A NEW LOOK AT PLANT-BASED OMEGA-3S

By Wendy Bazilian, DrPH, MA, RDN on behalf of Natures Crops International

If you're a nutrition professional or a savvy consumer, you know that there are a few different types of omega-3 fatty acids - and that they're not all created equal. That's certainly true. But it doesn't mean that one type is better than the others.

For years, the prevailing belief has been that plant-based sources of omega-3s like alpha-linolenic acid (ALA) play second fiddle to marine sources coming from fish such as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). The reason traditionally given was that ALA needs to be converted to EPA and DHA in order to be useful, which is harder for the body to do than consuming it directly. As a result, experts would generally recommend simply eating fish or taking a fish oil supplement as the way to get the biggest omega-3 benefits.

But we may be on the cusp of a paradigm shift. A growing body of evidence suggests that plant-based sources of omega-3s not only have their own unique and important functions, they may also help us get all of the DHA we need. Here's a look at what's changed, and some of the omega-3 sources I'm most excited about for 2025 and beyond.

The New Science on ALA, SDA, and DHA

In the nutrition science world, experts refer to DHA and EPA as "preformed" omega-3s while ALA is deemed a "precursor" omega-3. In other words, DHA and EPA are ready for the body to use ‘as is’ while ALA needs to be converted into DHA by the liver. This is a multi-step process where ALA is first converted into stearidonic acid (SDA), then to EPA, and then, finally, to DHA. With a few hoops to jump through, it may not come as much surprise that ALA-to-DHA conversion rates are quite low: Between 5% and 12% for ALA to EPA, and somewhere between 1% and 4% to DHA, with variations observed between men and women.[1]

These conversion rates haven't suddenly changed. But the way some researchers think about conversion has. Using novel tracking strategies, scientists are now learning that DHA is stored in the body's tissues long-term, and only a small fraction of those reserves need to be topped off each day. So while the ALA-to-DHA conversion rate is small, it may actually be all that most people need to maintain an adequate supply of DHA.[2,3,4] In other words, does conversion rate even really matter, if it's enough?

Richard Bazinet, Ph.D., who studies brain lipid metabolism and is an authority on DHA and the brain at the University of Toronto in Canada, explains the misunderstood topic of ALA conversion this way: "If you invested $100 and you only got 1% back, that's a low rate of return: a single dollar. But if you only need to buy a gumball, then you have enough to do so, right? But we have to ask ourselves, how much do we actually need? If you just needed a piece of gum, you could buy that with your $1."

Plant Sources of Omega-3: More Bang For Your Buck

When you start with the assumption that plant-based sources actually can cover all of your omega-3 bases, they start to look very appealing. In addition to delivering the essential fatty acids themselves, these sources come packaged with extra nutritional goodness. Here are some of my favorite foods with plant-based omega-3 ALA.

Ahiflower®

A relative newcomer to the omega-3 scene, Ahiflower® was discovered growing wild in the countryside of the United Kingdom. Since 2015, Ahiflower has been cultivated as a non-GMO crop exclusively by Natures Crops International. Each bloom produces up to four seeds, which are cold-pressed to yield a highly nutritious oil. The oil can be used as is or taken as a softgel or capsule.

Ahiflower oil has an omega-3 to omega-6 ratio of around 4:1, which experts suggest is ideal for helping offset our high intakes of the omega-6s often found in and associated with ultraprocessed, pro-inflammatory oils like corn, soy, palm, and sunflower oils that have been produced with solvents, enzymes and/or heat. What's more, Ahiflower contains the highest levels of plant omega-3 SDA[5], which, compared to ALA, is one step closer to EPA and DHA in the liver's natural conversion process.[6,7]

Another aspect I like about Ahiflower: in addition to the plant's omega-3 SDA, it's also a source of gamma linolenic acid (GLA), an omega-6 essential fatty acid with anti-inflammatory properties. It's a must for healthy cellular function, and research shows that it can help support cardiovascular, brain, skin, joint, and immune health.[8] Basically, Ahiflower is a healthy fat two-for-one: The high SDA (omega-3) content facilitates a more efficient conversion to EPA, while the presence of GLA (omega-6) contributes additional anti-inflammatory benefits.

