



Groundnut as Functional Food

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ABSTRACT

Groundnut is an important oil crop grown world-wide. Commercially it is used mainly for oil product but apart from oil, the by-product of it contains many other functional compounds like proteins, fibres, polyphenols, antioxidants, vitamins and minerals. Recently it has also revealed that groundnuts are excellent source of compounds like resveratrol, phenolic acids, flavonoids and phytosterols that block the absorption of cholesterol from diet.

Rajasthan is the third largest oil seed producing state in India with a share of 15% of total oil seed production in country. Mustard and groundnut are two principal oil seed crops raised in 90% district of Rajasthan. With increased health benefits, groundnut oil is high in oleic acid and is believed to help prevent heart diseases and lower cholesterol.

Groundnut oil might help to reduce fatty build up in blood vessels. Groundnuts are as popular as they are healthy. They are excellent plant - based source of protein and has high vitamins, minerals and compounds. Groundnut seed is commonly called peanut and has numerous areas of utility. This review paper is focused at creating awareness of the nutritional and medicinal values of groundnut seeds.

I. INTRODUCTION:

The term oilseed is applied to those seeds, including the groundnut, which are processed for their oil. These are seeds containing high oil content and widely grown as a source of oil, they are considerably higher in protein and fat content than the cereal grains.

Groundnut is an important legume oil crop cultivated in tropical, subtropical and temperate zones of the world. It is classified both as a grain legume and, due to its high oil content as an oil crop. It is taxonomically classified as *Arachis hypogaea* L. of family Fabaceae.

The groundnuts harbour symbiotic nitrogen fixing bacteria in root nodules. This capacity of fixation of nitrogen means peanuts require less nitrogen-containing fertilizer and also improve soil fertility, making them valuable in crop rotation.

It is a valuable source and a unique blend of oil, protein, carbohydrate and minerals. Groundnut seed mainly contains globulin type of protein (87% of total proteins). This protein is very digestible with a biological value of 57.9%. It is used in various forms. Due to unique blend of oil and protein, kernels are also used for extraction of milk and kernel residues left after extraction of milk are used for preparation of cookies

100 gm groundnuts contains:-

Carbohydrates	-	16.13 gm
Protein	-	25.80 gm
Total fat	-	49.24 gm
Dietary fibres	-	8.5 gm
Riboflavin	-	0.135 mg
Pyridoxin	-	0.348 mg
Pantothenic acid	-	1.767 mg

and Vitamin A, C, E, Calcium, potassium, copper, iron, magnesium, phosphorus and zinc.

It contains lysin protein which is lacking in cereals. Groundnut is grown as Kharif crop. In Rajasthan it is grown in Jaipur, Tonk, Sawaimadhopur, Bikaner, Jaisalmer, Chittorgarh and Nagaur district.



Groundnut kernel



Groundnut oil



Groundnut cake

Groundnut oil:

Groundnut oil is yellow in colour with nutty flavour. It is rich in unsaturated fatty acids. Oleic acid and linoleic acids are two unsaturated fatty acids accounting for 38-56% and 16-38% respectively. Among the unsaturated fatty acids, palmitic is the major one with about 10-16%. Raw groundnut oil has very good stability. It can be stored at room temperature for 18 months. Higher iodine value and refractive index values indicate its susceptibility to oxidation. Groundnut oil has higher smoking point and oxidative stability compared to olive oil.

Fortification of groundnut oil:

Fortification is a process in which nutrients are added to food to maintain or improve the quality of the diet. Groundnut oil is suitable as a vehicle for vitamin A and D. As vitamin A and D are fat soluble, they can be uniformly distributed in oil. The stability of vitamin A is greater in groundnut oil, than in any other food and oil facilitates the absorption of vitamin A by the body.

Oil seed cake

The deoiled cakes left after extraction of oil contain about 43-65% protein which is two times higher than the protein present in major pulses. The defatted meals has higher protein efficiency ratio, net protein utilization and digestibility than full fat peanut powder. The protein digestibility of groundnut cake varies from 88.9 to 92%. Groundnut oil cake, a high protein content solid residue is rich in arginine level.

II. CONCLUSION:

Groundnut is used mainly for oil production but apart from oil, the by-products of peanut contains many other functional compounds like proteins, fibres polyphenols, antioxidants, vitamins and minerals which can be added as a functional ingredient into many processed foods. Groundnut oil is rich in oleic acid so it increases HDL and decreases LDL, so it is very beneficial for health. Groundnut oil fortified with vitamins increases its nutritive value.

The deoiled cake is very rich in proteins and consumed as cattle feed or manure. Groundnut as a whole is very advantageous, because it is rich in potassium, calcium, phosphorus and vitamin B which gives health benefits.

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