# Foods high in omega-3 fatty acids

science-based guide detailing a wide range of foods high in omega-3 fatty acids, including both vegan and animal-based sources. This revised list provides additional scientific context, recommended brands with reputable certifications (USDA Organic, Non-GMO Project Verified, Fair Trade, and/or sustainability credentials), and a broader selection of food options. Foods are ordered from highest to lowest approximate omega-3 content per common serving size.

**Key Scientific Details:**

* **Types of Omega-3s**:
  + **ALA (Alpha-Linolenic Acid)**: Primarily found in plant sources such as seeds, nuts, and certain vegetables. The human body can convert ALA into EPA and DHA, but this conversion is generally inefficient (estimates range from 1–10%).
  + **EPA (Eicosapentaenoic Acid) & DHA (Docosahexaenoic Acid)**: Predominantly found in marine sources (fatty fish, algae) and certain fortified animal products. EPA and DHA are more readily used by the body for heart, brain, and inflammatory responses.
* **Health Benefits**: Adequate intake of omega-3s is associated with improved cardiovascular health, reduced inflammation, better visual and neurological development, and potential benefits in mood and cognitive function.
* **Recommended Intake**: The U.S. National Institutes of Health (NIH) suggests about 1.1 g/day of ALA for adult women and 1.6 g/day for adult men as an Adequate Intake (AI). Some health organizations recommend 250–500 mg/day of combined EPA and DHA for cardiovascular benefits.
* **Certifications**:
  + **USDA Organic**: Grown/produced without synthetic pesticides, fertilizers, or genetic engineering.
  + **Non-GMO Project Verified**: Verified to be free from genetically modified organisms.
  + **Fair Trade**: Ensures fair wages and working conditions for producers.
  + **MSC (Marine Stewardship Council)**: Indicates sustainably sourced seafood.
  + **Friend of the Sea**: Another certification ensuring sustainable fishing and aquaculture practices.

### **Over 9,000 mg Omega-3 per Serving**

**1. Perilla Oil (Vegan, ALA)**

* **Omega-3 Content**: ~9,000 mg ALA per 1 tbsp (14 g)
* **Details**: Perilla oil, pressed from perilla seeds, is one of the highest plant-based ALA sources.
* **Brands & Certifications**:
  + Specialty health stores or Asian markets may carry USDA Organic, Non-GMO versions. *Clearspring Organic Perilla Oil* (Europe) is an example.
* **Usage**: Use as a finishing oil for salads and cold dishes. Avoid heating to preserve fatty acid integrity.

**2. Perilla Seeds (Vegan, ALA)**

* **Omega-3 Content**: ~9,000 mg ALA per 1 oz (28 g)
* **Details**: Rich in ALA, antioxidants, and unique polyphenols. Common in East Asian cuisines.
* **Brands & Certifications**:
  + Seek organic and non-GMO options through specialty Asian retailers or online stores.
* **Usage**: Grind and add to soups, rice, or smoothies.

### **7,000 - 8,999 mg Omega-3 per Serving**

**3. Flaxseed Oil (Vegan, ALA)**

* **Omega-3 Content**: ~7,196 mg ALA per 1 tbsp (14 g)
* **Details**: Exceptionally high in ALA, also provides lignans with antioxidant properties. Must be stored cold and away from light.
* **Brands & Certifications**:
  + *Barlean’s Organic Flax Oil*: USDA Organic, Non-GMO
  + *Nutiva Organic Flaxseed Oil*: USDA Organic, Non-GMO Project Verified
  + *Spectrum Essentials Organic Flax Oil*: USDA Organic, Non-GMO
* **Usage**: Drizzle on salads, add to smoothies. Not suitable for cooking at high heat.

### **6,000 - 6,999 mg Omega-3 per Serving**

**4. Ground Flaxseeds (Vegan, ALA)**

* **Omega-3 Content**: ~6,388 mg ALA per 1 oz (28 g)
* **Details**: Whole flaxseeds should be ground for optimal absorption. Rich in fiber and lignans.
* **Brands & Certifications**:
  + *Bob’s Red Mill Golden Flaxseed Meal*: USDA Organic, Non-GMO
  + *Terrasoul Superfoods Ground Flaxseed*: USDA Organic, Non-GMO
* **Usage**: Mix into oatmeal, smoothies, baked goods. Can serve as an egg substitute in vegan baking.

