



Reviewed October 2011

Flax Facts

Carolyn Washburn, FCS Agent, Washington County

Did You Know?

- Flax is a blue flowered plant.
- Flax was first used as a thread, made into a linen cloth, and many of our “blue jeans” are made from flax.
- Flax can be made into lamp oil and wicks to burn lamps.
- Flax is used in soaps and hair gels.
- Flax is an eye cleaner that helps keep moisture in the eye.
- Flax is 1/3 oil; 2/3 protein and fiber (both soluble and insoluble).
- Flax contains lignans, fiber and omega 3 fats:
Lignans are phytoestrogens (plant derived molecules that can act like the hormone estrogen) and powerful antioxidants.
- Flax is a rich source of soluble, insoluble, and mucilage **fiber**.
- Flax contains **Omega 3 fats** healthy fat that is essential for normal function of the eye, brain and heart. Omega 3 fatty acids are polyunsaturated fats.
- Flax is used in the seed, ground seed, or oil form.
- Flax has a “nutty” flavor.



Using Flax to Promote Health

- May decrease cholesterol the soluble fiber in flaxseed contains a cholesterol-lowering agent.
- May decrease blood pressure and help fight heart disease.
- May decrease blood sugar levels.
- May help prevent osteoporosis.
- Research has shown flaxseed as a good laxative agent, using 2-3 tablespoons of flaxseed with water.
- Has shown increased protection against breast cancer, liver disease, and kidney disease.
- Flax studies **have not** shown a decrease in prostate cancer.



Few flax studies have been conducted on humans. Most studies have been on animals. Use caution and consult your physician when using for health improvement.

Nutritional Analysis of Flaxseed

Fat:

33%-35%

Vitamins:

E, small amounts of C, B1, B2, niacin, B6, pantothenic acid, folic acid, biotin.

Minerals:

Calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, zinc, selenium, aluminum, barium, cadmium, chromium, cobalt, lead, molybdenum, nickel, tin.

Flax Storage

Whole seed flax can be stored at room temperature for at least one year. *Ground flax* can be stored at room temperature for 4 months. Storing in refrigerator or freezer prolongs freshness. *Flax oil* will go rancid very quickly. It is packaged in opaque bottles, needing refrigeration after opening. Use within 6 weeks of opening.

Flax Safety

- Flax research and studies have been mainly on animals.
- There is scientific data that confirms most of the positive aspects of flax. However, more research is needed in controlled situations on humans.
- Do not take in place of any prescribed medications.
- Talk to your physician before using as a medication.
- Note the difference between flaxseed and flax oil. They are significantly different. The flaxseed oil contains little or no dietary fiber. The oil does not contain the lignans. Flax oil must be refrigerated in a dark bottle. Shelf life is limited to 3 to 4 weeks. It takes approximately 3 tablespoons of flaxseed to equal 1 tablespoon of oil.
- The U.S. Food and Drug Administration does not strictly regulate herbs and supplements. There are no mandates on strength, purity or safety of products. Results may vary.
- **The long term research has shown very few side effects and humans seem to tolerate flax supplements.**

Flax Resources

AmeriFlax, Mandan, North Dakota USA www.ameriflax.com

Saskatchewan Flax, Saskatchewan www.saskflax.com

Flax Council of Canada, Winnipeg, Canada www.flaxcouncil.ca

MayoClinic.com – Flaxseed and Flaxseed Oil www.mayoclinic.com

USDA Nutrient Data Lab www.nal.usda.gov/fnic/foodcomp

Flax Recipes

Flax Cookies

- 1 1/3 cups butter or margarine
- 1 1/2 cups lightly packed brown sugar
- 1 1/4 cups granulated sugar
- 2 cups flaxseed
- 3 eggs
- 1 1/2 tsp vanilla
- 2 1/2 cups flour
- 1 cup ground flaxseed
- 1 tbsp baking soda
- 3 cups oatmeal

Cream butters and sugars, add ground flax to seed. Beat eggs and vanilla, combine with sugar mixture. Sift flours and soda, add oatmeal and mix all ingredients together. Add chocolate chips or pecan nuts. Refrigerate. Roll into a log and cut cookies into slices. They do not spread. Bake at 350 degrees for 13-15 minutes.

Flax Cookies

(Lower Fat Version)

- 1 cup unsweetened applesauce
- 1/3 cup butter or margarine (lowfat)
- 1 tbsp molasses
- 2 cups sugar (or substitute)
- 2 cups flaxseed
- 3 eggs (or substitute)
- 1 1/2 tsp vanilla
- 2 1/2 cups flour
- 1 cup ground flaxseed
- 1 tbsp baking soda
- 3 cups oatmeal

Cream butters and sugars, add flax to seed. Beat eggs and vanilla, combine with sugar mixture. Sift flours and soda, add oatmeal and mix all ingredients together. Chocolate chips or chopped nuts may be added. Refrigerate dough before cutting. Roll into a log and cut cookies into slices. They do not spread. Bake at 350 degrees for 13-15 minutes.

