

How to Choose an EFA Nutritional Oil

Scientists and doctors are discussing and publishing more clinical research on the nutritional and therapeutic benefits of Essential Fatty Acid (EFA) Nutritional Oils (evening primrose, flax borage, black currant, hemp and fish oil) than ever before. EFA Nutritional Oils are different from cooking oils (safflower, canola, sunflower, olive, etc.) because they contain special nutritionally important fatty acids, such as the omega-6 fatty acids LA and GLA and the omega-3 fatty acids ALA, EPA and DHA.

EFA Nutritional Oils are important because the essential fatty acids in them are vital to health. It is especially important to include EFAs in any low fat diet. "Low-fat diets" often lack EFAs because EFAs are fats. Over time, if the diet does not have enough EFAs to meet the body's needs, signs of deficiency will appear. In mild cases this can be hair loss or dry, flaky skin and other skin conditions. Severe cases can lead to more serious health problems.

In discussing the EFAs, there are two categories, Omega-6 and Omega-3. The Omega-6 and Omega-3 fatty acids get converted by enzymes in our body to Prostaglandin 1 and Prostaglandin 3, respectively (see chart below). Prostaglandins work much like hormones do to help the body's cells maintain normal functioning. The scientists who discovered them (in the prostate gland, hence the word "prosta-gland-in") won Nobel Prizes in Medicine. Research on prostaglandins is still in its early stages and their vital role is continually being documented. There are five omega-6 and Omega-3 fatty acids to remember:

LA – short for Linoleic Acid. An omega-6 fatty acid found in many foods, particularly vegetable oils, nuts and seeds. Given the proper conditions, the body converts LA to GLA and eventually into prostaglandin 1 (see below).

GLA – short for Gamma-Linolenic Acid. LA gets converted to GLA by enzymes in the body. However, certain things disrupt this conversion so only 5-10% LA gets converted to GLA. These things include too much saturated fat or partially hydrogenated oils in our diet, stress, aging and drinking alcohol. Clinicians feel it is better to get GLA directly to bypass that disruption. However, GLA is rarely found in foods. Only four seed oils contain GLA (see Table).

ALA – short for Alpha Linolenic Acid. An Omega-3 fatty acid not commonly found in foods. There are only seven seed oils that contain some ALA, with flax oil being the richest natural source. Through several steps, the body converts ALA to EPA and then to Prostaglandin 3 (see below).

EPA & DHA – short for Eicosapentaenoic Acid and Docosahexaenoic Acid. These two omega-3 fatty acids are found in cold-water fish oils. EPA is a building block for the body to make prostaglandin 3 and DHA is important for the brain, nervous system and vision.

<u>Metabolism of EFAs</u>	
<u>Omega-6</u>	<u>Omega-3</u>
LA	ALA
GLA	St. A
DGLA	EPA
Prostaglandin 1	Prostaglandin 3

Which EFA Nutritional Oil is right for you?

Evening Primrose Oil

Evening Primrose Oil is an omega-6 rich oil, containing both LA and GLA. It is by far the most popular and familiar source of GLA (9%). Since it was the first commercially available source of GLA in the United States (1981), most of the early clinical research on GLA was done with evening primrose oil.



More information has been printed about evening primrose oil than any other EFA nutritional oil. This has contributed to its popularity, particularly in relation to PMA, cardiovascular disease, inflammation and skin disorders.

Evening primrose oil is available not only in capsules, but in liquid form for vegetarians and for external use. Look for brands which have been extracted using only the cold "expeller-press" method, without chemical solvents such as hexane. Hexane extraction employs higher heat, which can damage oil. In addition, there are environmental issues with hexane extraction.

Borage Oil

Borage Oil is the most potent source of GLA at 24%, is more convenient (need to take fewer capsules) and is less expensive than evening primrose oil. Borage Oil contains almost three times as much GLA as evening primrose oil, and the seeds from which the oil comes are larger and contain significantly more oil. This helps lower the cost.



Borage oil provides an excellent alternative for those concerned about the higher cost of evening primrose oil. It is not yet as popular as evening primrose oil, but that is changing around the world.

Borage oil is currently being used in more clinical research both in the United States and worldwide because of its lower cost, convenience and easy absorption. For example, in Japan, where borage oil consumption is higher than in the United States, medical claims can be made for its use in cholesterol reduction, and treatment of atopic eczema. Although the FDA does not yet allow medical claims to be made on GLA-containing oils, clinical research has shown them to:

- lower blood pressure and blood cholesterol
- relieve symptoms associated with PMS and with arthritis
- reduce diabetic complications
- maintain healthy and moisturized skin.

For everyday ingestion between 240 mg. And 300 mg, of GLA per day is suggested. Look for borage oil capsules that supply GLA in this range. For therapeutic purposes, and in most clinical research studies, higher amounts are used. Liquid borage oil is also available for those who prefer not to take capsules and for topical use.

