhusKhus) have strong anti-inflammatory ability, and thus actively used in Ayurvedic preparations for treating inflammation. This magical seed treats sleep disorders like insomnia. If insomnia occurs due to emotional issues such as anger or distress, these can also be treated with Khus Khus. It scores high on several accounts like dietary fiber, minerals (calcium and iron), vitamins, and omega-6 fatty acids. This herb has medicinal properties and thus used in bath soaps for external application. The small kidney-shaped seeds of Khus Khus are popularly known as Poppy seeds in the English language. This herb is referred by different names around the world, and it should not be confused with the Poppy cultivation done in certain countries for narcotics. In terms of the chemical composition, Poppy seed contains benzoic acid and fufuroland vetiverol that offers significant health benefits. This herb is widely used in the Indian cuisine and in preparation of Ayurvedic medicines. In its pure form, Khus Khus is used for manufacturing cosmetics and for making drinking water aromatic. Gok V. *et al.*, (2011) <sup>[7]</sup>. A Poppy seed paste was used in koefte production an animal fat replacer and efficacy of using poppy seed was investigated. The use of ground poppy seed in formulation of meat burgers had no effect on the moisture content of uncooked meat burgers; however, it did have a significant effect ( $p<0.05$ ) on the fat content of meat burger. Bozena S. *et al.*, (2013) <sup>[3]</sup> the poppy seeds are often attacked by various fungal diseases, and their field germination rate is low. The aim of this experiment was to increase the germination rate and growth of seedlings by modifying the poppy seeds using cold plasma discharge. The seeds were treated in a Plasonic under power of 5 with argon gas flow of 50 mL/min, oxygen gas flow of 50 mL/min for different time durations in seconds. Kose E. *et al.*, (2015) <sup>[2]</sup> Blueberry, defatted grape seed powder and defatted poppy seeds were incorporated into biscuits at a level of 5%. Some physicochemical and sensory characteristics were evaluated during 5 months storage period.

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Diameter,  $a^*$  ( $-a$  = greenness,  $+a$  = redness) values, ash, fat, crude fiber, Mg and Ca contents increased, while  $L^*$  (lightness),  $b^*$  ( $-b$  = blueness,  $+b$  = yellowness) values decreased significantly ( $p < 0.05$ ). A significant type of fortification agent  $\times$  storage time interaction ( $p < 0.05$ ) existed for all physicochemical parameters analyzed. Doger R. *et al.*, (2019) [5] *Papaver somniferum* (opium poppy) is one of the world's oldest medicinal plants which are widely used for medicinal, nutritive and scientific purposes. Turkey is one of the major legal opium poppy producer countries in the world and the seed paste of the poppies is consumed in great deal, even more than 100 g per meal. Hagan S. *et al.*, (2021) [1]. A Poppy seeds contain morphine and other opioid alkaloids and are commercially available in the United States. Users of poppy seed tea (PST) can consume several hundred morphine milligram equivalents per day, and opioid dependence from PST use can develop.

**Materials and Methods**

The experimental "To standardization and sensory evaluation of Poppy seed based product" work will be carried out in the research laboratory of faculty of Home Science Sultanpur. The different material use in experiment and the techniques employed.

**Method**

- Collection of ingredients.
- Processing of raw material.
- Development of Poppy seed based product.
- Sensory evaluation.
- Calculating Nutritive value.
- Statistical analysis.

**Collection of ingredients:** The required material will be purchased from local market of sultanpur.

**Development of Poppy seed Product:** The best acceptable seeds were used for product development as follow:

**Result and Discussion**

The data were collected on different aspects per plan were tabulated and analysed statically. The result from the analysis presented and discussed chapter in the following sequence.

**Calculation of nutritive value of Poppy Seed**

**Organoleptic evaluation of poppy seed based products**

**Calculation of nutritive value of Poppy Seed**

**Calculation of nutritive value of poppy seed (100 gm)**

Nutrients	Total
Energy	536 kcal
Protein	21.43 g
Total Fat	39.29 g
Carbohydrate	28.57 g
Fiber	25 g
Sugar	3.57 g
Calcium	1,250 mg
Iron	9.64 mg
Magnesium	357 mg
Saturated Fat	5.36 g
Trans	0 g
Cholesterol	0 mg

