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Whole, Ground, Milled, and Cracker Flaxseed Review

High Levels of Cadmium Found in Flaxseed Products — Testing Expanded



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Updated July 29, 2025 



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Summary

- **What did ConsumerLab's tests of flaxseed show?** Our tests revealed a concerning amount of cadmium, a toxic heavy metal, in several flaxseed products that contained up to *4 to 5 times* as much cadmium as other products. Nutritionally, products were similar in terms of fats (oil), carbs, fiber, and protein – although amounts listed on two products were not accurate. None of the products had microbial contamination. (See [What CL Found](#)) and [How Products Were Evaluated](#).
- **Why does the amount of cadmium vary across flaxseed products?** This is likely affected by the flaxseed plant variety and the amount of cadmium in the soil in which it grows. Unfortunately, we found nothing on labels (including geographic origin, brown versus golden color, whole versus ground seeds, or claims of being organic or non-GMO) or about product cost that would provide a reliable clue to the consumer as to how much cadmium is in a product.
- **Which is the best flaxseed product?** Among the products that passed testing and were "Approved" for their quality, CL selected one as its [Top Pick for whole flaxseed](#) and two as [Top Picks for ground flaxseed](#), based on taste and cost.
- **What are the nutritional benefits of flaxseed?** Flaxseeds are rich in fiber and healthy oils (particularly the omega-3 fatty acid ALA), and also provide some protein and small amounts of essential minerals, such as potassium, magnesium, calcium, and iron. (See [What It Is](#))
- **Does eating flaxseed help with medical conditions?** There is some evidence that flaxseed can help reduce blood sugar in diabetes, cholesterol, blood pressure, and symptoms of constipation. It may also have a weak estrogenic effect. (See [What It Does](#))
- **What's the difference between flaxseed that is "ground," "milled," or sold as "meal"?** Nothing, really. We found these terms to describe essentially the same thing: Flaxseed that has been ground to a fine or medium powder or meal. (See [What CL Found](#))
- **Flaxseed safety and side effects:** The high fiber content of flaxseed may cause some gastrointestinal side effects, and the seeds may cause allergic reactions in some people. (See [Concerns and Cautions](#))



See our separate Reviews of [Flaxseed and Other Seed Oils](#) Supplements.

Products tested in 2023

Updates

Wegmans (3/14/25):

This brand was not tested in this Review, but a CL member asked Wegmans how much cadmium is in its "Organic Milled Flax Seeds." A representative of Wegmans' responded in early March 2025 with the following information from its supplier:

"We currently do not have heavy metal testing results available as this is a recently new spec requirement, we have put in place with all ingredient suppliers and expect to receive COA's [certificates of analysis] with heavy metal testing results on the next round of ingredient inbounds. However, heavy metals are listed as follows on our ingredient spec: 10 ppm Max (as lead), As [arsenic] 3 ppm Max, Hg [mercury] 1 ppm Max. When we list 10PPM as lead in the US it means that the total heavy metals can only add up to 10ppm. We do call out limits for arsenic and mercury which total 4ppm so that would mean lead, cadmium and other heavy metals cannot exceed 6ppm or less to total 10ppm MAX."

Unfortunately, what this response means is that 1) Wegmans was not previously checking for cadmium in its flaxseed and 2) now that it is, it permits as much as 10 ppm (mcg/g) of cadmium since, as shown in this Review, only cadmium occurs in significant concentrations in flaxseed. Consequently, a 2-tbsp (12-gram) serving of Wegmans milled flax seeds could potentially contain more than 100 mcg of cadmium – a highly toxic amount – and still meet Wegmans' specifications – although such a large amount would be unlikely. Based on this information, we would not rely on Wegmans flaxseed to be low in cadmium, and we believe Wegmans should set a specific, conservative limit for cadmium in its flaxseed products.

Nature's Path (2/21/23):

This brand was not tested in this Review but a CL member asked Nature's Path for information about heavy metals, such as cadmium, in its flaxseed products. A representative from Nature's Path Foods responded on 2/27/23 with the following, indicating that it does not share such information and is not commenting on whether or not it actually checks its products for heavy metals or applies a limit on heavy metal contamination in its flaxseed.

"We do not currently provide lead and cadmium testing results to the public." "Nature's Path is doing everything we can to reduce the chance of the presence of heavy metals in our food." "As a certified organic company, Nature's Path does not support the use of agricultural ingredients that were grown with practices that increase the presence of heavy metals." "We believe organic farming helps to reduce the presence of heavy metals in food."

Terrasoul (2/23/23):

A CL member, concerned by the cadmium [reported in this Review](#) for Terrasoul Brown Flax Seeds, which the member had been using, asked Terrasoul for more information about the product. A Terrasoul representative provided the member with a Certificate of Analysis (COA) for "Brown Flax" whole seed raw material ingredient (manufacture date of "Nov-21").

The COA revealed that there was no testing conducted for heavy metals, including cadmium and lead.

The COA included a Microbiological Analysis which, disturbingly, showed that both the Total Yeast Count and Total Mold Count were way above the listed specification limit of 100 cfu/g. The counts were, respectively, 850 cfu/g and 800 cfu/g, so it is unclear why this ingredient would have been deemed acceptable for use in a product. The Total/Aerobic Plate Count was 9,500 cfu/g – just below the specification limit of 10,000 cfu/g. *E. Coli*, *Salmonella*, and aflatoxin were not found.

Fortunately, unlike the raw material described above, ConsumerLab's testing of *TerraSoul Brown Flax Seeds* showed no detectable yeast or mold. (3/23/23 — Our test results for *Terrasoul's Golden Flax Seeds* also showed no detectable yeast or mold and just slightly more cadmium than in its *Brown Flax Seeds* — 0.18 vs 0.16 mcg per gram.)

Carrington Farms (2/23/23):

A CL newsletter reader contacted Carrington Farms, requesting data showing the amount of cadmium in its organic milled flax seeds in which ConsumerLab had found the [highest concentration of cadmium](#) among all the products tested in this Review.

A customer service representative at Carrington provided the following response, indicating that Carrington does not share its lab testing or certificates of analyses.

"The Milled Flax Seeds are USDA Organic and are tested by a third-party laboratory and are fully compliant with global food safety standards." "Testing of ingredients and finished products for contamination with heavy metals such as lead, cadmium and arsenic is not currently required for products to qualify for use of the USDA Organic seal or organic labeling." "... we consider all lab testing and certificates proprietary." "We do not provide certificates of analysis."

The claim that its milled flax seed product is "fully compliant with global food safety standards" may be correct, as ConsumerLab's found the product had a cadmium concentration of 0.57 mcg/g, which is just below the European limit of 0.6 mcg/g. However, every other product had a lower concentration — several as low as 0.1 mcg/g.

Premium Gold (2/21/23):

This brand was originally not tested in this Review but a CL member asked Premium Gold how much cadmium is in its flaxseed products. A representative from Premium Gold responded on 2/13/23 with the following, indicating that it is *not testing* for cadmium:

"We have not had an issue with cadmium or heavy metals in years so we no longer test. If our commercial customers which [SIC] to test for metals they do on their own behalf, especially if the flaxseed is for export. The requirements for export to Europe are < 3ppm. Our testing always made grade for export. I will not be able to provide any newly updated test results as it is not part of our standard testing protocol. If you have concerns do Not purchase."

In addition to not testing for cadmium, the cadmium limit of less than "3 ppm" indicated by the Premium Gold representative is an *extremely high* limit and not consistent with the much lower 0.6 ppm limit for flaxseed in the [European Union](#), and it is more than 5 times the highest level of cadmium found in this Review.

(3/23/23 — Our tests of [Premium Gold Whole Flaxseed](#) revealed 0.41 ppm of cadmium, or 11.5 mcg per 28-gram serving, which is among the highest levels found in this Review, and the highest among whole seed products.)

NOW Foods (2/14/23):

This brand was not tested in this Review but a CL member asked NOW how much cadmium is in its "whole golden flax seeds" product, which lists a serving size of 3 tablespoons (31 grams). A representative from NOW's Information Department responded on 2/13/23 with:

"Our max spec limit for cadmium in the organic flax is <0.5ppm (15.5mcg/31g serving) which is well under federal and international food safety standards. This number is not representative of any given lot which will always be lower."

NOW's limit is the same as that of the [European Union](#) for flaxseed, although it is a fairly high limit considering that Europe's limit for grains is much lower (0.1 ppm or mcg/g). In this Review, [two products were close to or above this limit](#). If NOW's product was at its limit, a 3-tablespoon serving would contain more than triple the amount of cadmium allowed in California without a warning label. Of course, it is likely that NOW's product falls below its limit, as its representative claimed.

Nuts.com (2/2/23):

Although Nuts.com was not among the brands of flaxseed tested in this Review, a CL member asked Nuts.com for information about amounts of heavy metals, such as cadmium, in its seed products, such as flaxseed. A representative of Nuts.com's Food Safety division provided a specifications sheet, on 1/30/23, for its *Organic Golden Flaxseed Meal*. The document revealed that Nuts.com has not set any specifications regarding cadmium, lead, or other heavy metal in this product — although it does have specifications limiting microbial contamination. Nuts.com did not provide any documents showing heavy metal testing for any product or a certificate of analysis from any ingredient supplier. It does not appear that Nuts.com is checking for heavy metals in this and, possibly, other flaxseed products.

