HERBALPEDIA

FLAX

Linum usitatissimum
[LIN-um yoo-si-tat-IS-see-mum]

Family: Linaceae

Names: flaxseed, linseed, lint bells, Ama, Annual Flax, Chih Ma, Cultivated Flax, Common Flax, Hu Ma, Kahtan, Keten, Kettan, Kittan, Linaza, Lino, Sib Muma, Linseed Flax; Lin, hör, oljelin, spånadslin, äkta lin (Swedish); Lin (Norwegian); Almindelig Hør (Danish); Peltopellava, Kiutupellava (Finnish); Saat-Lein, Flachs (German); Lin cultivé (French); Len zwyczajny (Polish)

Description: Slender annual with wiry stems to 3 feet. Linear pointed leaves; pale to bright blue flowers (best for fiber production) or white in summer, followed by pods of flat oval brown seeds, rich in oil. Grows wild in dry grasslands, usually as an escape from cultivation. A taller variety is grown for flax production in cool, moist regions, and a more compact type in warm climates for seed. It is hardy to zone 4 and is not frost tender. It is in flower from June to July, and the seeds ripen from August to September. The flowers are hermaphrodite) and are pollinated by insects.

Cultivation: Prefers a light well-drained moderately fertile humus-rich soil in a sunny sheltered position. Prefers a cool moist climate. A very greedy plant, depleting the soil and requiring a rich, well prepared soil if it is to do well. Plants help to break up organic matter and prepare the soil for following crops. Linseed has a very long history of cultivation in temperate climates. Linseed is grown for its edible seed, the oil from the seed and for the fibers obtained from the stems. There are many named varieties, though these usually fall within with two classes. One class, generally known as flax, does not branch much and is grown mainly for the fiber in its stem, whilst the other class, known as linseed, branches much more freely and is grown mainly for its seed. Although classified as a species, linseed is possibly an ancient cultigen derived in cultivation from L. bienne. Linseed is a good companion plant for potatoes and carrots but is inhibited by Camelina sativa. Seed - sow early to late spring in situ. Do not transplant the seedlings. The seedpods are harvested when they turn brown and the seeds are removed by machine-threshing. The drug is odorless and has a mild, slimy, oily taste.

History: It is estimated that flax has been grown as a fiber crop for weaving into fabric since the 23rd century BC. The specific botanical name usitatissimum, meaning most useful, reflects the value and varied uses of flax. Early societies made clothing, rope, cord, fishing nets, and sails from the soaked and dried fibrous stems, and today flax is still extensively cultivated for linen manufacture. In medieval Europe, many people relied on flax
as a protection against witchcraft. The Egyptians wrapped their dead in flax cloth. Remnants of flax in the form of snares and twine were found in Anasazi dwellings of Mesa Verde. The Bible talks of linen as a basic for clothing. It was used by colonial settlers in America along with wool to produce linsey-woolsey for clothing. One use was that the seeds were converted into something of a homemade mousse. They were soaked in water to make a thick mucilage, which was then applied to the hair before styling. Once the stuff dried, it was combed out, leaving the hair with the desired shape.

**Constituents:** 30-40% of fixed oil which includes linoleic, linolenic and oleic acids; mucilage, protein, the glycoside linamarin; Seed (Fresh weight): Water: 6.5 Calories: 498 Protein: 19 Fat: 35.5 Carbohydrate: 35.4 Fiber: 6.8 Ash: 3.5 Calcium: 220 Phosphorus: 415 Iron: 23 Vitamin A: 0.02999 Thiamine: 0.17 Riboflavin: 0.15999 Niacin: 1.4

**Properties:** demulcent, anti-tussive, laxative, emollient, vulnerary, Analgesic; Cancer; Cardiotonic; Expectorant; Nervine; Pectoral; Resolvent; VD.

**Medicinal Uses:** Linseed has a long history of medicinal use. The seeds are a valuable demulcent and emollient, with soothing qualities both internally for coughs and externally for skin irritations. The soothing mucilage is obtained by infusing the seeds in water. This infusion is valuable in treating irritations and inflammations of the mucous membranes, particularly of the lungs, intestines, and urinary passages; it has therefore been used for pulmonary catarrhs, dysentery, diarrhea, urinary infections, kidney diseases, and urinary stones. A laxative enema is derived from the decoction.

