



CHIAFACTORS™

Whole food nutrition

NUTRITION-PACKED ANCIENT GRAIN

With today's hectic lifestyle and high demands, eating nutrition-rich, natural whole foods can be a challenge. Key nutrients in the diet provide the building blocks necessary for the body to maintain and optimize health. Protein (in the form of sufficient quantities of the essential amino acids), essential fatty acids (EFAs), dietary fibre, antioxidants, vitamins, and minerals are key nutrients in a healthy diet. Naturally-nutritious chia seeds supply these key nutrients in superior amounts and are known for the many health benefits they provide.

Chia is an ancient grain cultivated by the Aztecs and Mayans in pre-Columbian times as a staple food, and was one of the three major plant sources of food, along with corn and beans. Since then, chia seeds have been used in foods and beverages and for medicinal uses, both in whole and ground form, although the seeds don't require grinding as they are easily digested. They can be eaten alone or added to foods such as cereals, yogurt or baked goods. ChiaFactors from Natural Factors is a blend of black and white *Salvia hispanica* chia seeds, is non-GMO, and is certified by the Nutritional Science Research Institute for its high quality.

NATURE'S SUPER FOOD

Chia is known as a super food and is one of nature's most perfect foods. Chia seeds contain highly concentrated amounts of essential fatty acids, protein, dietary fibre, vitamins, minerals, and antioxidants (Weber).

Chia seeds typically contain about 30-35% oil (Ayerza). This is three to four times the amount of oil found in most grains. The majority of the oil found in chia seeds is in the form of heart-healthy omega-3 and omega-6 fatty acids and polyunsaturated fatty acids. The high amounts of healthy fats keep cell membranes flexible, allow nutrients to easily flow into the cells, and improve regulatory processes in every cell of the body. Fatty acids are also necessary for the absorption of fat soluble vitamins A, D, E and K. Of the total fatty acids found in chia seeds, over 60% is the heart-healthy omega-3 essential fatty acid known as alpha-linolenic acid (ALA). ALA has numerous health benefits: heart health, including cholesterol levels and blood pressure; and supporting the brain, nervous system, and immune system. Chia seeds are cholesterol free and have a very favorable omega-3 to omega-6 ratio of 3:2. This superior ratio helps balance the modern diet which is

generally deficient in omega-3 fatty acids. Each tablespoon of ChiaFactors provides 2.5 g of omega-3 EFAs. Chia contains high amounts of protective flavanoid antioxidants to protect the oil within the seeds from going rancid and provide beneficial effects in the body after the seeds are eaten.

A complete source of vegetarian protein, chia seeds supply all of the essential amino acids in sufficient quantities for growth, and for building and maintaining skin, muscles, brain and hair. Protein is also needed to make enzymes, hormones and antibodies. Chia seeds contain more protein than most grains and are classified as a high protein food, containing about 16-22% protein. High protein foods typically contain a minimum of 10% protein. Each tablespoon of ChiaFactors provides 2 g of easily-digested protein.

Chia seeds are high in fibre, containing 40% or more dietary fibre. Most nutrition experts recommend that Canadian adults consume a minimum of 25-30 g of dietary fibre each day. Just two tablespoons of ChiaFactors provides about 10 g of fibre, equivalent to 40% of the minimum amount recognized for good health. Dietary fibre has many health benefits: helps prevent constipation and reduces the risk of colon cancer; improves gastrointestinal health; improves glucose tolerance and the insulin response; reduces the risk of coronary heart disease, and increases the satiety response, helping to maintain a healthy body weight. A study in diabetic patients confirmed these effects. Daily consumption of chia seeds for 12 weeks improved patients' blood pressure levels, reduced the risk factors for development of cardiovascular disease, and maintained good glycemic and lipid control (Vuksan).

Chia seeds are hydrophilic, absorbing many times their weight in water to form a gel that slows the conversion of carbohydrates into glucose. This, along with the high fibre content, helps keep the need for insulin low, maintain uniform blood sugar levels, and increase satiety and appetite control. The mucilaginous and hydrophilic properties of chia seeds combined with the high fibre content cleanse and soothe the colon, absorb toxins, ease bowel disturbances and aid in weight management.

