

Flaxseed: Beneficial natural product for human health

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Flax is a bast fibre and obtained from the stock or stem of the *Linum usitatissimum* (member of the genus *Linum* in the family Linaceae). It is a food and fiber crop cultivated in cooler regions of the world. The textiles made from flax are known in the Western countries as linen. Like cotton, it is a cellulose polymer, but its structure is more crystalline, making it stronger, crisper and stiffer to handle, and more easily wrinkled. Flax fibres range in length upto 90 cm, and average 12 to 16 microns in diameter. They absorb and release water quickly, making linen comfortable to wear in hot weather. One of nature's strongest vegetable fibres, flax was also one of the first to be harvested, spun and woven into textiles.

The seeds obtained from flax is one of the oldest crops in the world. Tiny but mighty, flaxseed is one of the most nutrient-dense foods. Flaxseeds belong to the *Linaceae* family and are botanically known as *Linum usitatissimum*. It was first cultivated in Babylon in 3000 BC, followed by Egypt and China. It is called *Sana bija* in Hindi. Flaxseeds are rich in vitamins, minerals, omega 3 fatty acids and antioxidants. It is high in B complex vitamin, manganese and magnesium. Additionally, flaxseeds are low in carbohydrates, making it ideal for people who are on a weight loss and diabetic diet.

In India, flax seed oil is also known as '*Alsi*' in Hindi and '*Javas*' in Marathi. It is mainly used in Savji curries such as mutton curries. Flaxseeds occur in two basic varieties: brown and yellow or golden (also known as golden linseeds).



Fig. 1 : Flax seeds (Brown)



Fig. 2 : Flax seeds (Golden)

Benefits of flax seed for health: The therapeutic and health benefits of flax seeds are popular around the world. The health benefits of flax seeds come from the high amounts of fiber, antioxidants and omega 3 fatty acids present in it. A tablespoon of ground flaxseeds contains 2 grams of polyunsaturated fatty acids and 2 grams of fiber with just 37 calories.

High in phytochemicals and antioxidants: Flaxseeds are one of the best sources of lignan, an estrogen-like chemical compound that scavenges the free radicals in the body. Flaxseeds have strong anti-inflammatory and antioxidant properties, which mitigate and protect against pneumonopathy.

Prevents cancer: The antioxidants in flaxseeds provide protection from cancer and heart diseases.

Improves digestive health: Flaxseeds contain both soluble and insoluble fiber. The soluble fiber dissolves in the water and creates a gel-like substance, keeping the stomach full for a longer time.

- Prevents Cardiovascular Diseases
- Reduces High Cholesterol
- Controls Diabetes
- Fights Inflammation

Flax seed benefits for skin: Flaxseeds and its oil contain several skin-friendly nutrients that can help to improve the health of the skin. Flaxseed oil is added to a number of skin care products like shower gels, moisturizers and sunscreen.

Lignans: The high levels of lignans and omega 3 fatty acids promote healthy bowel movements, preventing skin diseases. Omega 3 fatty acids are extremely important for the healthy growth and development of the skin cells. The lignans present in flaxseeds improve the appearance of the skin by reducing the levels of DHT in the body.

Skin healing: The omega 3 fatty acids in flaxseeds increase the speed at which wounds heal. Flaxseed is best known for its high anti-inflammatory levels. It also shrinks the possibility of acne, dermatitis and psoriasis.

Moisture: Dry skin can lead to several skin conditions like eczema, psoriasis and other signs of ageing. A daily massage with flaxseed oil prevents irritants from entering the pores. It also locks moisture into the skin.

Prevents skin cancer: The antioxidants present in flaxseeds fight the free radicals, preventing skin cancer.

Controls acne: Flaxseeds control the production of sebum, an oily substance produced by the skin glands, preventing the onset of acne.

Scrub: A scrub can also be prepared from ground flaxseeds to exfoliate the skin. The scrub removes dead skin cells and rejuvenates it, leaving it silky smooth.

Flax seed benefits for hair : Flaxseeds are packed with nutrients like protein, calcium, zinc, magnesium, iron and omega 3 fatty acids, which are required for the growth of our hair. A daily dose of flaxseeds can make our hair healthy, vibrant and strong. Some benefits are:

- Prevents Hair Breakage
- Reduces Dandruff
- Rich in Omega 3 Fatty Acids
- Prevents Cicatricial alopecia (a permanent hair loss condition)
- Prevents Male Baldness

Uses:

- Flaxseeds are often used as an egg substitute in baked goods. The soluble fiber in this seed adds structure to the cake and muffins.

- Sprinkle ground flaxseeds over oats, cereals, yoghurt and smoothies.

- We can cook flaxseeds in casseroles, meatball and curries. Use 4 to 8 tablespoons of flaxseeds in a dish serving 6 to 8 people.

- It also goes well with dosa, chapatti dough, buttermilk, chutney and upma.

- The seeds from the flax plant can also be pressed to make vegetable oil, commonly known as linseed oil.

- Add a teaspoon of ground flaxseed to your cheese

spread or mayonnaise when making a sandwich.

Flaxseed oil side effects:

- Flaxseeds are extremely high in calories and can have a laxative effect if consumed in large quantities. People with irritable bowel syndrome can have a strong reaction to it.

- People suffering from a seizure disorder should avoid flaxseed supplements as it can aggravate the condition.

- People taking blood thinning, blood sugar, topical steroids, anti-inflammatory and cholesterol lowering medications should avoid eating flaxseeds.

- Flaxseeds contain small amounts of cyanide compounds, which can have neurotoxic effects in the body. They should not be consumed in large quantities. Heating the flax seeds can help break these compounds. Our body can also neutralize a certain amount of these compounds.

- Pregnant and lactating mothers should not supplement their diet with ground flaxseed. It has estrogen-like properties that can affect the pregnancy outcome. It may also cause birth defects and spontaneous abortion in pregnant women.

- While consuming flaxseed drink plenty of water so that it does not swell up or obstruct the throat or digestive tract. Other side effects include itching, rashes and shortness of breath.

Some important things to remember:

- Flaxseeds may block the normal absorption of medicines. Take medicines an hour or two before consuming flaxseeds. The seed and oil may react with painkillers, blood thinners and medicines for high blood pressure.

- Never eat unripe or raw flaxseed, as it could be poisonous. People suffering from bleeding disorders, diabetes and high triglycerides should seek medical advice before consuming flaxseeds.

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