5/25/23: On May 17, 2023, a CL member reported to us that when they asked Nuts.com if the company tested its products for heavy metals, they were told: "All of our products are tested to ensure they are within safe levels of heavy metals and other factors. However, we cannot share the results with our customers in compliance with FDA standards." This seems to be misleading and false because 1) as noted above, Nuts.com indicated that it had no specifications regarding heavy metal testing for flaxseed and 2), according to ConsumerLab correspondence with the FDA (May 22, 2023), "The FDA is not aware of any general regulation that prohibits companies from sharing their own testing results relating to heavy metals with its customers." (See our [article](#) about lab reports provided by supplement manufacturers.)

Organic Traditions (2/2/23):

This brand was not tested in this Review but a CL member asked its distributor for information about heavy metals in its *Organic Traditions Sprouted Flax Seed Powder*. A Certificate of Analysis from a single sample from Canada from over 2 years ago (June 2, 2020) was provided that indicated a fairly low level of cadmium (0.167 mcg per gram), extremely low levels of mercury and arsenic, and no detectable lead (less than 0.01 mcg per gram). A suggested 15-gram (1.5 tablespoon) serving would, therefore, contain 2.5 mcg of cadmium — a relatively safe amount, although not as low as found in some other products tested in this Review. It should be noted that, in September 2018, a [Notice of Violation](#) was filed in California against Healthy Matters America, Inc. (doing business as Organic Traditions) alleging that its *Golden Flaxseeds* contained an amount of cadmium that exceeded the California Proposition 65 level of 4.1 mcg of cadmium per daily serving while the product, when sold into California, did not include the required warning label. The actual amount found is not disclosed in the public posting of the case.

Bob's Red Mill (1/20/23):

A CL member contacted Bob's Red Mill Natural Foods on 1/17/23 asking if corrective action was being taken in response to ConsumerLab's findings of relatively [high levels of cadmium in servings of both of its products tested in this Review](#). A Senior Company Representative responded the next day, noting the following — which suggests that **Bob's Red Mill may not be checking its flaxseed for heavy metals such as cadmium:**

"Flaxseeds may absorb cadmium from the soil or growing environment, but that does not mean consuming Flaxseeds and/or Flaxseed Meal is unsafe."

"The Food and Drug Administration, the U.S. agency with responsibility for food safety, has studied cadmium for many years and has set limits on how much lead/cadmium/mercury/arsenic can be present in food. Our products comply with FDA guidelines."

"Regarding possible exposure to heavy metals, it is up to you to decide whether you feel a product is safe to consume and you may choose to discuss further with a health care professional. **Bob's Red Mill products comply with all applicable laws and regulations, those laws and regulations do not require us to conduct our own testing for heavy metals.**"

"We stand behind our products with a 100% customer satisfaction guarantee, so I would be happy to send you free product vouchers and coupons, Amazon gift card for the purchase price of the product or a check refund for the purchase price, whichever you prefer."

"We are currently evaluating the findings of this report and have engaged with our raw material suppliers to address the issues raised in the report."

Regarding the statement made by the representative that "Bob's Red Mill products comply with all applicable laws and regulations..." it should be noted that ConsumerLab recently learned that a [Notice of Violation was filed in California in April 2022 against Bob's Red Mill Natural Foods](#) alleging that its *Whole Golden Flaxseed* contained an amount of cadmium that exceeded the California Proposition 65 level of 4.1 mcg of cadmium per daily serving while the product, when sold into California, did not include the required warning label. The amount found is not disclosed in the [public posting](#) of the case, but, in this Review, ConsumerLab.com found 5.5 mcg in the listed 3 tablespoon serving.

Regarding the statement that the FDA has "set limits" on how much cadmium can be present in food and that Bob's Red Mill products comply with FDA guidelines, ConsumerLab is not aware of any such federal limit for cadmium in flaxseed.

ConsumerLab has not been contacted by Bob's Red Mill Natural Foods, but, per our [policy](#), we would furnish the company with our findings, at no cost, if requested.

What It Is:

Flaxseed (*Linum usitatissimum*), also called linseed, produces highly nutritious, edible seeds used as a food and oil. Its stems are used industrially to produce linen fabric. In this Review, the term flaxseed refers specifically to the seeds of the plant.

Flaxseed is approximately 40% **oil**, 30% **carbohydrate** (roughly 90% of which is **fiber**), and 20% **protein**, with most of the remainder being water. Flaxseed can also provide small but meaningful amounts of **minerals**, with a 10-gram serving providing about 80 mg of **potassium** (1.7% of the daily value (DV)), 40 mg of **magnesium** (9.5% DV), 26 mg of **calcium** (2.8% DV), 0.5 mg of both **iron** and **zinc** (2.8% and 4.5% DV, respectively), and 2.5 micrograms of **selenium** (4.5% DV). It contains small and relatively inconsequential amounts of B vitamins ([USDA, 2019](#)). (Note: A tablespoon of whole flaxseed weighs about 10 grams, while a tablespoon of ground flaxseed – also called "meal" – weighs about 7 grams because it is less dense.) Be aware that flaxseed also naturally contains phytate which may bind to minerals and reduce their absorption, but this is not thought to be a problem for people eating a well-balanced diet providing adequate minerals.

The **oil** in flaxseed is largely heart-healthy polyunsaturated and monounsaturated oil (see ConsumerLab's separate review of [flaxseed oils](#)). Among plant seeds, flaxseed contains among the highest concentration of ALA (alpha-linolenic acid), a polyunsaturated, essential omega-3 fatty acid. In fact, 55% of the oil in flaxseed is ALA (a bit higher in brown flaxseed and bit lower in golden flaxseed) ([Shim, Trends Food Sci Tech, 2014](#)). (Note: [Chia seed](#) also has a very high concentration – 58% – of ALA in its oil, although the seed itself has less total oil than flaxseed). It is estimated that between 5% to 10% of dietary ALA may be converted into EPA, and about 2% to 5% may be converted into DHA, the two principal omega-3s in [fish oil](#) ([Davis, Am J Clin Nutr 2003](#)), but consuming foods high in ALA, such as flaxseed, is not an effective strategy for raising blood levels of DHA or EPA ([Jehi, Br J Nutr 2022](#)).

Flaxseed contains **lignan** precursors which, once converted to lignan in the gut, may have weak estrogenic effects.

Flaxseed is **gluten-free** – although some gluten can potentially occur in products due to cross contamination during harvesting or processing.

What It Does:

As noted earlier, flaxseed is highly nutritious, and can certainly be a part of a healthful diet, as it is rich in healthful fats and fiber, as well as providing some protein and minerals.

Flaxseed has also been evaluated for the following conditions:

Blood pressure

A small, but controlled study in people with peripheral arterial disease (75% of whom had high blood pressure) found that consuming 1 ounce of milled flaxseed (30 grams) per day lowered blood pressure. After 6 months, systolic blood pressure was about 10 mm Hg lower, and diastolic blood pressure was about 7 mm Hg lower in the flaxseed group compared with a placebo group. Patients who started the trial with a systolic blood pressure of at least 140 mm Hg obtained a reduction of 15 mm Hg in systolic blood pressure and 7 mm Hg in diastolic blood pressure ([Rodriguez-Leyva, Hypertension 2013](#)). Further analysis of the results led researchers to theorize that ALA in flaxseed may play a role in blood pressure reduction through inhibition of the enzyme epoxide hydrolase which, in turn, reduces levels of oxylipin compounds that regulate vascular tone ([Caliguri, Hypertension 2014](#)).

Cholesterol

Flaxseed may help reduce elevated levels of cholesterol. A review of the clinical evidence by the food and drug administration of Canada, concluded, in 2014, that 40 grams daily of ground whole flaxseed has been shown to help reduce cholesterol. Flaxseed products in Canada are permitted make this claim along with indicating what percentage of the 40 grams a serving provides. Whole flaxseed products are also eligible to carry the claim if the label clearly specifies that flaxseeds must be ground before consumption ([Health Canada, 2014](#)).

Constipation

Likely due to its high fiber content, flaxseed has been shown to reduce constipation. A study of 53 constipated people with type 2 diabetes given cookies twice a day containing 10 grams of flaxseed had a significant reduction in constipation symptoms, as well as reductions in weight and cholesterol levels compared to those given a placebo ([Soltanian, Nutr Metab \(Lond\), 2018](#)). A study of elderly people with constipation in China found that 50 grams per day of flaxseed increased the frequency of defecation and decreased abdominal distention, as well as changing their gut microbiota; however, the study lacked a placebo control ([Ma, J Multidiscip Healthc, 2022](#)).

Diabetes

Consuming flaxseed shortly before a meal may help with blood sugar control in people with diabetes or prediabetes ([Villareal-Renteria, Complement Ther Med, 2022](#)). For example, a study of 19 men in Brazil with type 2 diabetes found that giving 15 grams of ground golden flaxseed with water before breakfast decreased rise in blood glucose over the following two hours by 17% compared to eating the same breakfast without flaxseed ([Moreira, Nutrients 2022](#)).

Estrogenic effects

The lignan precursors in flaxseed, once converted in the gut to lignans that are structurally similar to estrogen, may have weak estrogenic effects. It has been speculated that these estrogenic effects might be useful in regulating **menstruation**, improving **menopausal symptoms**, and protecting against **breast cancer**, but this has not been proven.

