

# CHIA SEED

## WHAT IS IT?

CHIA is a very small seed, native to Mexico, that contains the highest known natural source of Omega 3 and is rich in Dietary Fiber, Calcium, Protein, Iron and some Antioxidants.

In Mexico, it is well known to have it with lemonade. If we only knew how nutritious it is to drink water or flavored water with some chia seeds, we would consider to include them in our daily food intake as a food complement.

The world's leading inspection, verification, testing and certification company, SGS from Switzerland, has certified our chia seeds with a cleanness/purity of 99.5%. Silliker Food Safety and Quality has also certified our Chia grains with high levels of Omega 3 and cleanness >99.5%. The process of removing dust, impurities, broken grains, and other plant seeds to make it immediately usable for human consumption receives the name of sanitation. Chia seeds that are improperly cleaned are subject to develop fungi and larvae.

## USES

Chia seeds do not require washing or grinding. It can be consumed in the amount any person like. It can be added to lemonades, salads, yoghurt, fruit cocktails, bakery, and desserts.







It has no odor, does not add color, and has a smooth and friendly taste.

**Ingredient Industry:** It can be used directly in kneaded or unkneaded dough without modifying baking parameters. Alternatively, chia seeds can be fully dried or toasted and be ground into chia flour. This chia flour can be mixed with regular flour to make different kinds of baked products, energy bars, or dressings.



## BENEFITS

### GRAM FOR GRAM

 <p><u>Omega 3</u> <i>7.7 X more than Salmon</i> <i>1.1 X more than Flax Seeds</i></p>	 <p><u>Fiber</u> <i>1.3 X more than Fiber cereals</i></p>	 <p><u>Calcium</u> <i>7 X more than yoghurt</i> <i>16 X more than Broccoli</i></p>
 <p><u>Iron</u> <i>5 X more than Lentils</i></p>	 <p><u>Protein</u> <i>2.4 X more than Beans</i> <i>80% of a Tuna Can</i></p>	 <p><u>Magnesium</u> <i>4.5 X more than Spinach</i></p>

Source: Nutrient Data Laboratory 2008. United States Department of Agriculture

If we ask ourselves what food group we should avoid, most will probably answer “Fats”. While it is true that some, in large amounts, are bad for our health, there are some our body needs to work well. Among them are the Omega 3 fatty acids.<sup>1</sup>

**OMEGA 3:** These are essential fatty acids that contribute in diverse vital processes in our body and not just provide energy or calories. Their main functions are:

- ~ Act as an energy reserve<sup>2</sup>
- ~ Contribute in cell membrane formation<sup>3</sup>
- ~ Improve blood pressure
- ~ Reduce negative impact of Omega 6 excess

They are called *essential* because we need them. Our body cannot produce them within our organism from other components, therefore must be obtained from food<sup>4</sup>. Omega 3 and Omega 6 are *essential*, and an adequate balance between them is important to promote health. Specialists suggest that an excess of Omega 6 makes our blood thicker and blood circulation problems can ensue.

There are three types of Omega 3 fatty acids, **EPA**, **DHA** and **ALA**<sup>5</sup>. The first two can be obtained from fish oils (salmon, tuna, sardine, herring), and ALA can be obtained from seed oils (chía, flax seed, canola, soy, walnuts)<sup>6</sup>. Our body converts ALA to EPA and DHA<sup>7</sup>. These are more rapidly incorporated into plasma and membrane lipids and produce more rapid effects than does ALA<sup>8</sup>.

Serious sources of information suggest health benefits related to reduced cholesterol levels, prevention of cardiovascular diseases, high blood pressure, diabetes. This is the evidence from the University of Maryland Medical Center and the U.S. National Institutes of Health. We recommend you to consult these sources listed at the end of this document.

Not all Omega 3 obtained from food or capsules can be absorbed by the organism. Our body needs antioxidants to preserve the Omega 3 prior and after consumption.

Chia Seeds are the richest natural source of Omega 3.

**ANTIOXIDANTS:** An apple slice turns brown. Fish becomes rancid. A cut on your skin is raw and inflamed. All of these result from a natural process called oxidation. It happens to all cells in nature, including the ones in your body. As oxygen interacts with cells of any type - an apple slice or, in your body, the cells lining your lungs or in a cut on your skin -- oxidation occurs. This produces some type of change in those cells. They may die, such as with rotting fruit. In the case of cut skin, dead cells are replaced in time by fresh, new cells, resulting in a healed cut<sup>9</sup>.

Oxidation is a continuous process to replace old or damaged cells for new ones to keep our body healthy. In the process, 1% or 2% of cells will get damaged and these in turn can damage some more (free radicals) until they affect the DNA, which creates the seed for diseases. Antioxidants prevent, stop and control this damage.<sup>10</sup>

Chia Seeds have natural antioxidants that help preserve its Omega 3 in optimal conditions and be absorbed effectively by the organism. Omega 3 from fish oil (EPA and DHA) and those from Flax Seed exhibit rapid decomposition due to the lack of antioxidants. Therefore, they need to be added to these foods or supplements to preserve the Omega 3, otherwise is useless.