### **5,000 - 5,999 mg Omega-3 per Serving**

**5. Chia Seeds (Vegan, ALA)**

* **Omega-3 Content**: ~5,060 mg ALA per 1 oz (28 g)
* **Details**: Also high in fiber, protein, and micronutrients like calcium and magnesium. Forms a gel when mixed with liquid.
* **Brands & Certifications**:
  + *Navitas Organics Chia Seeds*: USDA Organic, Non-GMO Project Verified, Fair Trade sourcing
  + *Nutiva Organic Chia Seeds*: USDA Organic, Non-GMO Project Verified
* **Usage**: Add to puddings, smoothies, yogurts, or make chia-based egg replacements.

### **4,000 - 4,999 mg Omega-3 per Serving**

**6. Mackerel (Animal, EPA/DHA)**

* **Omega-3 Content**: ~4,580 mg EPA/DHA per 6 oz (170 g)
* **Details**: High in bioavailable EPA/DHA, vitamin B12, and selenium.
* **Brands & Certifications**:
  + *Vital Choice Wild Mackerel*: MSC certified, sustainable
* **Usage**: Grill, broil, or bake. Strong, oily flavor pairs well with robust seasonings.

**7. Wild Salmon (Animal, EPA/DHA)**

* **Omega-3 Content**: ~4,123 mg EPA/DHA per 6 oz (170 g) (especially Sockeye, Chinook)
* **Details**: Rich in EPA/DHA, astaxanthin (an antioxidant), and vitamin D.
* **Brands & Certifications**:
  + *Wild Planet Alaskan Sockeye Salmon*: MSC certified, Non-GMO
  + *Vital Choice Wild Alaskan Salmon*: MSC certified, sustainable fishing
* **Usage**: Bake, grill, or poach. Complements herbs, citrus, and miso.

### **3,000 - 3,999 mg Omega-3 per Serving**

**8. Herring (Animal, EPA/DHA)**

* **Omega-3 Content**: ~3,400 mg EPA/DHA per 6 oz (170 g)
* **Details**: Oily fish, rich in vitamin D, B12, and selenium.
* **Brands & Certifications**:
  + *King Oscar Brisling Herring*: MSC certified
* **Usage**: Enjoy smoked, pickled, or grilled.

### **2,000 - 2,999 mg Omega-3 per Serving**

**9. Walnuts (Vegan, ALA)**

* **Omega-3 Content**: ~2,570 mg ALA per 1 oz (28 g)
* **Details**: A tree nut also supplying melatonin and polyphenols.
* **Brands & Certifications**:
  + *Woodstock Farms Organic Walnuts*: USDA Organic, Non-GMO
  + *Tierra Farm Organic Walnuts*: USDA Organic, Non-GMO
* **Usage**: Snack raw, add to oatmeal, salads, or baked goods.

**10. Sardines (Animal, EPA/DHA)**

* **Omega-3 Content**: ~2,205 mg EPA/DHA per 6 oz (170 g)
* **Details**: Also high in calcium, vitamin D, and B12. Usually canned.
* **Brands & Certifications**:
  + *Wild Planet Sardines*: MSC certified, Non-GMO
* **Usage**: Eat straight from the can, add to salads, or mash into spreads.

**11. Anchovies (Animal, EPA/DHA)**

* **Omega-3 Content**: ~2,100 mg EPA/DHA per 6 oz (170 g)
* **Details**: Small, flavorful fish rich in protein and minerals.
* **Brands & Certifications**:
  + *Ortiz Anchovies*: Sustainably sourced
* **Usage**: Add to dressings, sauces, or top pizzas and pastas.

### **1,000 - 1,999 mg Omega-3 per Serving**

**12. Walnut Oil (Vegan, ALA)**

* **Omega-3 Content**: ~1,400 mg ALA per 1 tbsp (14 g)
* **Details**: Delicate flavor, best used cold.
* **Brands & Certifications**:
  + *La Tourangelle Organic Walnut Oil*: USDA Organic, Non-GMO
* **Usage**: Drizzle over salads, vegetables, or grains.