A study among 123 perimenopausal women (age range 40 to 55) showed that consuming 10 grams of ground flaxseed powder daily for 3 months did *not* significantly reduce **menopausal symptoms** including hot flashes, heart discomfort (e.g., heart racing, tightness, etc.), sleep problems, depressed mood, irritability, anxiety, fatigue, sexual problems, vaginal dryness, joint or muscle pain, or bladder issues compared to placebo (roasted wheat flour), although both groups showed improvements in many of these outcome measures compared to baseline ([Shrivastava, Cureus 2025](#)).

Two small studies among postmenopausal women found that consuming 10 or 25 grams of ground flaxseed daily for 7 to 16 weeks increased the ratio of urinary 2-hydroxyestrone (an *anticancer* estrogen metabolite) to 16-alpha-hydroxyestrone (a *breast cancer-promoting* estrogen metabolite), suggesting a *potential* protective effect against **breast cancer** ([Brooks, Am J Clin Nutr 2004](#); [Haggans, Nutr Cancer 1999](#)), but there do not appear to be any clinical studies showing that flaxseed reduces breast cancer risk.

Quality Concerns and Tests Performed:

Flaxseed products are expected to contain their listed nutrients and should not be contaminated with unacceptable amounts of toxic heavy metals or pathogenic microbes – both of which can occur in plant-based products. The heavy metal cadmium, a kidney toxin and carcinogen, is of particular concern with flaxseed ([House, BMC Res Notes 2020](#)).

ConsumerLab.com, as part of its mission to independently evaluate products that affect health, wellness, and nutrition, purchased flaxseed products sold in the U.S. and tested them to determine whether they possessed their claimed macronutrients (carbohydrates, fiber, protein, fat, and calories) and were free of pathogenic microbes (*E.coli*, *Salmonella*, *Listeria*, yeast and mold) and unacceptable levels of lead, cadmium, and arsenic (see [Testing Methods and Passing Score](#)).

What CL Found:

[Note: On 3/23/23, seven additional flaxseed products were added to this Review, based on requests from readers. Most of these are whole flaxseed products because our original testing failed to find a whole flaxseed product that we could consider a *Top Pick*. The added products are noted as "Added March 2023" in the [Results table](#).]

Our tests of 16 flaxseed products, representing brands in the U.S. popular with our readers, found that many were contaminated with relatively high levels of the toxic metal cadmium. Fortunately, some products contained lower levels. Two products contaminated with cadmium also failed to meet their nutritional claims for carbohydrates, fats, proteins, and/or calories within an acceptable margin. None exceeded CL's strict limits for contamination with microbes, or with lead or arsenic.

The following products could not be fully approved due to cadmium contamination found per listed serving. Note that serving sizes were 2 or 3 tablespoons and that a tablespoon of whole seed weighs more than that of ground seeds (meal). For ease of comparison, cadmium concentration in *micrograms per grams* is included, as this is based on equal weights of flaxseed and can be more meaningful. The lists start with products with the highest cadmium concentrations.

Not Approved: Five products were "Not Approved" because they exceeded ConsumerLab's daily limit of 4.1 micrograms of cadmium per suggested serving:

- **Carrington Farms Organic Milled Flax Seeds** (6.8 mcg in 2 tablespoons – 0.57 mcg/g).
- **Bob's Red Mill Whole Ground Flaxseed Meal** (6.1 mcg in 2 tablespoons – 0.47 mcg/g).
- **Premium Gold Whole Flaxseed** (11.5 mcg in 2 tablespoons – 0.41 mcg/g). Also had incorrect nutrition labeling, particularly of protein, but amounts found were normal for flaxseed.
- **Simply Nature Whole Flax Seeds** (8 mcg in 3 tablespoons – 0.27 mcg/g). Also had incorrect nutrition labeling, with twice as much fat as listed but half the listed carbs, likely due to a typographical error by manufacturer, as amounts found were normal for flaxseed.
- **Bob's Red Mill Whole Golden Flaxseed** (5.5 mcg in 3 tablespoons – 0.18 mcg/g).

Approved only for adults: Four products exceeded ConsumerLab's limit for children of 3 micrograms of cadmium per daily serving but were "Approved for adults" since they contained less than 4.1 mcg:

- **Barlean's Forti-Flax Premium Ground Flaxseed** (4 mcg in 2 tablespoons – 0.27 mcg/g).
- **Terrasoul Superfoods Golden Flax Seeds** (3.6 mcg in 2 tablespoons – 0.18 mcg/g).

- **Terrasoul Superfoods Brown Flax Seeds** (3.2 mcg in 2 tablespoons — 0.16 mcg/g).
- **Arrowhead Mills Organic Flax Seeds** (3.5 mcg in 3 tablespoons — 0.13 mcg/g).

The remaining seven products passed all of our tests and are listed as "**Approved**" in the [Results table](#) further below. These products contained their claimed amounts of macronutrients without contamination from pathogenic microbes or exceeding limits for heavy metals. These Approved products are **365 Whole Foods Market Organic Ground Flaxseed** and **Whole Flaxseed, Flackers Flax Seed Crackers — Sea Salt, Great Value [Walmart] Ground Flaxseed, NutraSprout Sprouted Ground Flax, Spectrum Essentials Organic Ground Premium Flaxseed**, and **Trader Joe's Organic Flaxseed Meal**.

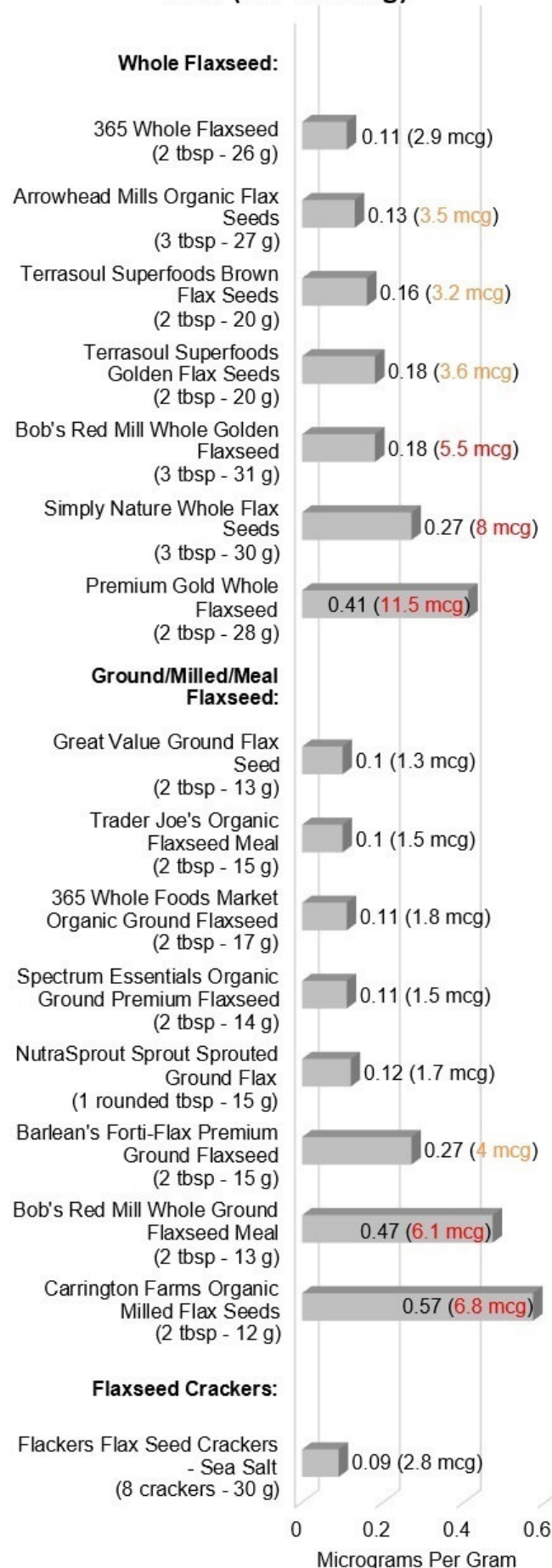
Cadmium — A Common Problem with Flaxseed:

As shown in the graph below, the concentration of cadmium in whole and ground flaxseed products ranged from a low of 0.1 mcg per gram in *Great Value* and *Trader Joe's* to 0.47 and 0.57 mcg per gram, respectively, in *Bob's Red Mill Whole Ground Flaxseed Meal* and *Carrington Farms Organic Milled Flax Seeds*. Interestingly, the other tested product from *Bob's Red Mill* — its *Whole Golden Flaxseed* — had a lower, but still elevated concentration of cadmium (0.18 mcg per gram). *Flackers Flax Seed Crackers* had the lowest concentration of cadmium (0.09 mcg per gram), likely because it is not completely flaxseed — it includes apple cider vinegar and sea salt.

What is also important is the total dose of cadmium *per serving* (shown in parentheses in the graph), which is a function of the concentration of cadmium and the suggested serving size. The suggested serving size for all products was 2 tablespoons, except for the whole flaxseeds from *Arrowhead Mills*, *Bob's Red Mill*, and *Simply Nature*, which was 3 tablespoons, giving them 50% higher amounts of cadmium per serving. In addition, whole flaxseed is denser than ground flaxseed (which is "fluffier"), so a tablespoon of whole flaxseed weighs 10 grams, while ground flaxseed weighs about 6 to 8 grams.

