

# Cookies- a Review

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## ABSTRACT

There are wide diversity of healthy bakery products in market and are in advance much regard. The entire bakery fragment can be divided into different segments eg. cakes, biscuits, cookies etc. Functional food has various benefits which reduces the risk of chronic disease and provide nutrition to human beings. Cereals are the cheapest source to convince the hunger. Bakery products are extreme by lower, middle, and high income group in both bucolic and built-up areas. Bakery product mainly consist of wheat, a stable grain in our country and 25% of its total production is used in the manufacturing of bakery products, which are rich in fats, starch, and energy but lacks in fiber and protein etc. Bakery products can be prepare by using different types of flour and those bakery products which are prepared from composite flour carries more nutritional value. A variety of types of flour or raw material can supply as a expensive source for enrichment of fiber and protein in bakery products. This analysis focused on the application of different raw materials for the developed of protein and dietary fiber rich bakery products through the variation in the baking condition. A variety of cereals and millets (oats ,maize, millet etc), provide more nutrients, antioxidant, dietary fiber etc. They can be used for fortifying various bakery products and thus increases the nutritional value of bakery products.

**Keywords:** Cereals, Bakery , Nutritional value

## INTRODUCTION

The bakery industry is one of the few processed food segments that have gradually increased production in the country over the past few years. There is growing strain for wheat based products in India. diversity of bakery products such as is biscuits ,cookies, cakes, etc is available in the bakery industry. These is products are important of food in children . although the raise health issues like constipation, corpulence and other stable diseases exact for the food rich in dietary fiber and protein additional than the major carbohydrates. Bakery products such as cookies, biscuits they are inspired in large quantity worldwide which are low in protein and fiber for this reason attention in research has been developed in increasing fiber and protein content in diet. manufacture of bakery products holds an significant leave in food industry. when the production of bakery yield is increasing among extensive range consumers now have variety of opportunity in bakery products. Because there are wide range of baked goods in bakery industry, consumer are receiving newer opportunity thus the industry have a reason to build up bakery products, also as to convince health conscious Indian costumer. In the present situation, the occurrence of diabetes and obesity are increases exponentially in worldwide level due to food habits, and to conquer the increasing demand for such foods containing complex carbohydrates with higher dietary fiber levels and valuable phyto chemicals for health, low-calorie foods were in demand. Cereals based products are consumed daily

by the majority of population, Bakery products are consumed food of the entire time. Therefore now food industry has listening carefully on increasing the nutritional value of these products. The existing trend is to generate bakery products that are beneficial for health. Nowadays dietary fiber is considered a very important constituent in bakery products. It helps in reducing gastrointestinal tenderness; reduce the risk of various cancers, fat assimilation from the digestive expanse. Food industry has undergo various changes over the past few decades, generally. Due to the development and implementation of new equipment to meet growing consumer demand for convenience products.

## COOKIES

Cookies are comprehensively ordered by how they are framed, including at any rate these classifications:

- Bar cookies comprise of player or different fixings that are emptied or squeezed into a dish (now and then in various layers) and cut into treat measured pieces subsequent to heating. In British English, bar cookies are known as "tray bakes". Models incorporate brownies, natural product squares, and bars, for example, date squares.
- Drop cookies are produced using a moderately delicate mixture that is dropped by spoonfuls onto the heating sheet. Amid preparing, the hills of mixture spread and level. Chocolate chip cookies (Toll House cookies), cereal raisin (or other oats based) cookies, and shake cakes are well known instances of drop cookies. This may likewise incorporate thumbprint cookies, for which a little focal sadness is made with a thumb or little spoon before preparing to contain a filling, for example, jam or a chocolate contribute the UK, the expression "treat" frequently alludes just to this specific sort of item.
- Filled cookies are produced using a moved treat batter loaded up with a natural product or ice cream parlor filling before preparing.
- Molded cookies are additionally produced using a stiffer batter that is formed into balls or treat shapes by hand before heating. Giggle doodles and nutty spread cookies are instances of shaped cookies. A few cookies, for example, recluses or biscotti, are shaped into extensive straightened portions that are later cut into littler cookies.
- No-prepare cookies are made by blending a filler, for example, grain or nuts, into a liquefied candy parlor cover, molding into cookies or bars, and permitting to cool or solidify. Cereal groups and Rum balls are no-prepare cookies.

Cookies are one of the bakery products which are consumed by all age group people. Cookies are generally prepared by using refined wheat flour which tends to decrease their nutritional value. Cookies are good

source of fat, carbohydrate which can be enriched by using multigrain flours, composite flours. Soybean is one of the important oil and protein crop in the world it contain 45% of protein with all indispensable amino acid. Soybean is cheapest source of protein soy protein are unique among plant protein because of its high biological value and presence of essential amino acid such as lysine which is limiting amino acid in most of the cereals (Kulthe *et al.* 2011). Another good source of cereal protein as well as rich in calcium and it can make an excellent supplement to cereal diet (Ismail *et al.* 2003).

