NUTRITIONAL BENEFITS OF CHIA – A PSEUDO CEREAL

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INTRODUCTION

Pseudo cereals are plants that produce fruits or seeds that are used and consumed as grains, despite the fact that botanically they are neither grasses nor true cereal grains, meaning that they are not belong to the Gramineae family. Pseudo Grains are high in protein, fibre, low-glycemic carbohydrates, gluten-free grains and referred to as "ancient grains". It is a very antediluvian crop, which is now, comes under exploited and rediscovered since last thirty years. Prominent examples of pseudo cereals are amaranth, quinoa, buckwheat, chia, breadnut and wattleseed.

Chia seeds (*Salvia hispanica* L.) are native to South America and come from a plant in the mint family (Lamiaceae). Chia seeds are frequently referred to as 'super food' or 'functional food'. Chia seeds are abundant in fibre, omega-3 fatty acid, essential fatty acids, alpha-linolenic and linoleic acid, protein, vitamins, antioxidants and minerals, including sulphur, iron, iodine, magnesium, manganese, niacin and thiamine. Chia means "strength" in the Mayan language and it is also known as "runner's food" because of its nutrient-dense, energy-boosting properties.

Once upon a time, it was a major food crop in Mexico and Guatemala. It was offered to Aztec gods in religious rituals as early as 3500 BC, when it was cultivated as a food source. The chia seed market is expected to reach more than 2 billion USD in sales by 2022, according to industry reports (1).



NUTRITIONAL VALUE OF CHIA SEEDS:

Two tablespoons (1 ounce or 28 grams) of chia seeds provide roughly 140 calories, 4 grams of protein, 11 grams of fibre, 7 grams of unsaturated fat, 18% RDA for calcium, and trace minerals including zinc and copper (2). They are the only plant source to have the highest concentration of omega-3 fatty acids. Chia seeds are a complete protein, because they include all nine essential amino acids that the body cannot produce.

S.No.	Nutritional composition	Values
1	Energy (in Kcal)	4.36
2	Moisture (in 100 g)	5.80
3	Protein (in 100 g)	16.54
4	Fat (in 100 g)	30.74
5	Fibre (in 100 g)	34.40
6	Carbohydrate (in 100 g)	32.50
7	Ash (in 100 g)	4.50
8	Ca (mg/100g)	631
9	P (mg/100g)	860
10	Fe (mg/100g)	7.79
11	Total Starch	10.00

BENEFITS OF CHIA SEEDS

1. It may be small, but they are extremely high in minerals and nutrients. Chia seeds help to maintain heart health, strengthen bones and regulate blood sugar levels. They are easy to digest.
2. The fibre in Chia seeds aids in the reversal of diabetes by assisting body's ability to balance insulin levels, intestinal regularity.
3. Its high fibre content limits hunger and suppresses appetite, resulting in weight loss.
4. It protects the skin from ageing and keeps it looking young.
5. It also aids in cholesterol regulation, blood pressure control and the prevention of arthrosclerosis by reversing oxidative stress.
6. Chia seeds consumption boosts fat soluble vitamin A, D, E and K levels in the body.
7. Its Calcium serves to strengthen bones and teeth and presence of boron helps to metabolise calcium, magnesium, manganese and phosphorus for healthy bone and muscles growth.
8. It increases body muscular mass, enhances stamina and endurance and loses the body weight rapidly.
9. It contains alpha lipoic acid, which has been shown to reduce the breast and cervical cancers.
10. Chia seeds have a high nutritional value that pregnant mothers should add in their diet to compensate for the nutrients lost during pregnancy as well as for the baby's developments.

USAGE

When chia seeds are submerged in water, they swell to multiple times in their original size. To consume, they must first be soaked in water, after which they take on a gel-like substance. Ground chia seeds are another option to add them into diet. Chia can be found in a variety of drinks, including pre-workout shakes, bottled beverages, and the like. Chia seeds can also be used in chia pudding, chia muffins and sprinkled on yogurt.

CONCLUSION

The pseudo cereal chia can be fortified and supplemented with cereal flour to offer nutritionally dense meal preparations to fulfil or combat protein-energy deficiency. It can be used to prepare gluten-free dishes because it is naturally gluten free. It can be used to investigate the bakery industry and learn how to make cookies, pasta, bread, cakes, and other foods in order to identify the most effective and cost – efficient ways to enhance one's diet.