Amounts of cadmium per serving in products that exceeded ConsumerLab's adult daily limit of 4.1 mcg are shown in **red**, while those that exceeded ConsumerLab's limit only for children of 3 mcg are shown in **orange**. (All of the values represented in the graph are also shown in the 2nd column of the [Results table](#).) Cadmium test results were confirmed in a second independent laboratory for any product that exceeded the limit for children.

Cadmium Per Gram And (Per Serving)



Values in red exceed CI 's limit of 4.1 mcg per serving

Values in orange exceed CL's limit for children of 3.0 mcg per serving but are below 4.1 mcg.

Cadmium is a probable carcinogen (i.e., cancer-causing agent), can be toxic to the kidneys, can soften the bones – causing bone pain, and may affect fetal development. Cadmium accumulates in the body due to its long biological half-life in humans of 10 to 35 years. It has been conservatively estimated that an adult weighing 150 lbs. can tolerate *total* ongoing daily exposure to cadmium (that is, from *all* sources of exposure – food, drink, air) of up to 25 mcg, while a child of half that weight can tolerate about 12 mcg ([EFSA 2011](#)). People who are nutritionally deficient in zinc, iron, or calcium appear to be more susceptible to toxicity from cadmium exposure, possibly because more cadmium is absorbed by such individuals ([Reeves, Sci Tot Env 2008](#)).

The concentrations of cadmium in plant-based foods that are normally considered "high" in cadmium, such as peanuts and sunflower seeds, have been found to range from 0.05 to 0.12 mcg per gram ([ATSDR 2012](#)). The cadmium concentrations found by ConsumerLab in flaxseed products, which ranged from 0.1 to 0.57 mcg per gram, are, therefore, at the high end of the range for cadmium-rich foods or exceed that range. (ConsumerLab has also discovered unusually high amounts of cadmium in [cacao and cocoa-based products, including dark chocolates](#).)

As noted, a daily serving of some of the products exceeds the [limit in California](#) of 4.1 mcg, above which a warning regarding reproductive harm is to appear on the label if a product is sold in or into that state. Although there is no established federal limit for cadmium in foods in the U.S., in [Canada](#) a daily serving of a natural health product must contain no more than 6 mcg of cadmium for an individual weighing 150 lbs. and 3 mcg for a 75 lb individual, such as a child – however Canada does not apply these limits to whole and ground flaxseed, as they are considered foods and not natural health products.

The [European Union has established a cadmium limit](#) of 0.1 mcg per gram in grains (other than wheat and rice, for which the limit is 0.2 mcg per gram), but permits [higher levels](#) in certain foods for which cadmium often occurs at higher levels, including oilseeds such as linseed (flaxseed), in which it permits 0.5 mcg per gram. While many products in this Review would exceed the European limit applied to grains, none exceed the European limit applied to flaxseed of 0.6 mcg per gram, although *Carrington Farms Organic Milled Flaxseed* comes very close (at 0.57 mcg per gram), with *Bob's Red Mill Whole Ground Flaxseed Meal* falling slightly below it at 0.47 mcg per gram, followed by *Premium Gold Whole Flaxseed* at 0.41 mcg per gram.

We found nothing on labels (such as geographic origin, GMO status, light versus brown, whole versus ground) that clearly correlated with our finding of high or low levels of cadmium. In fact, the highest concentration of cadmium was in an organic flaxseed meal product (*Carrington Farms*), although among whole seed products, those that were organic tended to have lower cadmium levels. The concentration of cadmium in flaxseed is largely a function of the amount of cadmium in the soil in which it is grown, which can range from region to region and field to field, and can also be affected by the specific variety (or "genotype") of flaxseed plant, although the flaxseed variety is typically not stated on labels ([House, BMC Res Notes 2020](#)).

If you consume [flaxseed oil](#), or drink [flax milk](#) (plant-based milk made with flaxseed oil), be aware that significant cadmium contamination is unlikely in these products because cadmium is largely attached to other parts of the seed (particularly cell walls and proteins) rather than the oil. When the oil is removed, the cadmium largely remains within the flaxseed meal. Some residual cadmium may be present in "cold pressed" oils (although at a much lower concentration than in flaxseed) and this is further removed with additional processing of oils ([Huybrechts, Int J Mol Sci 2019](#); [Szczewski, Arch Env Prot, 2016](#)).

Nutrients in flaxseed – not much difference across products

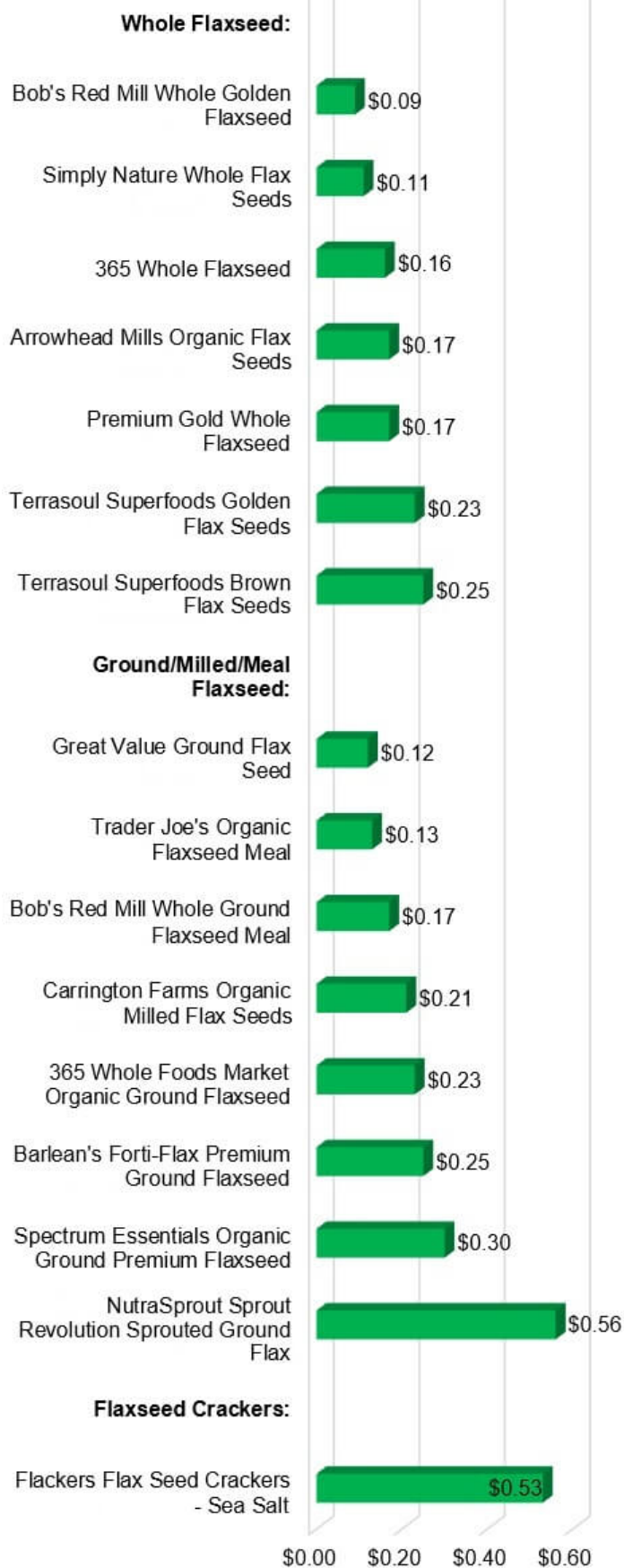
As shown in the 3rd and 4th columns of the [Results table](#), amounts of fats, carbohydrates (including fiber), protein, and calories were very similar across the products regardless of color (golden or brown) and form (whole versus ground). The amounts that we found were, for a natural product, within an acceptable range of the listed amounts.

Cost

As shown in the graph below, the cost to get 15 grams of flaxseed from these products varied greatly – from as little as 9 cents to as much as 56 cents (for ground sprouted flaxseed from *NutraSprout*). There was no clear association between cost and quality of

products, although the least expensive, *Bob's Red Mill Whole Golden Flaxseed* and *Simply Nature Whole Flax Seeds*, were Not Approved, but the next least expensive, *Great Value* and *Trader Joe's*, were Approved.

Cost for 15 g of Flaxseed



Ground, milled, or meal? What's in a name? Not much, it seems.

As shown in the photo below, aside from two "whole" flaxseed products — a brown seed (center) and a golden seed (at 3 o'clock position), all of the other products, were labeled as "ground," "milled," and/or "meal" but were essentially the same in appearance: Fine to medium ground flaxseed. A slight exception was *Barlean's Forti-Flax* (bottom right) which appeared to be "cracked" seeds rather than fully ground. It claims to be "cold-milled," but so do the *Carrington* and *Great Value* products, which appear to be well ground.

Some websites suggest that "meal" describes flaxseed that is ground after being pressed to extract oil, but this did not appear to be the case with the "meals" that we tested, which had concentrations of oil similar to other products.



Flaxseed products tested in original Review: Center: Terrasoul Brown Flax Seeds. Clockwise, starting at 3 o'clock: Bob's Red Mill Whole Golden, Barlean's Forti-Flax Ground Cold-Milled, 365 Ground Flaxseed, Trader Joe's Ground Meal, Carrington Cold Milled, Spectrum Ground Cold Milled, Bob's Red Mill Ground Meal, Great Value Ground. See Results table for descriptions and taste impressions.