**13. Hemp Seeds (Vegan, ALA)**

* **Omega-3 Content**: ~1,000 mg ALA per 1 oz (28 g)
* **Details**: Balanced ratio of omega-3 to omega-6, also a complete protein.
* **Brands & Certifications**:
  + *Manitoba Harvest Hemp Hearts*: USDA Organic, Non-GMO
  + *Nutiva Organic Hemp Seeds*: USDA Organic, Non-GMO Project Verified
* **Usage**: Add to salads, smoothies, yogurt, or oatmeal.

**14. Oysters (Animal, EPA/DHA)**

* **Omega-3 Content**: ~1,000 mg EPA/DHA per 6 oz (170 g)
* **Details**: Also high in zinc, iron, and vitamin B12.
* **Sourcing**: Look for MSC-certified or regionally verified sustainable farms.
* **Usage**: Serve raw on the half shell, grill, or bake.

**15. Mussels (Animal, EPA/DHA)**

* **Omega-3 Content**: ~1,000 mg EPA/DHA per 6 oz (170 g)
* **Details**: Sustainable choice, rich in iron, selenium, and B vitamins.
* **Sourcing**: Rope-grown mussels are often sustainably farmed.
* **Usage**: Steam, use in soups, pastas, or curries.

### **500 - 999 mg Omega-3 per Serving**

**16. Algal Oil (Vegan, EPA/DHA)**

* **Omega-3 Content**: ~400-700 mg EPA/DHA per teaspoon (varies by brand)
* **Details**: Algal oil is a direct, bioavailable vegan source of EPA/DHA, bypassing ALA conversion.
* **Brands & Certifications**:
  + *Nordic Naturals Algae Omega*: Non-GMO, third-party tested
  + *Testa Algae Omega-3*: Non-GMO, Vegan Society certified
* **Usage**: Take as a supplement or add to cold foods.

**17. Edamame (Vegan, ALA)**

* **Omega-3 Content**: ~560 mg ALA per 1 cup (155 g)
* **Details**: Also a good source of plant protein, fiber, and isoflavones.
* **Brands & Certifications**:
  + *Woodstock Organic Edamame*: USDA Organic, Non-GMO
  + *Cascadian Farm Organic Edamame*: USDA Organic, Non-GMO
* **Usage**: Steam as a snack, add to salads, grain bowls, or stir-fries.

**18. Omega-3-Enriched Eggs (Animal, EPA/DHA)**

* **Omega-3 Content**: ~500 mg EPA/DHA per large egg (hens fed flax/algal feed)
* **Brands & Certifications**:
  + *Organic Valley Omega-3 Eggs*: USDA Organic, hens fed Non-GMO feed
  + *Pete and Gerry’s Organic Eggs*: USDA Organic (check specifically for omega-3-enriched line)
* **Usage**: Boil, scramble, poach, or use in baking.

### **300 - 499 mg Omega-3 per Serving**

**19. Spinach (Vegan, ALA)**

* **Omega-3 Content**: ~350 mg ALA per 1 cup cooked (180 g)
* **Details**: Also high in vitamins K, A, and iron.
* **Brands & Certifications**:
  + *Earthbound Farm Organic Spinach*: USDA Organic, Non-GMO
* **Usage**: Add to smoothies, sauté as a side, or use in salads.

### **200 - 299 mg Omega-3 per Serving**

**20. Broccoli (Vegan, ALA)**

* **Omega-3 Content**: ~200 mg ALA per 1 cup cooked (156 g)
* **Details**: Provides fiber, vitamins C and K, and sulforaphane (a beneficial phytochemical).
* **Brands & Certifications**:
  + *Cascadian Farm Organic Broccoli*: USDA Organic, Non-GMO
* **Usage**: Steam, roast, stir-fry, or blend into soups.

### **100 - 199 mg Omega-3 per Serving**

**21. Kale (Vegan, ALA)**

* **Omega-3 Content**: ~170 mg ALA per 1 cup cooked (130 g)
* **Details**: Nutrient-dense leafy green with antioxidants, vitamins A, K, C.
* **Brands & Certifications**:
  + *Cal-Organic Farms Kale*: USDA Organic, Non-GMO
* **Usage**: Add to salads, soups, or bake into chips.