Bran Orange Flax Muffins

- 1 1/2 cups oat bran
- 1 cup flour
- 1 cup flaxseed or ground flax
- 1 cup natural bran
- 1 tbsp baking powder
- 1/2 tsp salt
- 2 oranges (peeled, seeded, quartered)
- 1 cup brown sugar (or substitute)
- 1 cup buttermilk
- 1/4 cup canola oil
- 1/4 cup unsweetened applesauce
- 2 eggs (or substitute equivalent)
- 1 tsp baking soda
- 1 1/2 cups cran-raisins

Combine bran, flour, flax, soda and salt. In a blender, process oranges, sugar, buttermilk, oil, eggs and baking soda. Mix all ingredients together and pour into paper-lined muffin tins. Bake at 375 degrees for 18-20 minutes.

Flaxseed Granola Bars

- 1/4 cup butter or margarine
- 4 cups mini marshmallows
- 1 cup rolled oats
- 1 cup crushed graham crackers
- 1/2 cup flaxseed
- 1/2 cup cran-raisins
- 1/4 cup raw sunflower seeds
- 1/4 cup raw coconut

Melt butter and marshmallows. Remove from heat. Add remaining ingredients. Press into greased 9 x 13 pan (grease fingers to press), chill and cut.

Flax Fried Rice

1 cup long grain rice
2 cups water
1/2 tsp salt
2 tbsp canola oil
3 eggs, beaten well
1/2 cup diced cooked ham or other meat
3/4 cup frozen mixed vegetables
2 green onions, minced
2 tbsp soy sauce
1/2 tsp sesame oil
1/4 cup flaxseed, toasted*

Rinse rice well in a sieve under cold running water. In a medium saucepan, bring water and salt to a boil, add rice, bring to a boil again, stirring with a fork. Reduce heat, cover, slowly simmer 20 minutes. Remove lid, allow steam to escape. Fluff rice with a fork. Cool, cover and place in refrigerator overnight. In a large non-stick skillet, over medium heat, heat canola oil. Add eggs and fry until half cooked. Add rice, breaking up any lumps, stirring quickly to coat the rice. Reduce heat to medium low; add ham, vegetables and green onions. Cook, turning rice mixture gently and frequently, about 4 minutes. Add soy sauce, sesame oil and flaxseed. Reduce heat to low, cover and cook 3 minutes.

*To toast flax seed, spread flax seeds in small metal pan. Bake at 350° F for 3 to 5 minutes. Stir while toasting

Turkey Loaf

2 lbs ground turkey
1 cup skim milk
1/2 cup ground flaxseed
1/2 cup dry bread crumbs
1/2 cup chopped onion
1 egg, beaten
1 tsp Worcestershire sauce
1 tsp black pepper
1 tsp garlic powder
1 tsp dry mustard
1/2 tsp celery salt

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions.

Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities.

This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle E. Cockett, Vice President for Extension and Agriculture, Utah State University. **FN/2006-01pr**

1/4 tsp ground thyme
1/4 cup ketchup

In a large bowl, combine beef, milk, ground flax, crumbs, onion, egg, Worcestershire sauce, pepper, garlic, mustard, celery salt and thyme. Mix well. Pat mixture into a 22 x 13 x 8 cm (9 x 5 x 3 inch) loaf pan. Spread ketchup over top of loaf. Bake at (350°F) 1 to 1 1/2 hours, until no pink remains. Remove from oven and let stand 5 minutes.

Crispy Shortbread Cookies

1 cup sugar or sugar substitute
3/4 cup butter or margarine
2 tsp vanilla
3 1/2 cups bleached flour
1/2 tsp baking powder
1 tsp cream of tartar
1 cup ground flaxseed
1 cup crisp rice cereal
1 cup brown sugar or brown sugar substitute
1 egg
1/2 cup unsweetened applesauce
1 tsp baking soda
1 tsp salt
1/2 cup walnuts or pecans
1 cup quick oats

Preheat oven to 350 degrees F. Beat together the white sugar, margarine, egg, vanilla, and applesauce in a large bowl. Set aside. In another bowl, sift together the flour, baking soda, baking powder, salt, and cream of tartar. Set this bowl aside also. Grind 1/2 cup walnuts or pecans in a coffee grinder, then grind 1 cup flaxseed. Combine all the set aside mixtures with the nuts and flaxseed, then add in the quick oats and crisp rice cereal. Drop by rounded heaping teaspoon on ungreased cookie sheets. Bake at 350 degrees F for 10 to 12 minutes. Makes 50 cookies. Each cookie contains 1/3 tablespoon flaxseed.