Taste

Many of the products had a slightly nutty flavor and slightly oily mouthfeel, which is normal and desirable with flaxseed. However, some products tasted a bit off to us: *Bob's Red Mill whole* flaxseed tasted somewhat stale (despite being more than 18 months away from reaching its "Best By" date) and its *ground* flaxseed tasted somewhat bitter. *Terrasoul's* seeds were a little hard to chew. Some of the ground products tasted a little drier than others, with the sprouted meal being slightly less dry. Our taste impression for each product is shown in the 2nd column of the [Results table](#) where we've noted any taste issues in bold.

Top Picks:

Whole Flaxseed: Top Pick -- 365 Organic Whole Flaxseed

Although our original round of testing produced no *Top Pick* due to elevated levels of cadmium per serving, our second round (published in March 2023) identified **365 Organic Whole Flaxseed** (from Whole Foods Market) as a clear *Top Pick*. It has among the lowest levels of cadmium (0.11 mcg per gram) and is among the least expensive products (\$4.99 per 454-gram pouch, which works out to 11 cents per 10-gram tablespoon). It is also certified organic by Quality Assurance International. The seeds taste very much like most other whole seeds – somewhat hard and crunchy and slightly oily and nutty. They also tasted fresh, in contrast, for example, to those from *Bob's Red Mill* that tasted a bit stale.

As noted in [ConsumerTips](#), if you purchase whole flaxseed, be aware that, due to the protective shell, it is best to grind whole seeds at home before using to get the full nutritional benefits.

Ground/Milled/Meal Flaxseed: Top Picks -- Trader Joe's Organic Flaxseed Meal and NutraSprout Sprouted Ground Flax

Nutrition-wise, the ground flaxseed products are very similar, but can differ significantly in terms of cadmium contamination, cost, and taste.

Our two *Top Picks* were among the products with the least cadmium: **Trader Joe's Organic Flaxseed Meal** and **NutraSprout Sprouted Ground Flax**.

What we particularly like about *Trader Joe's* is that it is low-cost (\$3.99 for a 454-gram pouch, which works out to about 7 cents per 7.5 gram tablespoon), has a slightly nutty flavor, is not too dry, and was ground fine enough to allow it to mix well into a smoothie. We found it to be nearly identical to 365 *Whole Foods Market Organic Ground Flaxseed* but less expensive. **[UPDATE (7/29/25):** Current labeling of *Trader Joe's Organic Flaxseed Meal* shows "India" as the country of origin. The samples tested in this Review did not identify a country of origin, suggesting that the flaxseed originated in the U.S. While the source of the flaxseed has likely changed, we do not know how the quality differs, although one study showed that, on average, flaxseed from India contained less cadmium than flaxseed from the U.S. ([Diederichsen, Can J Plant Sci 2025](#)).]

Great Value (Walmart) *Ground Flaxseed* was slightly less expensive than *Trader Joe's* and also low in cadmium, but we found it to be a drier meal with less flavor than *Trader Joe's*, so, although a good product, it is not our *Top Pick*.

What we particularly like about *NutraSprout Sprouted Ground Flax* is its taste, possibly because it is a sprouted product. Although all flaxseed meal is fairly dry, it was the least dry and most flavorful meal, tasting somewhat like wheatgerm. The downside is its cost: \$8.49 for a relatively small, 226.8-gram pouch, making it about 4X as expensive as *Trader Joe's* on a weight basis.

If you prefer a more chewy and slightly crunchy, medium ground flaxseed – which could go well in yogurt or hot cereal, we suggest *Spectrum Essentials Organic Ground Premium Flaxseed*. It was low in cadmium and has a nice nutty flavor that is not too dry. It is one of the more expensive products that we tested, costing 30 cents per 15 grams (\$7.99 per 14 oz or 396-gram pouch).

Flaxseed Cracker: Top Pick -- Flackers Flax Seed Cracker – Sea Salt

Although we tested only one flaxseed food product, **Flackers Flax Seed Cracker – Sea Salt**, it was low in cadmium and we enjoyed the taste, which is slightly crunchy and mildly salty, so we consider it a *Top Pick* as a cracker. It is almost entirely flaxseed with some apple cider vinegar and sea salt. It costs \$4.99 for a 142-gram bag of 40 crackers, which makes it more expensive than the ground or whole flaxseed products, except for *NutraSprout*.

Test Results by Product:

Listed below are the test results for 16 flaxseed products selected by ConsumerLab.com. These are grouped by type – whole seed vs ground (including milled and meal products). Within each group, products are listed alphabetically. Products listed as "Approved" met

the tested nutrient label claims and ConsumerLab.com's additional quality criteria (see [Passing Score](#)). Those that did not are listed as "Not Approved" with an explanation of the problem found.

In the 2nd column is the labeled amount and form of flaxseed in each product, along with findings from our tests for heavy metals and microbes and our taste impressions; in the 3rd column are the amounts of fiber, total carbohydrates, protein and calories claimed as well as found; in the 4th column is the amount of fat claimed as well as found and any claims regarding fatty acid content and suggested storage; in the 5th column provides cost information. The 6th column shows additional notable features and cautions, and the 7th column shows the nutrition or supplement facts and ingredients claimed on the label.

Results of ConsumerLab.com Testing of Flaxseed (Whole and Ground/Milled/Meal/Cracker)						
(Price Checks are not included in printed reviews)						
Approval Status	Heavy Metals	Dietary Fiber	Total Fat	Cost Per	Vitamins &	Nutrition Facts Per
Product Name	Microbial	Total	Claimed Fatty	Suggested	Minerals at 10%+	Serving
	Contamination	Carbohydrates	Acids	Serving	of the Daily Value	
	Appearance/ Taste	Protein	Suggested	[Cost Per 15 g of Flaxseed]	Notable Features	
		Calories	Storage	Price		
Whole Flaxseed:						
➤ APPROVED ➤ Top Pick ➤ for Whole Flaxseed 365 [Whole Foods Market] Organic Whole Flaxseed  Dist. by Whole Foods Market Added March 2023	2 tbsp [26 g] Organic brown flaxseed Cadmium: 2.9 (0.11 mcg/g) Lead: <0.52 (<0.02 mcg/g) Arsenic: <1 (<0.04 mcg/g) Microbes: Pass Dark brown, somewhat hard, crunchy seeds, slightly nutty and oily.	2 tbsp [26 g] Fiber: 6 g ✓ (found: 5.7 g) Total Carbs: 8 g ✓ (found: 5.9 g) Protein: 6 g ✓ (found: 6.6 g) 150 Cal ✓ (found: 152.1 Cal)	2 tbsp [26 g] Fat: 10 g ✓ (found: 11.3 g) Claimed Fatty Acids: Omega-3: 5,500 mg Omega-6: 1,480 mg Store In A Cool, Dry Place. Refrigerate After Opening And Ensure Pouch Is Sealed Tightly.	\$0.29/2 tbsp [\$0.16/15 g] \$4.99/16 oz [454 g] pouch (approx. 17 servings)	USDA Organic seal. Non GMO Project Verified seal. Quality Assurance International Certified Organic seal. Kosher. Vegan. Low sodium.	2 tbsp Calories 150, Total Fat 10 g, Saturated Fat 1 g, Trans Fat 0 g, Polyunsaturated Fat 7 g, Monounsaturated Fat 2 g, Cholesterol 0 mg, Sodium 15 mg, Total Carbohydrate 8 g, Dietary Fiber 6 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 6 g, Vit. D 0 mcg, Calcium 60 mg, Iron 1.6 mg, Potas. 200 mg.

➤ APPROVED ➤ only for adults Arrowhead Mills Organic Flax Seeds  Dist. by Hometown Food Company Added March 2023	3 tbsp [27 g] Organic brown flax seeds Cadmium: 3.5 mcg (0.13 mcg/g), which exceeds limit for children Lead: <0.54 mcg (<0.02 mcg/g) Arsenic: <1.1 mcg (<0.04 mcg/g) Microbes: Pass <i>Dark brown, somewhat hard, crunchy seeds, slightly nutty and oily.</i>	3 tbsp [27 g] Fiber: 7 g ✓ (found: 6.1 g) Total Carbs: 8 g ✓ (found: 6.3 g) Protein: 5 g ✓ (found: 6.1 g) 140 Cal ✓ (found: 160.4 Cal)	3 tbsp [27 g] Fat: 11 g ✓ (found: 12.3 g) Claimed Fatty Acids: Omega-3: 5,000 mg Store In A Cool Dry Place.	\$0.30/3 tbsp [\$0.17/15 g] \$4.99/16 oz [453 g] pouch (approx. 17 servings)	USDA Organic Seal. Non GMO Project Verified seal. Certified Gluten Free GFCO.org™ seal. Kosher.	3 tbsp Calories 140, Total Fat 11 g, Saturated Fat 1 g, Polyunsaturated Fat 8 g, Sodium 10 mg, Total Carbohydrates 8 g, Dietary Fiber 7 g, Protein 5 g, Calcium 69 mg, Iron 1.5 mg, Potassium 220 mg.
➤ NOT APPROVED ➤ due to cadmium contamination Bob's Red Mill® Whole Golden Flaxseed  Dist. by Bob's Red Mill Natural Foods, Inc.	3 tbsp [31 g] Organic whole golden flaxseed Cadmium: 5.5 mcg (0.18 mcg/g) Lead: <0.31 mcg (<0.01 mcg/g) Arsenic: 0.96 mcg (0.03 mcg/g) Microbes: Pass <i>Light brown, crunchy seeds with nutty but slightly stale oil flavor.</i>	3 tbsp [31 g] Fiber: 8 g ✓ (Found: 8.7 g) Total Carbs: 10 g ✓ (Found: 7.2 g) Protein: 6 g ✓ (Found: 7.1 g) 170 Cal ✓ (Found: 176.4 Cal)	3 tbsp [31 g] Fat: 11 g ✓ (Found: 13.2 g) Claimed Fatty Acids: Omega-3: 5,790 mg Keeps best refrigerated or frozen after opening.	\$0.18/3 tbsp [\$0.09/15 g] \$2.09/13 oz [368 g] pouch (approx. 12 servings)	Iron 2 mg per 3 tbsp USDA Organic seal. Gluten Free. Non-GMO. Kosher. Precaution: Manufactured in a facility that also uses tree nuts and soy.	3 tbsp Calories 170, Total Fat 11 g, Saturated Fat 1 g, Trans Fat 0 g, Polyunsaturated Fat 7 g, Monounsaturated Fat 2.5 g, Cholesterol 0 mg, Sodium 10 mg, Total Carbohydrate 10 g, Dietary Fiber 8 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 6 g, Vitamin D 0 mcg, Calcium 56 mg, Iron 2 mg, Potassium 269 mg.