The meal from the pressed seeds mixed with hot water makes an excellent emollient poultice. Linseed oil, expressed from the seeds, also has emollient properties and is applied externally for burns and scalds, mixed with lime water or oil or turpentine; this treatment is said to reduce the pain considerably and prevent undue blistering.

Flax seeds have a thick outer coating of mucilage cells. When water comes in contact with these cells they swell and give rise to a soothing demulcent and/or emollient protective effect. When the skin or mucous membranes are coated with this mucilage, this effect becomes evident. If the seed is bruised and then eaten straight away, it will swell considerably in the digestive tract and stimulate peristalsis and so is used in the treatment of chronic constipation. Flax seed oil has been found to be a healthy substitute for other cooking oil. It treats malnutrition and helps prevent blood clots in the veins. It has been used to help remove heavy metals, as in lead, from body tissues. It may also help reduce cholesterol in the blood.

The oil in the seed contains 4% L-glutamic acid, which is used to treat mental deficiencies in adults. It also has soothing and lubricating properties, and is used in medicines to soothe tonsillitis, sore throats, coughs, colds, constipation, gravel and stones. When mixed with an equal quantity of lime water it is used to treat burns and scalds. The bark and the leaves are used in the treatment of gonorrhea. The flowers are cardiotonic and nervine. The plant has a long history of folk use in the treatment of cancer. It has been found to contain various anticancer agents.

For practical use: eating 1/4 cup of ground flaxseed daily can smooth out irregular periods and reduce cramps. The lignans in flax mimic the action of estrogen, evening out the hormonal flux that occurs during menstruation.

Eating flaxseed also boosts brain function and heightens memory because of the abundant stores of linolenic acid which keeps the myelin sheaths that surround brain cells lubricated. This leads to sharpened memory and improved motor skills.

Flaxseed is also one of the richest natural sources of magnesium. Magnesium eases the stress-induced nerve-cell activity that leads to neck pain and tension headaches. Half cup provides nearly 100% of the recommended daily amount.
Sprinkling 3-6 tablespoons of whole flaxseed on cereal, yogurt or salads daily can slow intestinal glucose absorption, prolonging feelings of satiation, according to researchers at the University of Toronto.

**Combinations:** As a poultice for the chest use with mustard
For boils, swellings and inflammations: marshmallow root and slippery elm

**Dosage:**
Infusion: pour a cup of boiling water on 2-3 tsp of the dried herb and leave to infuse for 10-15 minutes. Drink morning and evening
Tincture: Take 2-6 ml 3 times a day

**Flax Syrup**
½ oz flax seeds, 1 cup water, ¼ tsp lemon or lime juice, 2 tsp honey
Put the flax seed in the water. Soak until the mixture is thick, and add the juice and honey. Sip as needed for cough, sore throat or stomach problems.

**TCM:**
The oil is used as a purgative. The linseed meal is used as a poultice.

**Toxicity:** the toxicity is low, especially if the seed is eaten slowly. It becomes more toxic if water is drunk at the same time. The cyanogenic glycosides are also present in other parts of the plant and have caused poisoning to livestock.

**Cosmetic Uses:**
**Flax Seed Facial:** Crush 2 tsp flax seeds and cover with boiling water. When cooled, apply the mash to the face, avoiding the areas close to the eyes. After 20 minutes remove carefully.


Legend describes specifically how Hulda introduced flax to people. Fairy tales frequently feature the spinning of flax. Flax seed tea allegedly enhances the divinatory process. Have a cup of flaxseed tea before embarking on divination.

A bit of flax in the shoe wards off poverty.

The blue flax flowers are worn as a preservative against sorcery. To protect yourself while asleep, mix equal parts flax seed and mustard seed and place this mixture next to your bed. On the other side of the bed place a pan of cold water. A combination of red pepper and flax seed. To ensure that your child grows up attractive, let them dance among growing flax at the age of seven. Sprinkle the altar with flax seed while performing healing rituals. To help cure lumbago, tie a hank of flax around the loins.

**Flax Thread Contraceptive Spell:** Soak flax thread in menstrual blood. Tie ten knots in the thread. Wear it non-stop for nine days and nine nights, sleeping with it at night. When the nine days and nights are complete, buy the thread in a corner saying, “I bury you for [insert the time desired to stay pregnancy-free]”

**Grow Some Cash Spell:** Place a pinch of flaxseed in a jar with a few coins. Repeat daily, adding another pinch of flaxseed and a few more coins. Keep the jar on an altar or in the kitchen. When the jar is full, bury the filled jar on your property and begin again.

