



What's New in **Flax?**

We're Glad You Asked

By Juliann Schaeffer



Products flood the marketplace as research continues to show flaxseeds offer cardiovascular and other health benefits.

Flaxseeds: These tiny bits pack one mighty punch of health benefits, and the market surely has taken notice. Once relegated to the shelves of health food stores and reserved for the “crunchy health-nut type,” flaxseeds have gone mainstream (thanks in part to how well dietitians and other health professionals are spreading the word on all the goodness flax has to offer). Included in chips, granolas, cereals, and more, getting a daily dose of this superseed is easier (and tastier) than ever.

Teeming With Health Benefits

While all the healthful components of flax have yet to be identified and catalogued (as is true of most whole foods), current research has shown that flax’s chief nutritional attributes—from cancer risk reduction to cardiovascular protection—are owed to three main parts of the seed: lignans, fiber, and omega-3s.

• **Lignans:** “Flaxseed contains a high percentage of lignans, phytochemicals that have been found to be beneficial to health,” says Alison Massey, MS, RD, LDN, CDE, a clinical dietitian and diabetes educator at Mercy Medical Center in Baltimore.

A high percentage, indeed: Flax has up to 800 times the phytochemicals of what’s commonly found in other oil seeds, according to cardiovascular nutritionist and author Janet Bond Brill, PhD, RD, LDN, CSSD.

What’s so great about lignans? “Lignans, classified as a dietary fiber, are a type of phytoestrogen, meaning they’re hormonelike plant structures with weak estrogenlike effects,” Brill explains. “Lignans are metabolized in the human intestine by friendly bacterial flora and are absorbed and circulated in the bloodstream. Here they exert powerful antioxidant effects that inhibit the process of atherosclerosis, cut LDL cholesterol, [potentially lower the risk of] certain types of cancers—specifically the hormone-related breast and prostate cancers—and can contribute to increased brain function much like estrogen replacement therapy.

“The lignans in flaxseeds function as both an antioxidant and a plant hormone, extremely powerful [artery] plaque-fighting tools,” Brill continues. “Lignans also help prevent platelets from clumping together, thereby warding off clot formation, which is often the lethal final step in a heart attack.”

A 2011 study published in *Contemporary Clinical Trials* that examined the cardiovascular benefits of flaxseeds showed that flax offers blood pressure-lowering benefits as well. This double-blind, placebo-controlled study out of Cuba, called FLAX-PAD, found “that adding flaxseed to the diets of

hypertensive patients with peripheral arterial disease [PAD] has extremely impressive blood pressure-lowering effects,” Brill says.

After patients with PAD were divided into two groups (receiving either 30 g of milled flaxseed daily or a placebo), the results showed that flaxseed-consuming participants saw drops in systolic and diastolic blood pressure of roughly 10 mm Hg and 7 mm Hg, respectively, after just six months.

In addition, much research has centered on lignans’ cancer-inhibiting properties. Brill points to a 2007 study from Duke University that looked at lignans’ possible role in preventing prostate cancer and found that flaxseeds can “prevent prostate cancer cells from sticking together, in effect stopping tumor growth in its tracks.”

A more recent study, published last month in *Cancer Causes & Control*, showed an association between flaxseed consumption and reduced breast cancer risk. “Lignans promote breast and prostate health, and have been shown to reduce the risk of cancers caused by hormones, like breast cancer,” says Rachel Berman, RD, director of nutrition at CalorieCount.com. “Lignans are considered to be hormone balancers, and as antioxidants, they function to promote cell health to reduce risk of these cancers and other cell damage.”

These lignans also can help improve blood sugar in diabetes patients. According to Brill, a preliminary 2007 study published in *PLoS One* “suggests daily intake of the lignans in flaxseeds may modestly improve blood sugar, as measured by hemoglobin A1c blood tests in adults with diabetes. The lignan supplement significantly improved glycemic control as measured by hemoglobin A1c.”

• **Omega-3s:** If any of your clients are crazy about flaxseeds, it’s probably because they’ve heard about their high omega-3 content. “The spotlight on flaxseeds generally points to their richness in omega-3 fatty acids, ‘good’ fats that have been shown to have heart-healthy effects,” Brill says, noting that flax is chock-full of alpha-linolenic acid (ALA), “the short-chain omega-3 fatty acids that are extremely cardioprotective in terms of fighting inflammation.”

“[They] help decrease risk of inflammatory diseases such as heart disease, diabetes, and arthritis,” Berman adds.