Chia seeds

Cultivated in Central America since 3,500 B.C., these ancient seed grains have had a resurgence in recent decades, and for good reason. Chia seeds are among the richest source of ALA omega-3 fatty acids found in nature, with more than 60% of their total fat content being ALA. Similar to Ahiflower, their omega-3 to omega-6 ratio is around 3.5:1.[9]

As whole seed grains, chia also comes in a nutrient-dense package that offers up fiber, protein, antioxidants, and micronutrients like calcium, iron, magnesium, phosphorus, copper, and selenium. The nutrients in this whole-food matrix work synergistically to deliver important health benefits, including gut, cardiovascular, and metabolic support.[10]

The Sustainability Factor

Plant-based omega-3s like Ahiflower and chia seed are grown in their native environments using regenerative agricultural practices, without the need for chemicals or excessive water. Cultivation of these plants requires fewer resources and poses less strain on aquatic ecosystems, aligning with growing consumer demand for eco-friendly and ethically sourced nutritional options. Because of this, I like to think of them as "light-touch" omega-3 sources. They can help us meet the growing consumer demand for omega-3s without taxing the planet and its finite resources.

Incorporating Plant-Based Omega-3s into Your Diet

Embracing plant-based omega-3 sources can diversify and enrich your diet. Consider integrating the following into your meals:

- Ahiflower oil: Use as a supplement or incorporate the oil into salad dressings or smoothies.
- Chia seeds: Add to cereal, yogurt, berry chia 'jams', or as an egg substitute in baked goods for a nutritional boost.
- Chia oil: Drizzle on soups and grains, use in marinades for grilling, roasting or baking; or as an oil for sauteing vegetables (chia oil has a medium-high smoke point of 420 deg. F) Or add to salad dressings, smoothies, or even into homemade sorbet.
- Flaxseeds and flaxseed oil: Incorporate into quickbreads or muffins, or use the oil in cold dishes. Ground flaxseeds can also be used as an egg substitute.
- Walnuts: Enjoy as a snack or as a crunchy addition to salads or stir-fries, or finely chop and blend into plant-based burgers, meatballs or vegetarian taco 'meat'.
- Hemp seeds: Sprinkle on salads, soups, or blend into smoothies.

The Bottom Line

Experts agree that the evolving understanding of plant-based omega-3s is bolstering their potential to meet nutritional requirements effectively.[11] Sources like Ahiflower and chia seeds not only provide essential fatty acids but also offer additional health benefits while supporting environmental sustainability. Incorporating these plant-based options into your diet can add variation, contribute to overall health and align with ecological considerations.

Note: While plant-based omega-3s are essential, are considered safe, and may offer a number of health-supporting benefits, individual nutritional needs can vary. Consulting with a healthcare provider or a registered dietitian nutritionist can help tailor dietary choices to personal health goals.

Plant Sources of Omega-3s

ALA omega-3s can be found in a range of plant-based foods, meaning there are lots of opportunities to fill up daily. Some more of my favorite sources:

- Chia seed (1.32 g per 1 tbsp)
- Chia oil (9 g ALA per 1 tbsp)
- Ahiflower oil (6 g ALA per 1 tbsp)
- Ahiflower oil (1 g ALA per 3 softgels, 750 mg ea)
- Walnuts (2.5 g ALA per 1 tbsp)
- Walnut oil (1.4 g ALA per 1 tbsp)
- Flaxseed oil (7.2 g ALA per 1 tbsp)
- Flaxseeds (2.3 g ALA per 1 tbsp)
- Hemp seeds (0.86 g ALA per 1 tbsp)

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