**Other Uses:** A fiber is obtained from the stem. It is of very high quality and is used in making cloth, sails, nets, paper, insulating material etc. The plant is harvested just after it flowers. The yield is 0.5 to 0.9 ton of fiber per hectare. When used for paper making, the stems are harvested in late summer or autumn when they are two thirds yellow and are then retted. The fiber is then stripped from the stem, cooked for two hours or more with lye and then beaten in a Hollander beater. The seed contains 38 - 40% of a drying oil. It has a very wide range of applications including as a wood preservative,
an ingredient of oil-based paints, furniture polishes, printer's inks, soap making etc. It is also used in the manufacture of linoleum. A mucilage from the soaked or boiled seeds is used as a size for linen warps. Historically, some climates and soils have proved more suitable for producing fine linen than others, Belgium being perhaps the most famous. To produce linen, the flax plants, which have been pulled and allowed to dry (with the seed heads cut or combed out), are soaked in water for several weeks to rot the woody stems around the fibers, a process called retting. When the stems are sufficiently rotted, the plants are dried. Then a device called a flaxbrake is used to break the stems in several places. Next, a wooden swingling knife is used to scrape or ‘scutch’ the broken stems, removing the woody shards of stem from the fibers. These are passed through the teeth of a hetchel, straightening them and pulling out all the remaining stem pieces. The resulting material resembles a fine, fluffy horsetail. The fibers are then spun into yarn.

Liquid Cleaner-Polisher: 5 fl oz pure turpentine, 5 fl oz raw linseed oil, 2.5 fl oz wood spirit, 2.5 fl oz cider vinegar, 1 tsp lemon oil. Measure all the ingredients into a bottle and shake well. Shake again before applying. This polish is easy to apply and thoroughly cleans any dirty, dry wood. Apply it with a soft rag and polish off with a clean duster.

Culinary Uses: Seed - raw or cooked. The seed contains 30 - 40% oil, which comprises mainly linoleic and linolenic acids. The seed is used in breads and cereals, it can also be sprouted and used in salads. The seed is hard to digest and provokes flatulence. The roasted seed is said to be a coffee substitute. A herbal tea can be brewed from the seed. An edible oil is obtained from the seed, though it needs to be properly refined before it can be eaten.

Recipes:
Flaxseed Bread
1 ½ - 2 cups flaxseed for meal
3 ½ - 4 cups bread flour, divided
2 cups flaxseed meal
2 ½ cups whole wheat flour
1 ¾ oz package active dry yeast
2 ¾ cups hot water
1 ½ Tbsp canola oil
½ cup honey
To make flaxseed meal, process flaxseed in a blender until the consistency of cornmeal. Prepare the bread by combining 2 cups bread flour and next 4 ingredients. Combine water, oil, and honey, being sure temperature does not exceed 130F. Stir into dry ingredients. Mix well. Add enough of remaining bread flour to make a soft dough. Turn dough onto a floured surface and knead 6-8 minutes or until smooth and elastic. Add extra bread flour as needed. Form into 2 loaves. Place in 9x5 inch loaf pans coated with nonstick cooking spray. Spray top of dough and cover. Let rise in a warm place for 60 minutes to 1 hour, 30 minutes. Bake at 350F for 40-45 minutes or until browned and hollow sounding when tapped. Remove from pans and cool on a rack. (Today’s Herbal Kitchen)

Herbal-a-go-go Morning Shake
2 cups fresh orange or apple juice
1 cup apricot or strawberry yogurt
1 cup frozen mango or banana chunks
1 vial royal jelly
1 Tbsp bee pollen
3 Tbsp ground fresh flaxseed
¼ tsp ground cardamom powder
Place all ingredients in a blender. Blend well at high speed until smooth. Sip and enjoy half of the shake before your workout, and half after. (Healing Tonics)

Greek Turkey Pitas
1 clove garlic, peeled
½ tsp salt
1 container (6 oz) plain nonfat yogurt
1 lb ground turkey
2 Tbsp flaxseed
6 mini whole-wheat pitas
Heat oven to 400F. In food processor, pulse the garlic and salt 8 times. In bowl, combine the yogurt and 1 tsp of the garlic
mixture. In bowl, combine turkey and flaxseed and remaining garlic and form into 18 balls. Place on greased baking sheet. Bake 8 minutes or until cooked through. Place 3 balls each in the pitas and top with yogurt mixture.