NOT APPROVED due to cadmium contamination and incorrect nutrition labeling Premium Gold Whole Flaxseed  Mfd. by Premium Gold Flax Added March 2023	2 tbsp [28 g] Golden omega whole flaxseed Cadmium: 11.5 mcg (0.41 mcg/g) Lead: <0.56 mcg (0.02 mcg/g) Arsenic: 1.5 mcg (0.06 mcg/g) Microbes: Pass <i>Light brown, crunchy seeds.</i>	2 tbsp [28 g] Fiber: 8 g ✓ (found: 6.2 g) Total Carbs: 8 g ✓ (found: 6.3 g) Protein: 5 g (found: 7.7 g) (154% of listed amount) 150 Cal ✓ (found: 158.2 Cal)	2 tbsp [28 g] Fat: 12 g ✓ (found: 11.3 g) Claimed Fatty Acids: Omega-3: 6,388 mg Omega-6: 1,653 mg Omega-9: 2,061 mg	\$0.31/2 tbsp [\$0.17/15 g] \$29.99/96 oz [2,721.6 g] container (approx. 97 servings)	Iron 2 mg per 2 tbsp <i>Gluten Free</i> <i>Certified WFCF seal. Non-Peanut Product. Kosher.</i> <i>Packaged in a Gluten, Nut & Lactose-Free facility.</i>	2 tbsp Calories 150, Total Fat 12 g, Saturated Fat 1 g, Trans Fat 0 g, Polyunsaturated Fat 8 g, Monounsaturated Fat 2 g, Cholesterol 0 mg, Sodium 10 mg, Total Carbohydrate 8 g, Dietary Fiber 8 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 5 g, Vitamin D 0 mcg, Calcium 71 mg, Iron 2 mg, Potassium 228 mg.
NOT APPROVED due to cadmium contamination and incorrect nutrition labeling Simply Nature® Whole Flax Seeds  Dist. by Aldi Added March 2023	3 tbsp [30 g] Brown whole flax seeds Cadmium: 8 mcg (0.27 mcg/g) Lead: <0.6 mcg (<0.02 mcg/g) Arsenic: <1.2 mcg (<0.04 mcg/g) Microbes: Pass <i>Dark brown, somewhat hard, crunchy seeds, slightly nutty and oily.</i>	3 tbsp [30 g] Fiber: 8 g ✓ (found: 7.1 g) Total Carbs: 13 g ✓ (found: 7.5 g) (57.7% of listed amount) Protein: 8 g ✓ (found: 7.2 g) 130 Cal (found: 177.6 Cal) (136.6% of listed amount)	3 tbsp [30 g] Fat: 6 g ✓ (found: 13.2 g) (220% of listed amount) Store in a cool, dark and dry place. Refrigerate after opening	\$0.22/3 tbsp [\$0.11/15 g] \$3.39/16 oz [454 g] pouch (approx. 15 servings)	Iron 2 mg per 3 tbsp <i>Non GMO Project Verified seal. Kosher.</i> Product Of Canada. Precaution: May contain peanuts, tree nuts, soy and wheat.	3 tbsp Calories 130, Total Fat 6 g, Saturated Fat 1 g, Trans Fat 0 g, Polyunsaturated Fat 9 g, Monounsaturated Fat 2 g, Cholesterol 0 mg, Sodium 10 mg, Total Carbohydrate 13 g, Dietary Fiber 8 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 8 g, Vitamin 0 mcg, Calcium 49 mg, Iron 2 mg, Potassium 96 mg.

➤ APPROVED ❏ only for adults Terrasoul Superfoods Brown Flax Seeds  Dist. by Terrasoul Superfoods, LLC	2 tbsp [20 g] Organic whole brown flaxseed Cadmium: 3.2 mcg (0.16 mcg/g), which exceeds limit for children Lead: <0.2 mcg (<0.01 mcg/g) Arsenic: <0.4 mcg (<0.02 mcg/g) Microbes: Pass <i>Dark brown, somewhat hard crunchy seeds, slightly oily, nutty flavor.</i>	2 tbsp [20 g] Fiber: 5 g ✓ (Found: 3.9 g) Total Carbs: 7 g ✓ (Found: 5.3 g) Protein: 4 g ✓ (Found: 4.3 g) 113 Cal ✓ (Found: 114.6 Cal)	2 tbsp [20 g] Fat: 7 g ✓ (Found: 8.5 g) Refrigeration not required.	\$0.33/2 tbsp [\$0.25/15 g] \$14.99/32 oz [907 g] pouch (approx. 45 servings)	Magnesium 78 mg per 2 tbsp <i>USDA Organic seal. Non GMO Project Verified seal. Kosher.</i> Country of origin: Canada or USA Precaution: Allergy Info: Packaged in a facility that handles tree nuts.	2 tbsp Calories 113, Total Fat 7 g, Saturated Fat 0.7 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 7 mg, Total Carbohydrate 7 g, Dietary Fiber 5 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 4 g, Vitamin D 0 mcg, Calcium 51 mg, Iron 1 mg, Potassium 163 mg, Magnesium 78 mg.
➤ APPROVED ❏ only for adults Terrasoul Superfoods Golden Flax Seeds Raw and Sproutable  Dist. by Terrasoul Superfoods, LLC Added March 2023	2 tbsp [20 g] Organic whole golden flax seeds Cadmium: 3.6 mcg (0.18 mcg/g), which exceeds limit for children Lead: <0.4 mcg (<0.02 mcg/g) Arsenic: <0.8 mcg (<0.04 mcg/g) Microbes: Pass <i>Very light brown, hard and crunchy seeds, slightly nutty.</i>	2 tbsp [20 g] Fiber: 5 g ✓ (found: 4.4 g) Total Carbs: 7 g ✓ (found: 5.3 g) Protein: 4 g ✓ (found: 4.9 g) 110 Cal ✓ (found: 114.2 Cal)	2 tbsp [20 g] Fat: 7 g ✓ (found: 8.4 g) Refrigeration not required. Store in a cool, dark, dry place.	\$0.31/2 tbsp [\$0.23/15 g] \$13.99/32 oz [907 g] pouch (approx. 45 servings)	Magnesium 78 mg per 2 tbsp <i>USDA Organic seal. Non GMO Project seal. Kosher. RAW. Organic. Non-GMO Verified.</i> Country Of Origin: Canada Or USA Precaution: Packaged in a facility that handles tree nuts.	3 tbsp Calories 110, Total Fat 7 g, Saturated Fat 0.7 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 7 mg, Total Carbohydrate 7 g, Dietary Fiber 5 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 4 g, Vitamin D 0 mcg, Calcium 51 mg, Iron 1 mg, Potassium 163 mg, Magnesium 78 mg.