## Millet based cookies

Millets are small grained annual cereals grown for food, feed, forage and other industrial applications. Millets are important sources of food for millions of people, particularly those living in hot, dry areas of the world. The millets that is least important contains minimum 12 to 14 species of the grass family and those with potential to become important crops in semi-arid production systems are finger millet (*Eleusine coracana*), proso millet (*Panicum miliaceum*), barnyard millet (*Echinochloa frumentacea*), kodo millet (*Paspalum scrobiculatum*), foxtail millet (*Setaria italica*), little millet (*Panicum miliare*).

A millet crop includes grasses like finger millet (*Eleusine coracana*), foxtail millet (*Setaria italica*), pearl millet (*Pennisetum glaucum*), kodo millet (*Paspalum scrobiculatum*), bahia grass (*Paspalumnotatum* Flugge), little millet (*Panicumsumatrense*), proso millet (*Panicummiliaceum*), barnyard millet (*Echinochloa acrusgalli*), guinea grass (*Panicum maximum*), elephant grass (*Pennisetumpurpurium*), etc. The total production of the world in the year 2013 was 762,712 metric tons of millet grains and the India is the greatest producer with an outcome 334,500 tons contributing 43.85%.

Millets are good source of vitamins & minerals, sulphur-containing amino acids and phytochemicals, and hence are known as 'nutritious millet'. Millets be in low glycemic index and an ultimate food for diabetic patients, hence they are have of gluten in their grains makes them good for celiac patients. Cookies are sanck, food convenient and expensive food products including disease resistant, tolerant to adverse conditions and with better nutritive value in terms of complex carbohydrate and high dietary fiber. They are produced from unpalatable dough that is transformed into a light porous, readily digestible and appetizing product through the application of heat. Moreover, in the present period, Millets have a various health benefits Some of them connected with regular ingestion of millet foods, such as the hypo cholesterolemic, hypoglycemic and antiulcerative characteristics indicate the scope for its utilization by the non-traditional millet consumer also (Sudha and Malleshi, 2007).

## Pumpkin seed flour based cookies

The worldwide production of pumpkin in 2012 was 25 million. Pumpkin seeds are widely new in the grounding of bakery products such as cookies, bread, cakes. Pumpkin seeds have significant role in human diet because it is a rich source of natural protein, fiber. Pumpkin belongs to a family of

cucurbitaceae dibble parts of pumpkin include the flower, fruit, leaves, root and seeds. Pumpkin seeds are rich in nutrients and medicinal properties they are often eaten as snack after roasting in Arab countries ( **AI- Khalifa 1996**). The addition of these seeds can be considered a good substitute for nutritional enhancement of food products( **Gorgonio et al 2011**). It is a good source of fiber it contain 31.48 % crude fiber ( **Nyam et al 2013**). Its flour is beneficial for obese people to control the body weight. cookies is highly acceptable bakery products . cookies prepared by pumpkin seed flour are rich in Protein, fat, ash, iron, zinc, total carotenoid content. Antioxidant activity was increased in the cookies supplemented with raw or roasted pumpkin seed flour. Consumption of pumpkin seed flour supplemented products should be encouraged in routine diet so as to improve the nutritional status of the individuals. Value added products using raw or roasted pumpkin seed flour can be surface to children and women to eliminate malnutrition. Cookies can also become part of the supplementary feeding programmes.

### **Oat bran based cookies**

Oats ( *Avea Sativva* L) is the most common cultivated species related to family of Graminea, they are also known as groats, oatmeal, oat straw, oat bran etc. Oat bran is a good source of soluble and insoluble crude fiber, proteins, iron and zinc as well as low in fat. In India Bakery products are gaining popularity in different cross section of population. Cookies accounting 80% of total bakery products in the country ( **Davidson I 2016**).

### **Cassava flour and soya bean based cookies**

The market of gluten free products are increasing tremendously in the last decade. Various disease caused by the intolerance to gluten one of which is Celiac disease which is an autoimmune disorder in which the immune system responds abnormally to gluten. Cassava is a multipurpose crop that responds to the priorities of developing countries, to trends in the global economy. Consumption of bakery products has been increasing as a result of urbanization Cassava is one of the leading crop in the world it is a rich source of carbohydrate and can be grown at a lower cost it is also called as inferior food crop or poor people crop It is obtain from roots, leaves .Using soy flour in bakery products has positive impact it contain 38% protein. Soybeans are also called as protein because it provides high amounts of amino acids which help to regenerate the body tissue it is a rich source of Lecithins up to 3% which is beneficial for brain development it is low in carbohydrate and rich in protein as compared to other flour ( **Smith A K, Circle S J 1972 and Soy protein Council 1987**).