FLAX OIL & FISH OIL

Flax oil, nature's richest source of omega-3 fatty acids, is the vegetable alternative to Fish Oil. It contains twice as many omega-3's at a lower price. Flax oil provides the body with ALA, which it uses to eventually make EPA, whereas Fish Oil provides EPA directly. Fish Oil also provides DHA, another omega-3 fatty acid, with particular importance for the brain and nervous system. Clinical research has shown the importance of omega-3 fatty acids for:



- Maintaining blood pressure
- Regulating triglyceride and cholesterol levels
- Keeping arteries clean and platelets from clotting.

Many companies currently market liquid flax oil. However, the quality of these oils can vary considerably. Liquid flax oil is high perishable and spoils easily if not packaged properly and refrigerated.

Most liquid flax oils have a short shelf-life (4 to 5 months), and consumers often complain of a "grassy", bitter taste. Some contain an antioxidant which gives a longer shelf-life. Look for those flax oils with an antioxidant, not only for longer shelf-life but for fresher taste. Also, be sure the oil is packaged in nitrogen-flushed bottles that block UV rays, and is stored in a refrigerated case.

For those who do not like liquid flax oil, there are several excellent alternatives. Flax oil capsules, which don't need refrigeration, are one option. The only disadvantage to capsules is that you need to take approximately 14 capsules to get the same amount of oil as there is in one tablespoon of liquid flax oil.

Another trusty alternative is specially processed and packaged flax meal. Flax seeds are a nutritional powerhouse, not only providing flax oil but also fiber, protein and lignans. Lignans are newly discovered phytochemicals being studied by the National Cancer Institute and other research centers for potential protective effects against cancer.

Cold-milled flax meal is better than whole flax seeds because the body cannot digest the whole seeds easily. Although whole flaxseeds are a great laxative, they pass through the system mostly undigested, and the nutritional benefits of the oil, protein and lignans are lost. Important things to look for in selecting your flax meal:

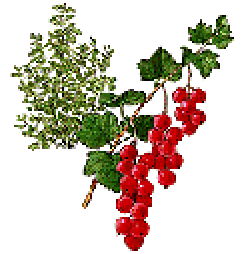
1. higher fat content per serving, which is an indication of high flax oil and Omega-3 ALA content. Remember, these are "good fats".
2. vacuum-packed, not in jars or boxes where the produce can easily be exposed to oxygen. This will ensure freshness.

When selecting an evening primrose, borage, black currant, flax, fish or hemp oil supplement, look for products from companies that specialize in EFA nutrition – not from those that simply market generic EFA oils. Many companies sell inexpensive EFA commodity oil capsules. Often the quality and purity of these oils is compromised for that lower price.

Please send comments or inquires to:
 THE EFA Nutrition News
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Black Currant Oil & Hemp Oil

Black currant oil and hemp oil differ from other EFA oils (evening primrose, borage, flax and fish) because they contain both omega-6 GLA and omega-3 ALA. Evening primrose oil and borage oil do not contain any omega-3's, while flax oil does not contain any omega-6 GLA. Black currant oil and hemp oil are ideal for people who want a simple way to fortify their diet with GLA and ALA.



Black currant oil is the second best source of GLA (17%) after borage oil (24%), plus it contains 13% ALA.

Hemp oil has been called "nature's most perfectly balanced oil". It is the second best source of ALA (19%) after flax oil (55%), and contains 238 mg. GLA (2%) per tablespoon of oil.

Most consumers of black currant oil and hemp oil choose these oils for their convenience – Omega-3 plus Omega-6 GLA in one oil.

Various Oil's Omega-6 and Omega-3 %

	Gamma-Linolenic Acid (post-blocked Omega-6)	Alpha-Linolenic Acid (Omega-3)	Linoleic Acid (pre-blocked (Omega-6))
SEED OIL	(%)	(%)	(%)
Safflower	0	0	75
Evening Primrose	9	0	74
Grape	0	0	71
Sunflower	0	0	65
Corn	0	0	59
Hemp	2	19	57
Wheat Germ	0	0	54
Walnut	0	5	51
Soy Bean	0	9	50
Cotton	0	0	50
Black Currant	17	13	47
Sesame	0	0	45
Pumpkin	0	15	42
Borage Oil	24	0	38
Rice Bran	0	0	35
Beech	0	0	32
Canola	0	7	30
Peanut	0	0	29
Almond	0	0	17
Flax	0	55	20
Olive	0	0	8

1. Gamma-Linolenic Acid (GLA) is rare, with Borage Oil having the highest amount at 24%.
2. Linoleic Acid is common in all of these oils. However, only 5% to 10% Linoleic Acid is converted to GLA due to blockage by poor diet, stress, aging, alcohol, etc...
3. Alpha-Linolenic Acid is rare, with Flax having the highest amount (55%) and Hemp Oil the second highest (19%).
4. Hemp and Black Currant are the most balanced oils, with Hemp Oil having more Omega-3 and Black Currant Oil more GLA (Omega-6).

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