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➤ APPROVED ➤ only for adults Barlean's Forti-Flax™ Premium Ground Flaxseed  Dist. by Barlean's	2 tbsp [15 g] Ground organic cold milled flaxseed Cadmium: 4 mcg (0.27 mcg/g), which exceeds limit for children Lead: <0.15 mcg (<0.01 mcg/g) Arsenic: <0.3 mcg (<0.02 mcg/g) Microbes: Pass <i>Brown-white, coarsely ground and slightly dry and chewy meal. Slight nutty flavor.</i>	2 tbsp [15 g] Fiber: 4 g ✓ (Found: 3 g) Total Carbs: 4 g ✓ (Found: 3.8 g) Protein: 3 g ✓ (Found: 3.8 g) 80 Cal ✓ (Found: 83.4 Cal)	2 tbsp [15 g] Fat: 6 g ✓ (Found: 5.9 g) For maximum freshness, refrigerate after opening.	\$0.25/2 tbsp [\$0.25/15 g] \$6.7/14 oz [397 g] pouch (approx. 26 servings)	<i>USDA Organic seal. Non GMO Project Verified seal. Vegan. Cold Milled to Protect Nutrients.</i> Made from select North American flaxseed	2 tbsp Calories 80, Total Fat 6 g, Saturated Fat 0.5 g, Trans Fat 0 g, Polyunsaturated Fat 4.5 g, Monounsaturated Fat 1 g, Cholesterol 0 mg, Sodium 0 mg, Total Carbohydrate 4 g, Dietary Fiber 4 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 3 g, Vitamin D 0 mcg, Calcium 38 mg, Iron 1 mg, Potassium 122 mg.
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➤ NOT APPROVED ⚠ due to cadmium contamination Bob's Red Mill® Whole Ground Flaxseed Meal  Dist. by Bob's Red Mill Natural Foods, Inc.	2 tbsp [13 g] Whole flaxseed meal Cadmium: 6.1 mcg (0.47 mcg/g) Lead: <0.13 mcg (<0.01 mcg/g) Arsenic: 0.57 mcg (0.04 mcg/g) Microbes: Pass <i>Brown-white fine to medium ground, chewy meal, slightly bitter.</i>	2 tbsp [13 g] Fiber: 3 g ✓ (Found: 2.7 g) Total Carbs: 4 g ✓ (Found: 3.4 g) Protein: 3 g ✓ (Found: 2.8 g) 70 Cal ✓ (Found: 75.7 Cal)	2 tbsp [13 g] Fat: 4.5 g ✓ (Found: 5.6 g) Claimed Fatty Acids: Omega-3: 2,430 mg Keeps best refrigerated or frozen after opening.	\$0.14/2 tbsp [\$0.17/15 g] \$4.99/16 oz [453 g] pouch (approx. 35 servings)	Non GMO Project Verified seal. Kosher. Gluten Free.	2 tbsp Calories 70, Total Fat 4.5 g, Saturated Fat 0 g, Trans Fat 0 g, Polyunsaturated Fat 3 g, Monounsaturated Fat 1 g, Cholesterol 0 mg, Sodium 0 mg, Total Carbohydrate 4 g, Dietary Fiber 3 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 3 g, Vitamin D 0 mcg, Calcium 24 mg, Iron 1 mg, Potassium 113 mg.
➤ NOT APPROVED ⚠ due to cadmium contamination Carrington Farms® Organic Milled Flax Seeds  Dist. by Carrington Farms	2 tbsp [12 g] Organic cold milled flaxseed Cadmium: 6.8 mcg (0.57 mcg/g) Lead: <0.12 mcg (<0.01 mcg/g) Arsenic: <0.24 mcg (<0.02 mcg/g) Microbes: Pass <i>Light brown, medium ground meal, somewhat dry.</i>	2 tbsp [12 g] Fiber: 3 g ✓ (Found: 2.4 g) Total Carbs: 3 g ✓ (Found: 3.2 g) Protein: 2 g ✓ (Found: 2.8 g) 70 Cal ✓ (Found: 69.5 Cal)	2 tbsp [12 g] Fat: 5 g ✓ (Found: 5.1 g) Claimed Fatty Acids: Omega-3: 2,800 mg	\$0.17/2 tbsp [\$0.21/15 g] \$5.69/14 oz [397 g] pouch (approx. 33 servings)	USDA Organic seal. Quality Assurance International Certified Organic seal. Kosher. Cold-Milled. Flax seeds are a product of USA or Canada	2 tbsp Calories 70, Total Fat 5 g, Saturated Fat 0 g, Trans Fat 0 g, Polyunsaturated Fat 3.5 g, Monounsaturated Fat 1 g, Cholesterol 0 mg, Total Carbohydrate 3 g, Dietary Fiber 3g, Total Sugars [Incl. 0 g Added Sugars] 0 g, Protein 2 g, Vitamin D 0 mg, Calcium 31 mg, Iron 1 mg, Potassium 98 mg.

APPROVED Great Value™ [Walmart] Ground Flax Seed  Dist. by Walmart Inc.	2 tbsp [13 g] Ground organic cold milled flax Cadmium: 1.3 mcg (0.1 mcg/g) Lead: 0.3 mcg (0.02 mcg/g) Arsenic: <0.26 mcg (<0.02 mcg/g) Microbes: Pass <i>Brown, finely ground meal, slightly dry.</i>	2 tbsp [13 g] Fiber: 3 g ✓ (Found: 2.9 g) Total Carbs: 4 g ✓ (Found: 3.3 g) Protein: 3 g ✓ (Found: 2.8 g) 80 Cal ✓ (Found: 75.9 Cal)	2 tbsp [13 g] Fat: 5 g ✓ (Found: 5.7 g) Claimed Fatty Acids: ALA 2,985 mg For maximum freshness, refrigerate after opening.	\$0.10/2 tbsp [\$0.12/15 g] \$6.98/32 oz [907 g] pouch (approx. 70 servings)	USDA Organic seal. Cold Milled. Certified Organic By California Certified Organic Farmers. Cold Milled. Product of Canada and United States	2 tbsp Calories 80, Total Fat 5 g, Saturated Fat 0 g, Trans Fat 0 g, Polyunsaturated Fat 4 g, Monounsaturated Fat 1 g, Cholesterol 0 mg, Sodium 0 mg, Total Carbohydrate 4 g, Dietary Fiber 3 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 3 g, Vit. D 0.1 mcg, Calcium 30 mg, Iron 0.8 mg, Potas. 90 mg.
APPROVED NutraSprout™ Sprout Revolution™ Sprouted Ground Flax  Dist. by Pura Vida of North America, LLC Added March 2023	1 rounded tbsp [15 g] Certified organic sprouted golden flaxseed Cadmium: 1.7 mcg (0.12 mcg/g) Lead: 0.36 mcg (0.02 mcg/g) Arsenic: 0.62 mcg (0.04 mcg/g) Microbes: Pass <i>Light brown fine to medium ground, slightly moist/oily, nutty meal.</i>	1 rounded tbsp [15 g] Fiber: 3 g ✓ (found: 3.8 g) Total Carbs: 5.3 g ✓ (found: 3.9 g) Protein: 3 g ✓ (found: 3.8 g) 83 Cal ✓ (found: 87 Cal)	1 rounded tbsp [15 g] Fat: 5 g ✓ (found: 6.3 g) Claimed Fatty Acids: Omega-3: 2,850 mg Omega-6: 900 mg Does Not Require Refrigeration	\$0.56/rounded tbsp [\$0.56/15 g] \$8.49/8 oz [226.8 g] pouch (approx. 15 servings)	Magnesium 13% DV per rounded tbsp USDA Organic seal. Kashruth Council of Canada seal. Suitable for Vegetarian Diets. Gluten free, non GMO.	1 rounded tbsp Calories 83, Calories from Fat 45, Total Fat 5 g, Saturated Fat 0.45 g, Polyunsaturated Fat 3.8 g, Monounsaturated Fat 0.9 g, Trans Fatty Acids 0.0 g, Alpha Linolenic Acid 2,850 mg, Cholesterol 0 mg, Sodium 7.5 mg, Potassium 130 mg, Total Carbohydrates 5.3 g, Dietary Fibre 3 g, Sugars <1 g, Protein 3 g, Percent of recommended daily intake: Vitamin A 0%, Vitamin C 6%, Calcium 3%, Iron 6%, Vitamin E 1%, Vitamin B6 6%, Vitamin B 0%, Magnesium 13%.

APPROVED Spectrum Essentials® Organic Ground Premium Flaxseed  Dist. by The Hain Celestial Group, Inc.	2 tbsp [14 g] Ground organic cold milled flaxseed Cadmium: 1.5 mcg (0.11 mcg/g) Lead: 0.2 mcg (0.01 mcg/g) Arsenic: <0.28 mcg (<0.02 mcg/g) Microbes: Pass <i>Brown-white, medium ground although more like "cracked" seeds than meal. Nutty flavor, chewy and slightly crunchy.</i>	2 tbsp [14 g] Fiber: 3 g ✓ (Found: 3.4 g) Total Carbs: 4 g ✓ (Found: 3.8 g) Protein: 3 g ✓ (Found: 3 g) 70 Cal ✓ (Found: 80.8 Cal)	2 tbsp [14 g] Fat: 6 g ✓ (Found: 5.9 g) Claimed Fatty Acids: Omega-3: 2,900 mg Omega-6: 600 mg Omega-9: 800 mg To store, press air out pouch and seal tightly. Best if used within 3-4 months after opening.	\$0.28/2 tbsp [\$0.30/15 g] \$7.99/14 oz [396 g] pouch (approx. 28 servings)	Lignans 98 mg & magnesium 51 mg per 2 tbsp <i>USDA Organic seal. Non GMO Project Verified seal. Cold Milled. Kosher. Certified Gluten-Free. No Preservatives.</i> Seed Product of US, Canada or India. packaged in the USA.	2 tbsp Calories 70, Total Fat 6 g, Saturated Fat 0.5 g, Total Carbohydrate 4 g, Dietary Fiber 3 g, Protein 3 g, Calcium 28 mg, Iron 0.9 mg, Magnesium 51 mg, Potassium 100 mg, Omega-3 (alpha-linolenic acid ALA) 2.9 g, Omega-6 (linoleic acid LA) 0.6 g, Omega-9 (oleic acid OA) 0.8 g, Lignans (SDG) 98 mg.
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➤ APPROVED ➤ Top Pick ➤ for Ground/Milled/M Meal Flaxseed Trader Joe's Organic Flaxseed Meal  Dist. by Trader Joe's	2 tbsp [15 g] Organic ground flaxseed meal Cadmium: 1.5 mcg (0.1 mcg/g) Lead: 0.23 mcg (0.02 mcg/g) Arsenic: <0.3 mcg (<0.02 mcg/g) Microbes: Pass <i>Brown, finely ground powder-like meal.</i> <i>Slightly nutty and oily. Very similar to 365.</i> <i>Would mix well in a smoothie.</i>	2 tbsp [15 g] Fiber: 4 g ✓ (Found: 3.5 g) Total Carbs: 5 g ✓ (Found: 3.8 g) 90 Cal ✓ (Found: 87.9 Cal) Protein: 3 g ✓ (Found: 3.4 g)	2 tbsp [15 g] Fat: 6 g ✓ (Found: 6.6 g) Claimed Fatty Acids: ALA: 3,500 mg Refrigerate After Opening.	\$0.13/2 tbsp [\$0.13/15 g] \$3.99/16 oz [454 g] pouch (approx. 30 servings)	USDA Organic seal. Quality Assurance International Certified Organic seal. Kosher. Gluten Free.	2 tbsp Calories 90, Total Fat 6 g, Saturated Fat 0.5 g, Trans Fat 0 g, Polyunsaturated Fat 4.5 g, Monounsaturated Fat 1 g, Cholesterol 0 mg, Sodium 0 mg, Total Carbohydrate 5 g, Dietary Fiber 4 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 3 g, Vitamin D 0 mcg, Calcium 30 mg, Iron 0.9 mg, Potassium 100 mg.
Flaxseed Cracker:						