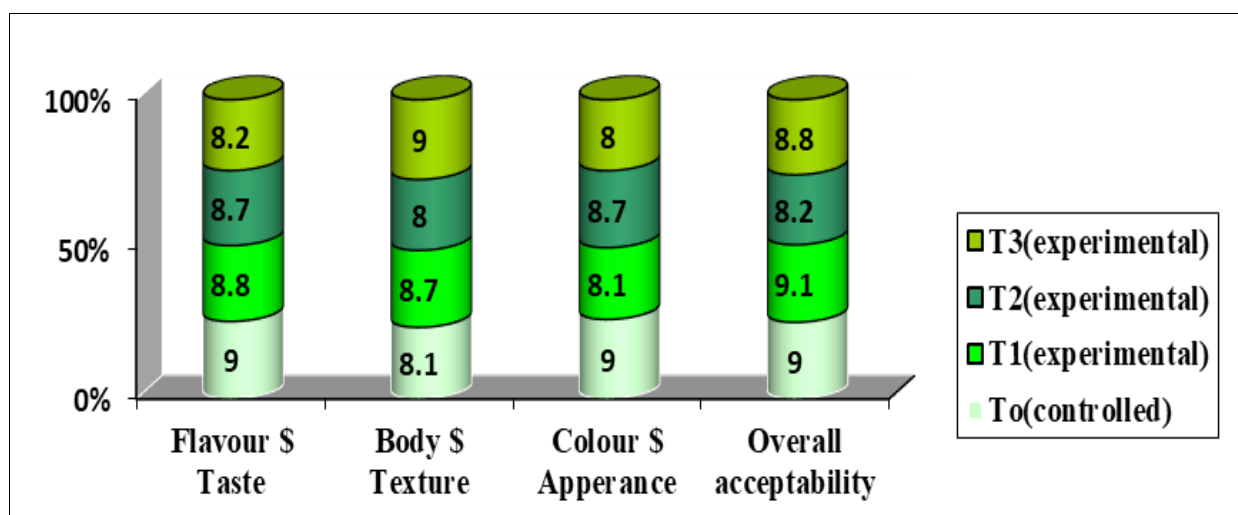
The nutritive value of Poppy seeds was calculated with the help of U.S Department of Agriculture. Table shows that the total energy, proteins, minerals, fat, fiber, Carbohydrate, calcium, sugar, magnesium. Value of most acceptable Poppy seed was 536 kcal, 21.43 g, 39.29 g, 28.57 g, 25 g, 3.57 g, 1,250 mg, 9.64 mg, 357 mg, 5.36 mg respectively.

**Organoleptic evaluation of poppy seed based products.**

- Flavour and taste.
- Body and texture.
- Colour and appearance.
- Overall acceptability.

**Table 1:** Organoleptic evaluation of Poppy seed Churma Laddu

Product	Flavour & Taste	Body & Texture	Colour and Appearance	Overall acceptability
To (Controlled)	9.0	8.1	9.0	9.0
T1 (Experimental)	8.8	8.7	8.1	9.1
T2 (Experimental)	8.7	8.0	8.7	8.2
T3 (Experimental)	8.2	9.0	8.0	8.8



**Fig 1:** Organoleptic evaluation of Poppy Seeds Churma Laddu

The present investigation entitled “To standardization and product development with poppy seed based product.” The experimental (T3) obtained maximum 8.2, 9.0, 8.0, and 8.8 for flavour and taste, body and texture, colour and appearance & overall acceptability but the experimental (T1) obtained maximum 8.8, 8.7, 8.1 and 9.1, for flavour and taste, body and texture, colour and appearance and overall acceptability but the experimental (T2) obtained minimum 8.7, 8.0, 8.7 and 8.2 for flavour and taste, body and texture, colour and appearance and overall acceptability while controlled (T0) 9.0, 8.1, 9.0 and 9.0 obtained for flavour and taste, body and texture, colour and appearance and overall acceptability respectively. This indicate that the experimental sample (T3) poppy seed churma ladoo was found to be fallen under category of “Like very much to be extremely”.

### Conclusion

Poppy seed is an oil seed obtained from the opium poppy (*Papaver somniferum*). The tiny, kidney-shaped seeds have been harvested from dried seed pods by various civilizations for thousands of years. It is still widely used in many countries, especially in Central Europe and South Asia, where it is legally grown and sold in shops. The seeds are used whole or ground into meal as an ingredient in many foods – especially in pastry and bread – and they are pressed to yield poppy seed oil. The poppy seed is mentioned in ancient medical text from many civilizations. Poppy seeds are a high rich sources in a dietary fibre and iron and calcium. This help you feel full for longer periods of time. It also contains 9.7mg in one tea spoon. Which is useful for good bone health and blood clotting. The iron and calcium contents of poppy seeds play a significant role in the development of the health of nervous system. The most important benefit of poppy seeds is the prevention of heart disease. Poppy seeds have strong anti-inflammatory ability, and thus actively used in ayurvedic preparations for treating inflammation.

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