The vitamins and minerals found in chia seeds are essential for health and well-being. Vitamin C strengthens blood vessels and helps the body heal cuts, resist infection and use iron. Calcium is important for healthy bones and teeth,

blood clotting and nerve and muscle function. Iron is necessary to form the hemoglobin in blood and myoglobin in muscle, which supply oxygen to the cells. Magnesium is critical for bone and heart health and plays a part in over 300 enzymatic processes. Each tablespoon of ChiaFactors provides approximately 70 mg of calcium, 35 mg of magnesium, 6 mg of vitamin C and 2.9 mg of iron.

ENERGY ENHANCING

Ancient Aztec and Mayan cultures used chia seeds as a high-energy food source. Chia is the Mayan word for strength. According to historians, they would carry a small bag of chia seeds with them on their belt on long journeys and on the war path (Scheer). In the mid-1900s in California, fitness guru and avid chia user Paul Bragg used chia seeds in a 36-hour mountain hiking endurance test. The competition experiment is described in James Scheers' book, *The Magic of Chia*. The team that ate chia seeds won the contest by arriving at their destination, the peak of Mount Wilson, more than four hours ahead of the other team, who did not include chia in their diet (Scheer). Chia seeds are an ideal "survival food" since the high levels of natural antioxidants mean they can be stored for long periods of time without becoming rancid.

SUPERIOR ANTIOXIDANT STRENGTH

Chia seeds have high quantities of phenolic antioxidant compounds including bioflavonoids such as caffeic acid and quercetin. Each tablespoon of ChiaFactors provides an ORAC (Oxygen Radical Absorbance Capacity) value of approximately 960. Research continues to grow regarding the importance of antioxidants as healthful components of food. Antioxidants protect against the visible and invisible signs of aging, are a weapon in our fight against illness and chronic disease, and are a line of defense for our often-overtaxed immune system. The potent antioxidants in chia seeds act synergistically with the fatty acids, vitamins and minerals to optimize cell function and protect against illness and disease.

DOSAGE

1 tablespoon (11.5 g) daily. Add ChiaFactors to your favourite food or beverage. ChiaFactors can be eaten straight out of the container or added to hot and cold cereals, yogurt, fruit, salad, soups, sauces, smoothies or green drinks. Add ChiaFactors to your favourite recipes such as pancakes, breads, cookies, or muffins, to improve the taste and nutrition.

You can make your own version of the popular Mexican "chia fresca" by stirring 2 teaspoons of ChiaFactors into a glass of water or juice. Lime or lemon juice, or sweetener, may be added to taste. Chia fresca is said to aid digestion. Chia gel can be made by mixing one part chia seed with nine parts water. The resulting gel can be mixed with cereals, salad dressings, peanut butter, and virtually any food to increase its nutritive value.

SAFETY

No adverse reactions to chia seeds have been reported, even at levels greatly exceeding the recommended daily intake. Chia seeds are a gluten-free and organic vegan whole food. Whole chia seeds are highly stable and have a long shelf life due to their high antioxidant content. Chia seeds are highly digestible; because the shells are easily broken down, even when swallowed whole, grinding is not required.

Pregnancy and lactation: May be used during pregnancy and lactation.

Children: Suitable for children.

Drug interactions: None known.

Contraindications: None known.

Chia seeds are an energy-enhancing, rejuvenating food. Gram for gram, chia seeds contain more omega-3 fatty acids than flaxseed, more fibre than bran, more protein than soy, more calcium than milk, more potassium than bananas, more iron than spinach, more antioxidants than blueberries, and the list goes on. ChiaFactors can help revitalize and energize, and provide superior antioxidant protection to fight against aging, illness and chronic disease.

KEY REFERENCES

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Weber C.W., Gentry H.S., Kohlhepp E.A., McCrohan P.R., "The Nutritional and Chemical Evaluation of Chia Grains", *Ecology of Food and Nutrition*, Vol 26, Pp 119-125; 1991

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