➤ APPROVED ➤ Top Pick ➤ for Flaxseed Crackers Flackers® Flax Seed Crackers - Sea Salt  Dist. by Dr. In The Kitchen, LLC Added March 2023	8 crackers [30 g] Organic flax seeds Cadmium: 2.8 mcg (0.09 mcg/g) Lead: 0.66 mcg (0.02 mcg/g) Arsenic: <1.2 mcg (<0.04 mcg/g) Microbes: Pass <i>Slightly crunchy, mildly salty, cracker with flaxseed taste, although slight tacky mouthfeel after chewing.</i>	8 crackers [30 g] Fiber: 9 g ✓ (found: 6.8 g) Total Carbs: 10 g ✓ (found: 7.5 g) Protein: 6 g ✓ (found: 6.3 g) 160 Cal ✓ (found: 179.4 Cal)	8 crackers [30 g] Fat: 12 g ✓ (found: 13.8 g)	\$1.05/8 crackers [\$0.53/15 g] \$4.99/5 oz [142 g] pouch (approx. 5 servings)	Iron 2 mg per 8 crackers <i>Non GMO Project Verified seal. USDA Organic seal. Certified Gluten Free</i> <i>GFCO.org%u2122 seal. Plant Based. Keto Friendly.</i> Precaution: Manufactured on shared equipment that also processes tree nuts.	8 crackers Calories 160, Total Fat 12 g, Saturated Fat 1 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 260 mg, Total Carbohydrate 10 g, Dietary Fiber 9 g, Total Sugars [Includes 0 g Added Sugars] 0 g, Protein 6 g, Vitamin D 0 mcg, Calcium 69 mg, Iron 2 mg, Potassium 124 mg. Ingredients: Organic Flax Seeds, Organic Apple Cider Vinegar, Sea Salt.
Unless otherwise noted, information about the products listed above is based on the samples purchased by ConsumerLab.com (CL) for this Product Review. The samples are from a single lot of the respective product. Be aware that there may lot-to-lot variation in products, particularly natural products. Manufacturers may change ingredients and label information at any time, so be sure to check labels carefully when evaluating the product you use or buy as it may be different from the product we tested. Manufacturers may also change ingredient suppliers, which can affect product quality. Pricing can change over time and vary based on retailer, promotions, and other factors. The information contained in this report is based on the compilation and review of information from product labeling and analytic testing. CL applies what it believes to be the most appropriate testing methods and standards. The information in this report does not reflect the opinion or recommendation of CL, its officers or employees. CL cannot assure the accuracy of information. Copyright ConsumerLab.com, LLC, 2025 All rights reserved. Not to be reproduced, excerpted, or cited in any fashion without the express written permission of ConsumerLab.com LLC						

Products tested in 2023

ConsumerTips™:

What to Consider When Buying and Using:

As we found no significant difference with regard to total carbohydrates, fiber, fat, protein, or calories in different forms of flaxseed, and no distinguishing features to be associated with levels of cadmium, there are no special tips for choosing flaxseed products – other than using our laboratory results and analyses as a guide to avoid cadmium and save money.

The most important consideration when choosing a flaxseed product is that, due to the shell on whole flaxseed, it is important that the seeds be crushed in order for them to provide their nutritional benefits. This can be done either by purchasing ground flaxseed or by grinding whole seeds at home in a coffee grinder. You can certainly eat whole flaxseed, but with chewing, you may be missing out on some of the nutritional benefits.

Although some websites and health experts suggest that it is better to buy whole flaxseed and grind it at home than to purchase ground flaxseed due to possible oxidation and loss of omega-3s fatty acids, there does not appear to be scientific evidence to support this suggestion. A study (commissioned by the flax industry) found that as long as ground flaxseed was kept in an airtight container, it maintained its fatty acid (omega-3) composition, as well as its freshness and flavor, at room temperature for as long as 128 days, the full duration of the study. The researchers suggested that antioxidants naturally in flaxseed may help account for this stability ([Malcomson, JAOCS 2000](#)). Earlier studies also found the omega-3 content of ground flaxseed to be stable at room temperature — the longest study duration was 280 days ([Chen, JAOCS, 1994](#)).

Storage

Although fairly stable, it may be best to refrigerate or freeze flaxseed after first opening the pouches in which they are sold, and to reseal the pouches to protect the products from moisture and additional oxygen. Flaxseed that has gone bad may smell sour or taste bitter.

Concerns and Cautions:

Consuming flaxseed is generally safe, but there are a few concerns and cautions you should take into consideration:

- Due to their high fiber content, flaxseed may cause **mild gastrointestinal symptoms** including nausea and diarrhea. This may improve by taking smaller doses throughout the day.
- Laboratory and animal studies, as well as preliminary research in people, suggest that flaxseeds and flaxseed oil have **antiplatelet and anticoagulant (blood-thinning) effects** ([Nandish, Pharmacogn Mag 2018](#); [Allman, Eur J Clin Nutr 1995](#)). Rare cases of increased bleeding and prolonged blood clotting time linked with flaxseed consumption have been reported in people taking blood thinners such as aspirin and warfarin, although details about flaxseed form (seeds or oil) and dosage were not provided, and, in one case, flaxseed was taken along with other supplements that have blood thinning effects ([Levy Br J Clin Pharmacol 2017](#)). To be safe, people taking **blood-thinning medications** such as aspirin, warfarin (Coumadin), apixaban (Eliquis), rivaroxaban (Xarelto), or betrixaban (Bevyxxa) should consult with their physician before supplementing with flaxseed or flaxseed oil.
- Although uncommon, **allergic reactions** to flaxseed are increasing, possibly due to increased popularity of flaxseed in baked goods and other food products. Symptoms may include vomiting, shortness of breath, hives and anaphylaxis ([Leon, Allergol Immunopathol 2013](#); [Alonso, J Allergy Clin Immunol 1996](#)). In one case report, an 18-month-old child experienced a rash within 20 minutes of consuming oatmeal containing about 2 grams of flaxseed protein for the first time. A skin prick test confirmed that he was allergic to flaxseed as well as other seeds and nuts. Symptoms resolved within 4 hours without any treatment ([De Almedia, Ann Allergy Asthma Immunol 2023](#)).
- Lignans produced in the gut from lignan precursors in flaxseed (but not in flaxseed oil) can have **weak estrogenic effects**. One study suggested that this might induce more regular menstruation, but the hormonal effect might be of concern to post-menopausal women with estrogen-positive breast cancer ([Phipps, J Clin Endocrinol Metab 1993](#)). However, an adverse effect has not been confirmed. In fact, laboratory research suggests that lignans may have growth *promoting* and growth *inhibiting* effects against estrogen receptor-positive breast cancer cells ([Rice, Endocr Relat Cancer 2006](#)). Furthermore, some preliminary evidence suggests that lignans in flaxseed may help *reduce* the risk of breast cancer (see [above](#)).

There is also theoretical concern that the estrogenic effects of flaxseed lignans could affect pregnancy, but this has not been demonstrated, and the American College of Obstetricians and Gynecologists (ACOG) lists flaxseeds as a good dietary source of omega-3s to consume in moderation during pregnancy ([ACOG, FAQ Last updated: May 2023](#)).

Unlike flaxseeds, natural flaxseed *oil* is devoid of lignan precursors ([Bloedon, Nutr Rev 2004](#)) and, as a result, would not be

expected to have estrogenic effects. However, be aware that some specially processed flaxseed oils do contain lignans, which are reintroduced after the oil is pressed. Such products may also have weak estrogenic effects. Examples of such products include *Swanson's Flaxseed Oil High Lignan*, *Now's High Lignan Flax Oil*, and *Barlean's Lignan Flax Oil*. Swanson lists "lignan-rich fraction" on the Supplements Facts panel, while the other products include flaxseed "particulate" (a source of flaxseed lignans) in the Other Ingredients.

- Flaxseed contains cyanogenic glycosides that release small amounts of the toxic compound cyanide, although the amount from one or two tablespoons of flaxseed is not likely to pose a health risk. People most likely to experience health problems from cyanogenic glycosides have a poor-quality diet that is low in high-quality protein ([Shim, Trends Food Sci Tech, 2014](#)).

[+ 32 sources](#)

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