CHIA SEED: A SUPER FOOD

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INTRODUCTION:

Chia (*Salvia hispanica* L.) was originated from Mexico and Guatemala; it has been the part of human food for about 5500 years. The word chia is derived from a Spanish word chian which means oily, it is oilseed, with a power house of omega-3 fatty acids, high quality protein, abundant source of dietary fibre, vitamins, minerals and wide range of polyphenolic antioxidants which act as antioxidant and safeguard the seeds from chemical and microbial breakdown. The massive nutritional and therapeutic potential of chia is little known, chia offers a great future perspective for feed, food, medical, pharmaceutical and neutraceutical sectors.

NUTRITIONAL PROFILE OF CHIA SEED:

Chai seed is potential source of different essential nutrient that includes protein, fat, carbohydrate, dietary fibre, ash and dry matter contents ranged from 15 to 25 %, 30–33 %, 41 %, 18–30 %, 4–5 % and 90–93 % with a wide range of polyphenols. Currently chia seed is widely used for the extraction of bio-active compounds for the development of functional foods. The high fibre content of chia seed as health perspective, fibre increases stool volume, prevent from diverticulosis and cancer.

The presence of higher concentration of polyunsaturated fatty acids in chia oil has increased its popularity many folds. Omega-3 fatty acids are comprised of three essential fatty acids; alpha-linolenic acid, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA) whereas omega-6 is comprised of linoleic acid and arachidonic acid. Chia seed with appreciable amounts of ω-3 alpha-linolenic acid (ALA) and ω-6 linoleic acid. On an average it contains about 64 % ω-3 and 19 % ω-6 fatty acids.

PHYTOCHEMICALS IN CHIA SEED

The total phenolic content in chia seed extract was 8.8 % on dry matter basis. The presence of caffeic acid, chlorogenic acid and quercetin can be correlated with higher extents of phenolics in chia. Chia seed is potentially a great source of antioxidants, the massive antioxidant potential can be utilized for better health and preservation of food lipid systems.

HEATH BENEFIT OF CHIA SEED

CHIA SEED IN PREVENTING HEART DISEASES

Alpha-linolenic acid, eicosapentaenoic acids play a vital role in the formation of vital biochemical compounds such as prostaglandins, leukotrienes, and thromboxanes which are encountered in numerous physiological functions. mega-3 fatty has the capability of blocking calcium and sodium channel dysfunctions, which otherwise can consequences in hypertension (Leaf and Kang 1998). Omega-3 fatty acids improve the parasympathetic tone, heart rate variability and protect ventricular arrhythmia. Alpha-linolenic acid content of the seed greatly

CHIA SEED CONTROL DIABETES

Chia seeds have the ability to convert glucose into a slow-release carbohydrate. This could have a positive effect on people with type 2 diabetes. High-fiber content of chia seed are associated with a lower risk of developing diabetes, and eating high-fiber meals helps to keep blood sugar stable.

APPLICATION OF CHIA SEEDS IN FOOD INDUSTRY

- Chia seeds are used whole, ground and in the form of gel and oil in food system to provide food with texture and consistency.
- Gel of chia seeds may be used as a substitute of oil or eggs in baked products.
- Gel of chia seeds can be used as stabilizer and fat replacer in ice cream
- Chia seeds also be used to produce bakery product as a substitute of wheat flour.
- Chia mucilage incorporation can improve technological quality of breads and pound cakes with a reduced fat content.

CONCLUSION:

Chia seeds potential source of dietary fifibre and proteins, rich in many essential amino acids. Also, chia seeds have high contents of polyunsaturated fatty acids, mainly belonging to the group of omega-3 fatty acids. These seeds are also a good source of many minerals and vitamins, as well as bioactive compounds of high antioxidant activity, particularly polyphenols and tocopherols. Hence it could be concluded that chia seeds are a valuable raw material whose Nutritional and health-promoting properties make it more convenient for value addition in food food product.