**AMINOACIDS AND PROTEINS:** Amino acids are the basic structural building units of proteins. There are 20 standard amino acids used to synthesize proteins and Chia seeds have 18 of them. Just as the letters of the alphabet can be combined to form an almost endless variety of words, amino acids can be linked in varying sequences to form a huge variety of proteins and other molecules, or oxidized to urea and carbon dioxide as a source of energy<sup>11</sup>.

Protein is an important component of every cell in the body. Our body uses protein to build and repair tissues, bones, muscles, skin, cartilage, and blood. We need relatively large amounts of protein compared to vitamins or minerals which are needed in only small quantities. But unlike fat and carbohydrates, the body does not store protein<sup>12</sup>, it needs a daily supply of amino acids to make new protein.

Food from animals (beef, pork, chicken, fish) is rich in protein, but it also contains fats, that in excess, increase the cholesterol levels and the risk for heart disease. What is becoming clearer and clearer is that bad fats (saturated and trans fats) increase the risk for certain diseases while good fats (monounsaturated and polyunsaturated fats) lower the risk. The key is to substitute good fats for bad fats<sup>13</sup>. Chia seeds, besides being a good source of protein, supply fats (Omega 3 and 6) beneficial for our body.

**CALCIUM:** It is one of the most important minerals in our body, specially for building and maintaining bones and teeth. Prolonged calcium deficiency makes them weak and vulnerable. Calcium also contributes in blood clotting, the transmission of nerve impulses, and the regulation of the heart's rhythm. Most of the calcium in the human body is stored in bones and teeth (99%), the rest is found in blood and other tissues (1%)<sup>14, 15, 16</sup>. We can get calcium from dairy products, dark leafy greens, and dried beans.

Chia Seeds have a high concentration of absorbable calcium, even when compared to milk, yoghurt, or broccoli.

**PHOSPHORUS:** Like calcium, our body needs phosphorus to build and fix bones and teeth, help our nerves work well, and make muscles squeeze together.

**MAGNESIUM:** It is an electrolyte (mineral) that keep the body's balance of fluids at the proper level and to maintain normal functions, such as heart rhythm, muscle contraction, nerve and brain functions. Magnesium also helps the body make and use energy and is needed to move other electrolytes (potassium and sodium) into and out of cells<sup>17, 18</sup>. Magnesium deficiency is rare. The symptoms include muscle weakness, fatigue, hyperexcitability, and sleepiness. Deficiency of magnesium can occur in alcoholics or people whose magnesium absorption is decreased due to surgery, burns, or problems with malabsorption (inadequate absorption of nutrients from the intestinal tract)<sup>19</sup>.

**IRON:** Iron is a mineral needed for hemoglobin, the protein in red blood cells that carries oxygen. Iron is also needed for energy, good muscle and organ function. Healthy adult men get enough iron from the food they eat. Men have enough reserves of iron in their bodies to last for several years, even if they take in no new iron. Men rarely develop an iron deficiency because of their diets. Women, however, can lose large amounts of iron because of menstrual bleeding, during pregnancy, or while breastfeeding<sup>20</sup>. Iron deficiency can cause abnormal paleness or lack of color of the skin, irritability, fatigue, increased heart rate.<sup>21</sup>

Chia seeds also contain a fair amount of Iron compared to other known rich-iron foods.

**DIETARY FIBER:** Chia seeds contain insoluble fiber, that is, it is not dissolved in water but it is absorbed by the body. Fiber appears to reduce the risk of developing various conditions, including heart disease, type 2 diabetes, and constipation.<sup>22</sup>

**Note:** Chia seeds are not medical remedies, they are a natural abundant source of Omega 3, antioxidants, Protein, Calcium and Fiber.

<b>Nutrition Facts</b>			
Serving size about 2 Tbsp. (28 g/1 oz)			
Servings per container about 11			
<b>Amount per serving:</b>			
<b>Calories 110</b>		Calories from Fat 90	
<b>% Daily Value *</b>			
<b>Total Fat 10g</b>			<b>15%</b>
Saturated Fat 0g			<b>1%</b>
Polyunsaturated Fat 10g			
Omega-3 8g			
Omega-6 1.5g			
Monounsaturated Fat 0g			
<b>Cholesterol 0mg</b>			
<b>Sodium 0mg</b>			
<b>Total Carbohydrate 11g</b>			<b>4%</b>
Dietary Fiber 10g			<b>41%</b>
Soluble Fiber 1g			
Insoluble Fiber 9g			
Sugars 0g			
<b>Protein 5g</b>			<b>10%</b>
Vitamin A 0%	•	Vitamin C 0%	
Calcium 10%	•	Iron 15%	
Magnesium 25%	•	Zinc 10%	•
		Copper 25%	
<i>* Percent Daily Values are based on a 2,000 calorie diet.</i>			
<i>Your daily values may be higher or lower depending on your calorie needs.</i>			
	Calories	2,000	2,500
Total Fat	Less than	65 g	80 g
Saturated Fat	Less than	20 g	25 g
Cholesterol	Less than	300 mg	300 mg
Sodium	Less than	2,400 mg	2,400 mg
Total Carbohydrate		300 g	375 g
Dietary Fiber		25 g	30 g
Protein		50 g	65 g
Calories per gram			
Fat 9	•	Carbohydrate 4	•
		Protein 4	

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