### **Banana flour based cookies**

Banana is a fruit originated from Southeast Asia, including North India, Burma, Cambodia and part of South China. Banana is composed of high amounts of starch, around 70% of the fruit dry basis ( **Agama-Acevedo et al., 2015**). It contain fiber 2.6%- 3.5% and 2.5%- 3.3% protein. The flour obtained from

banana has a physiological effects as it act in the form of fiber. Several studies have suggested that consumption of unripe banana have various beneficial effects in human health . undeveloped banana flour is an important source of poly phenols compounds that are measured as natural antioxidant (**Vergara-Valencia N et al.,2007**).

## Maize flour Cookies

The disease is an autoimmune disease related to an intolerance of gluten, which affects adults and children. Therefore to take advantage of this growth, many companies are looking to diversify and develop new products that meet this demand. In the case of cookies made with wheat flour, some characteristics , such as protein content or water absorption capacity preparation( **Pareyt, B;et al., 2008**). Maize, rice or legume flours are usually coarser than wheat flour can influence cookie quality ( **Barak, S; et al., 2014**).

## Conclusion

Bakery products such as cookies, eaten in balanced quantities provides the body with essential nutrients for its good function. Addition of multigrain flour into various bakery products has considerable effects on nutritional value of bakery products. It can play an important role in helping consumers to achieve and maintain the objective of intake of specific calories daily.

## REFERENCES

- **Al-Khalifa, A. S. (1996)**. Physicochemical characteristics, fatty acid composition, and lipoxygenase activity of crude pumpkin and melon seed oils. *Journal of Agricultural and Food Chemistry*, 44(4), 964-966.
- **Agama-Acevedo, E., Nuñez-Santiago, M. C., Alvarez-Ramirez, J., & Bello-Pérez, L. A. (2015)**. Physicochemical, digestibility and structural characteristics of starch isolated from banana cultivars. *Carbohydrate polymers*, 124, 17-24.
- **Barak, S., Mudgil, D., & Khatkar, B. S. (2014)**. Effect of flour particles size and damaged starch on the quality of cookies. *Journal of food science and technology*, 51(7), 1342-1348.
- **Davidson I. Biscuit Baking Technology, (2016)** Processing and Engineering Manual. 2<sup>nd</sup> ed. Academic Press; Elsevier, p.1-34.
- **Gorgonio C, Ramasastri BV and Balasubramaniam ( 2007)**. Nutritive value of Indian Foods, NIN,ICMR, Hyderabad.
- **Ismail, S., Wankhede, D. B., Syed, H. M., Kulkarni, A. S., & Fayazuddin, M. (2003)**. The effect of germination on the changes in protein, free amino acid and in vitro protein digestibility



of moth bean and horse gram. In *Proceedings of the National Symposium on Arid Legumes for Food Nutrition Security and Promotion of Trade* (pp. 315-317).

- **Kulthe, A. A., Pawar, V. D., Kotecha, P. M., Chavan, U. D., & Bansode, V. V. (2014).** Development of high protein and low calorie cookies. *Journal of food science and technology*, 51(1), 153-157.
- **Nyam, K. L., Lau, M., & Tan, C. P. (2013).** Fibre from pumpkin (*Cucurbita pepo* L.) seeds and rinds: physico-chemical properties, antioxidant capacity and application as bakery product ingredients. *Malaysian journal of nutrition*, 19(1).
- **Pareyt, B., & Delcour, J. A. (2008).** The role of wheat flour constituents, sugar, and fat in low moisture cereal based products: a review on sugar-snap cookies. *Critical reviews in food science and nutrition*, 48(9), 824-839.
- **Smith AK, (1972).** Circle S J. Soybean Chemistry and Technology, vol. 1. Protein Ave. Publishing Co Inc., Westport, CT
- **Sudha, M. L., Srivastava, A. K., Vetrmani, R. and Leelavathi, K. (2007).** Fat replacement in soft dough biscuits: its implications on dough rheology and biscuit quality. *Journal of Food Engineering*, 80, 922-930.
- **Soy Protein Council. DC, (1987).** Soy Protein Products characteristics, Nutritional Aspects and Utilization. SPC, Washington, 26-32
- **Vergara, Valencia N, Granados- Perez E, Agama- Acevedo E, Tovar J, Ruales J, et al. (2007)** Fiber concentrate from mango fruit; Characterization, associated antioxidant capacity and application as a bakery products ingredients *LWT Food Sci Technol* 40; 722-729.