**22. Grass-Fed Dairy (Milk) (Animal, ALA with minimal EPA/DHA)**

* **Omega-3 Content**: ~120 mg per 8 oz (240 ml) serving
* **Details**: Grass-feeding improves the omega-3:omega-6 ratio in milk.
* **Brands & Certifications**:
  + *Organic Valley Grassmilk*: USDA Organic, Non-GMO feed
* **Usage**: Drink plain, add to cereal, coffee, or use in cooking.

### **50 - 99 mg Omega-3 per Serving**

**23. Grass-Fed Beef (Animal, ALA with trace EPA/DHA)**

* **Omega-3 Content**: ~80 mg per 4 oz (113 g) serving
* **Details**: Grass-fed beef typically has a better fatty acid profile than grain-fed.
* **Brands & Certifications**:
  + *Thousand Hills Lifetime Grazed Beef*: USDA Organic, 100% grass-fed
  + *Organic Prairie Grass-fed Beef*: USDA Organic, Non-GMO feed
* **Usage**: Grill, roast, stew.

### **Below 50 mg Omega-3 per Serving**

**24. Lamb (Grass-Fed, Animal, ALA with trace EPA/DHA)**

* **Omega-3 Content**: ~50 mg per 4 oz (113 g) serving
* **Details**: Pasture-raised lamb may have slightly higher omega-3s than conventional.
* **Brands & Certifications**:
  + *Thomas Farms Grass-Fed Lamb*: Check for Organic and sustainable certifications.
* **Usage**: Roast, grill, braise.

**25. Cauliflower (Vegan, ALA)**

* **Omega-3 Content**: ~40 mg ALA per 1 cup cooked (100 g)
* **Details**: Nutrient-rich cruciferous vegetable with vitamin C and fiber.
* **Brands & Certifications**:
  + *Cascadian Farm Organic Cauliflower*: USDA Organic, Non-GMO
* **Usage**: Steam, roast, or use as a low-carb rice substitute.

**26. Other Low-ALA Veggies (Brussels Sprouts, Purslane)**

* **Brussels Sprouts**: ~135 mg ALA per 1 cup cooked (156 g) – would fit higher up in the list (~100-199 mg range) but mentioned here as an additional option. Look for USDA Organic brands like *Cascadian Farm*.
* **Purslane**: A wild green containing around 300-400 mg ALA per cup. Seek locally grown, organic if possible.
* **Usage**: Add to salads, stir-fries, soups.

**Additional Algae-Based and Supplement Options** (Vegan, EPA/DHA):

* **Spirulina & Chlorella**: Contain modest amounts of ALA and other nutrients, though EPA/DHA content is typically low.
* **Brands & Certifications**:
  + *Nutrex Hawaii Pure Hawaiian Spirulina*: Non-GMO, third-party tested
  + *Sun Chlorella*: Non-GMO, quality tested
* **Usage**: Mix into smoothies, juices, or sprinkle on salads.

**Summary & Recommendations:**

* **Highest Vegan ALA Sources**: Perilla oil, flaxseed oil, ground flaxseeds, and chia seeds.
* **Highest Vegan EPA/DHA Source**: Algal oil supplements.
* **Highest Animal EPA/DHA Sources**: Fatty fish (mackerel, salmon, herring, sardines, anchovies) and some shellfish (oysters, mussels).
* **Moderate Sources**: Walnuts, hemp seeds, spinach, broccoli, kale provide smaller yet beneficial ALA amounts.
* **Conversion Consideration**: While ALA can convert to EPA and DHA, efficiency is limited. Strict vegans may consider algal oil supplements to ensure adequate EPA/DHA.
* **Quality & Sustainability**: Opt for USDA Organic, Non-GMO Project Verified, and MSC or other sustainability-certified products. This ensures fewer environmental contaminants, better dietary fat profiles, and more responsible resource management.

This scientifically detailed, extensive list allows you to select omega-3 sources aligned with your dietary needs, ethical considerations, and sustainability preferences while prioritizing foods with the highest beneficial fatty acid concentrations.