While Brill notes that the research regarding ALA’s cardiovascular benefits still is in its infancy compared with the research linking the consumption of the long-chain omega-3 fatty acids EPA and DHA with heart health, she says recent studies, such as a 2009 study from the *American Journal of Clinical Nutrition*, have shown flaxseed consumption lowers blood LDL cholesterol levels in individuals with either high or

normal blood cholesterol levels. “The majority of published clinical trials with humans show that eating a daily dose of flaxseeds, between 2 and 6 T, can lower LDL cholesterol up to 18%,” she says, noting that this applies to whole flaxseed consumption, not flaxseed oil.

Incorporating just 2 T of flaxseed into your daily diet will provide about 3½ g of ALA, which exceeds the amount recommended by the National Institutes of Health, Brill says.

Flax isn’t the only food source of ALA, notes Michelle Dudash, RD, a Cordon Bleu-certified chef and the author of *Clean Eating for Busy Families*. She says the amount of flax clients should shoot for daily depends on what other ALA sources they’re regularly eating. “Walnuts, soybeans, avocados, and chia seeds also are good sources of ALA, so if you’re eating one or two of these foods on most days, you don’t necessarily need to eat flaxseed every day,” she says. “If you get a good mix of these foods regularly, you’ll probably be in good shape. But 2 to 3 tsp of flaxseed meal is a sure-fire way to get the ALAs you need daily.”

• **Fiber:** Flaxseeds’ high-fiber content is a third reason to consider a regular flaxseed regimen. “Flaxseed contains both the soluble and insoluble types [of fiber]—healthful for the digestive and cardiovascular systems,” Brill says, noting that 25% of this is soluble fiber. “Loaded with soluble fiber, flaxseeds work like a sponge to absorb cholesterol in your digestive track so that you excrete it.”

Just 2 T of flaxseed provides roughly 4 g of fiber, which has been shown to help relieve constipation and several other conditions. “The fiber content—both soluble and insoluble—adds bulk and helps clean out the digestive tract, and can help with controlling cholesterol and stabilizing blood glucose,” Berman says. “Therefore, it can have benefits for those suffering from digestive issues, heart disease, and diabetes.”

While these are the most current researched benefits of flaxseed, other studies have investigated the seed’s possible role in reducing hot flashes and improving insulin resistance, though results thus far have proved inconclusive.

Fitting Flax Into At-Home Meals

Because of its potential cardioprotective benefits alone, Brill has no issue recommending daily flax consumption for her clientele. “Considering that heart disease is the leading cause of death in American men and women and we’re all at risk, I recommend all people incorporate flax into their diet to the tune of 2 to 3 g of ALA per day,” she says, which equates to between 1 and 2 T of ground flaxseeds daily.

So how can clients get their daily serving of ALA? For breakfast, Dudash suggests sprinkling ground flax on oatmeal or toast or blending it into morning smoothies.

“I also love using flaxseed meal as an egg replacer if I’m looking to make a vegan recipe, such as my Quick-Fix Trail Mix Snack Bars or Almond Butter & Oatmeal Chocolate Chip

Cookies,” she adds. To use flaxseed in place of an egg when baking, Brill suggests the following ratio: 3 T water to 1 T ground flaxseed, which equates to one egg.

For tasty lunch options, suggest clients use flax oil to make salad dressing or sprinkle ground flax on top of salads for a crunchy treat. Clients also can prepare homemade muffins or breads with flax baked in.

Massey likes mixing ground flax into tuna, chicken, or egg salads, and adding flaxseeds to mustard or mayonnaise before spreading on sandwiches.

Strawberry-Smothered Flaxseed Pancakes

Makes 1 serving

Ingredients

For the pancakes:

- 1 T ground flaxseed
- 3 T warm water
- 1 large banana
- 1 T nut butter (like almond butter)
- ½ tsp cinnamon

For the topping:

- ¼ cup sliced strawberries
- ¼ cup low-fat Greek yogurt
- ½ tsp honey

Directions

- Mix ground flaxseed in warm water until dissolved. Place in freezer while preparing other ingredients.
- To make the topping: In a blender, blend the strawberries and place in a bowl. Add Greek yogurt and honey, and mix together.
- To make the pancakes, blend the banana, nut butter, and cinnamon. Then blend in the slightly chilled flaxseed mixture. Spray or grease a frying pan with oil to prevent sticking, and pour the mixture in 1 T at a time to make small rounds. Let cook over low heat for 2 to 3 minutes, until slightly browned, then flip and cook the other side.
- Pour strawberry mixture over the pancakes and enjoy.

Nutrient Analysis per serving

Calories: 320; Fat: 12 g; Cholesterol: 3 mg; Sodium: 37 mg; Carbohydrate: 49 g; Dietary Fiber: 8 g; Sugars: 30 g; Protein: 8 g

— RECIPE COURTESY OF RACHEL BERMAN, RD

Brill mixes flaxseeds with whole grains for a sweet yet slightly nutty dinner option. And Dudash says flax makes a great breading for chicken or fish, again eliminating the need for egg.