**Spiced Waffles**
1 container (6 oz) plain nonfat yogurt
2 Tbsp maple syrup
2 cups reduced-fat all-purpose baking mix (Bisquick)
2 Tbsp flaxseed
2 tsp pumpkin pie spice

In bowl, combine yogurt and maple syrup. Prepared the baking mix according to package directions. Stir the flaxseed and pumpkin pie spice into batter. Pour ¼ cup batter into center of heated, greased waffle iron; close. Bake 2 minutes or until steaming stops. Repeat with remaining batter. Serve with maple yogurt. 6 servings.

**Chicken Crusted with Almond and Flax**
4 (4 oz.) boneless chicken breasts
1/4 cup almond meal (crushed almonds may be substituted)
2 Tbsp. ground flax meal
1/2 tsp. sea salt
1 Tbsp. olive oil
1 Tbsp. almond butter, optional
1 tsp. lemon juice
2 cloves garlic, minced
1/4 tsp. cayenne pepper or to taste
1/4 tsp. paprika
1 tsp. dried parsley
1 tsp. dried thyme
1 tsp. dried basil
1 tsp. dried oregano

Preheat oven to 350 degrees. Using kitchen mallet, pound breasts uniformly flat, if desired. Combine almond and flax meal and salt in small bowl and stir to mix uniformly. Combine oil, almond butter (if using), lemon juice, garlic and all spices and herbs in medium bowl. Mix thoroughly. Add chicken to mixture and let marinate for at least 5 minutes. Remove chicken from marinade and place on baking dish. Sprinkle half the almond-flax mixture evenly over chicken. Pat each breast with your hand to ensure it adheres and forms a crust. Gently turn over each breast, being careful not to disturb coating, and repeat the process using remaining almond-flax mixture. Bake 25 to 30 minutes or until meat thermometer reaches 165 degrees when inserted into the chicken. Makes 4 servings.
Per serving: 210 calories, 11 g total fat (1.5 g saturated fat), 3 g carbohydrate, 25 g protein, 2 g dietary fiber, 300 mg sodium.

**Ground Veal Mushroom Herb Loaves**
1 tbsp olive oil
1 cup finely chopped onion
1 cup finely chopped mushrooms
2 cloves garlic, minced
1/2 tsp each, salt and fresh cracked pepper
2 tbsp salba or flax seeds
1/4 cup chopped walnuts
1/4 cup each, finely chopped fresh dill and parsley
1 lb lean ground veal
1 egg, lightly beaten
2 tbsp grated parmesan cheese

Heat oven to 350 F. In skillet, heat oil over medium-high heat. Stir in onion and mushrooms; cook, stirring often, until onions are softened, golden and no liquid remains, about eight minutes. Add garlic and cook one minute. Remove from heat and transfer to large bowl. Stir in salt, pepper, salba, walnuts, dill and parsley. Let cool completely. Stir in veal and egg, mixing thoroughly but gently until well combined. Transfer to lightly greased muffin tins. Mound into six cups. Sprinkle with parmesan cheese. Bake in center of oven until cooked through, about 45 minutes.

**Baked Salmon with an Herb Crust**
3 Tbsp ground flaxseeds
1 Tbsp wholemeal breadcrumbs
1 tsp dried basil
1 tsp dried oregano
1 tsp dried rosemary
1/2 garlic clove, crushed
Zest of 1 lemon, plus 1 lemon cut into wedges
1 Tbsp olive oil
2 large salmon fillets
Sea salt and black pepper
Serves: 2
Cooking time: 10 minutes

Preheat the oven to 375°F and line a baking tray with aluminum foil. Combine the ground flaxseeds, breadcrumbs, herbs, garlic, lemon zest and olive oil in a bowl, then season with salt and pepper. Spread the flaxseed mixture over the salmon fillet, flesh side up, and place on the baking tray. Roast the fillet in the oven for about 8-10 minutes, or until the crust is golden brown. Serve with lemon wedges and a salad of mixed leaves.

References:
The Element Encyclopedia of 5000 Spells, Judika Illes, Harper Collins, 2004

Resources:
Companion Plants, www.companionplants.com
seeds
Crimson Sage, http://www.crimson-sage.com
Plants