To note, the RDs whom *Today's Dietitian* interviewed here suggested consuming the whole, ground flaxseed rather than flax oil, which contains just part of the seed, when possible to ensure clients ingest all the components and enjoy all the potential health benefits. For safe storage, clients should place flaxseeds in a sealed plastic container. Although many people have suggested refrigerating or freezing flaxseeds to preserve the omega-3 fats (which have been said to be highly perishable), Diane Morris, PhD, RD, a consultant who researched and wrote many fact sheets for the Flax Council of Canada, says this is unnecessary and an unfortunate myth perpetuated about flax. "Whole flaxseeds can be stored at room temperature for up to four months," she says. "To maintain freshness longer, store in a plastic container in the refrigerator or freezer."

What's Sprouting in Supermarkets

Whether clients are looking for ground flax to bake into morning muffins or prepackaged products containing flax, you'll want to tell them what they're likely to find at their local grocer.

When looking for ground flaxseeds, Brill says clients can choose from the more familiar dark-brown, glossy seeds and the golden-colored variety. "Both are similar in terms of nutritional makeup; however, you will most likely find only the dark-brown seeds readily available in supermarkets and health food stores."

Flaxseeds also can be bought milled or whole. Brill suggests the preground variety, which is more convenient. The nutrients in ground flaxseeds are more available, and it's also easier to digest than the whole variety.

Flaxseed blends also are available for clients looking to add a bit more pizzazz to homemade meals. Carrington Farms offers a new Flax Chia blend, which combines organic milled flaxseeds with chia seeds. Linwoods Health Foods offers five Superfood Flaxseed blends that incorporate pumpkin seeds, goji berries, strawberries, cocoa, and blueberries along with flaxseeds for an added flavorful punch.

Carrington Farms and Linwoods both offer bulk packs of their blends as well as individual-portioned packs, which clients may find easier to use on the go. "This way you decrease the chances of spoilage when buying in bulk," Berman says.

If clients are interested in flaxseed oil, Massey says they shouldn't cook with it "because it doesn't preserve its nutritional quality when cooked at high temperatures. Flaxseed oil also should be refrigerated," she says.

Beyond straight-up flaxseed, supermarkets have seen an influx of products containing flax in the past few years.



"Flaxseed is everywhere," Dudash says, "including in crackers, tortilla chips, breakfast cereal, granola, and bread."

Recent research on flax's health benefits may have contributed to the influx of food products with flax. "Research that has come out on all the benefits of flaxseed have definitely made it a wonder food over the past years," Berman says. "Marketers have taken advantage of the benefits, creating the trend and a plethora of products in the marketplace."

According to Berman, most of the products she's seen fall into the grains category: breads and crackers as well as oatmeals and cereals. In addition to ground flaxseed varieties, Bob's Red Mill Organic High Fiber Cereal and 5 Grain Rolled Cereal both contain flaxseeds. Better Oats' RAW Pure & Simple is a line of multigrain hot cereal with flax, in pomegranate, chai spice, and other flavors. And Nature's Path makes Optimum Power Blueberry Cinnamon Flax hot oatmeal.

In the granola category, Nature's Path recently launched its Flax Plus Pumpkin Flax Granola, and Bear Naked makes a Peak Flax granola. Kashi and KIND both offer bars made with flax (Kashi's Pumpkin Spice Flax Granola bar and KIND's Almond, Cashew With Flax + Omega-3 bar).

"There are also frozen breakfasts, like ready-to-go frozen pancakes and waffles that contain flaxseeds," Berman says. Nature's Path and Kashi are two options clients can buy if they want a morning flax infusion.

For a flax snack, Way Better Snacks' Simply Sprouted line of tortilla chips now is available, with its Simply Beyond Black Bean variety, which incorporates flax and quinoa. Food Should Taste Good also offers multigrain chips made with flaxseeds.

Flax-packed soups, breakfast drinks, salad dressings, and cakes also can be found in stores. However, no matter how many flax products are out there, RDs recommend clients look at the product's entire nutrient profile before heading to the checkout line—especially if they're buying the products for the potential health benefits.

"Products that offer other benefits, such as cereals that give your body vitamins, minerals, proteins, etc, are better options than foods high in sugar that just contain added flaxseed," Berman says. "The addition of flaxseed doesn't automatically make a food 'healthful' or 'good for you.' Other ingredients, such as sugar and sodium, or additives for preservation purposes outweigh the benefits of the added flaxseed. Always read the nutrition label for educated decisions."

— Juliann Schaeffer is a freelance writer and editor based in Allentown, Pennsylvania, and a frequent contributor to *Today's Dietitian*.