



- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)

-
-
-
-
-

- [Log In](#)

-
- [About](#)
 - [Who We Are](#)
 - [Our History](#)
 - [Our Team](#)
 - [Sustainable Development Goals](#)
 - [Careers](#)
 - [Membership](#)
 - [Overview](#)
 - [Our Members](#)
 - [Corporate Membership](#)
 - [Resources](#)
 - [Certification](#)
 - [Best Aquaculture Practices](#)
 - [Best Seafood Practices](#)

- [Log In](#)

- [About](#)
 - [Who We Are](#)
 - [Our History](#)
 - [Our Team](#)
 - [Sustainable Development Goals](#)
 - [Careers](#)
- [Membership](#)
 - [Overview](#)
 - [Our Members](#)
 - [Corporate Membership](#)
- [Resources](#)
- [Certification](#)
 - [Best Aquaculture Practices](#)
 - [Best Seafood Practices](#)
- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)



F3 takes on a new challenge – fish oil alternatives

Responsible Seafood Advocate logo

4 September 2017 James Wright



Registration for new aquafeed sustainability contest opens Sept. 5



Rick Barrows, one of the F3 fish nutrition experts.

Building off the success and excitement of the fish-free aquaculture feed cash-prize contest that concludes this fall, the F3 Challenge has set its sights on a new target: fish oil alternatives.

Judges for the new competition, [which opened registration](#) this week and closes on April 30, 2018, say the degree of difficulty has increased, as producing a fish-free fish oil substitute is technically more difficult and complicated than producing a dry feed ingredient in bulk.

“We believe that through innovation there are companies and individuals who can come up with these products that will fit the need of the industry both nutritionally for the animals and nutritionally for the final consumers,” said Kevin Fitzsimmons, professor at the University of Arizona, which is collaborating with the [Anthropocene Institute](#), the [New England Aquarium](#), [World Bank](#), [UMass-Boston](#) and [Synbiobeta](#) on the competition.

For a fish-free oil to qualify, it must be from cultured organisms, including but not limited to yeast, algae and fungus in a dry powder or liquid form. It must be free of marine animal ingredients and have an essential fatty acid profile that meets a specific range criteria (see Table 1.) Range values are from the fatty acid profiles seen in Pacific sardine, anchovy, Atlantic herring and menhaden fish oils.

F3 Fish Oil Challenge, Table 1

Omega-6 20:04 ARA (% of total fat)	Omega-3 20:05 EPA (% of total fat)	Omega-3 22:06 DHA (% of total fat)	Omega-3:Omega-6 ratio
Range 0.2 – 1.6	8.4 – 17	4.9 – 12.9	12 – 16.7
Target 0.9	12.7	8.9	14.35

Table 1: F3 Oil criteria

“With fish oil, we have identified the fatty acid profile within certain ranges that I think fish nutritionists would agree is the facsimile oil that would supply all of the same nutrients and fatty acids that fish need and that we want to have in the final product,” Fitzsimmons added.

Synthetic biology companies are expected to be a factor, said the CEO of Synbiobeta, a community of entrepreneurs, investors, policy makers and others who are seeking to responsibly grow the synthetic biology field. CEO Chris Oakes, who will be one of this year’s judges, told the *Advocate*



that synthetic biology has virtually unlimited applications in a variety of industries.

“With the advent of low-cost gene sequencing and low-cost reading and writing of DNA, we’re seeing the applications of this technology starting to relate to so many different industries,” he said. “We see the sustainable and ethical application as really important.”

Oakes said the F3 Fish Oil Challenge fits the global environmental goals that the emerging synthetic biology field is aiming for. The contest, and its overarching aims, are also of personal importance to him, as he is a marine biologist by training and his family has been involved in aquaculture for 30 years.

“We have the real ability to engage biology to create real solutions for ocean sustainability,” he said. “We’ve learned a lot from biofuels and we can apply those skills and lessons to other global problems, and demonstrate to the public that there’s a need for fishmeal alternatives, and those alternatives can create a quality and delicious product, through farmed fish.”

We believe that through innovation there are companies and individuals who can come up with these products that will fit the need of the industry both nutritionally for the animals and nutritionally for the final consumers.

Fitzsimmons said the contest format enables the latest knowledge and innovation to find a larger audience. Research papers, studies and presentations are certainly welcome, he added, but they are barely moving the needle.

“The F3 contest seemed to have set off a tidal wave,” he said. “Every feed company in the world in the last 18 months has jumped on the bandwagon. We can’t claim all the credit, but it sparked a tremendous amount of interest. It wouldn’t have happened if we took an equivalent amount of money and put it into research grants.”

As with the original [F3 Challenge](#), the prize money starts at \$100,000. The cash prize for the original competition winner – the first to produce 100,000 metric tons (MT) of seafood-free feed – eventually doubled. This year’s final prize is also expected to increase via crowdsource fundraising.

The winner of the feeds challenge will be announced at the Global Aquaculture Alliance’s annual GOAL conference, held this year in Dublin, Ireland, from Oct. 3-6. Final volume reporting for contestants – participating companies hail from Australia, Austria, China, Indonesia, Myanmar, South Africa, Thailand and the United States – is Sept. 15.

[@GAA_Advocate](#)

Author



James Wright

Editorial Manager
Global Aquaculture Alliance
Portsmouth, NH, USA

[103,114,111,46,101,99,110,97,105,108,108,97,101,114,117,116,108,117,99,97,117,113,97,64,116,104,103,105,114,119,46,115,101,109,97,106]

Share

- [✉ Share via Email](#)
- [🐦 Share on Twitter](#)
- [f Share on Facebook](#)
- [in Share on LinkedIn](#)

Tagged With

[fish oil](#) [University of Arizona](#) [New England Aquarium](#) [aquafeeds](#) [World Bank](#) [F3 Challenge](#) [Synbiobeta](#) [Anthropocene Institute](#) [UMass-Boston](#)

Related Posts

[Aquafeeds](#)

[F3 Prize: Putting money where fish’s mouths are](#)

Interest is growing in a two-year-long competition aimed at driving innovation in the aquafeed sector. The F3 prize for a demonstrably fish-free feed comes with a cash reward, and possibly a glimpse at the future.

[Aquafeeds](#)

[Why I chose to judge the F3 challenge](#)

In an opinion piece for the Advocate, the director of ocean sustainability science at the New England Aquarium talks about the F3 Challenge and what the first X Prize for aquaculture could do for the industry: drive innovation.

[Aquafeeds](#)

[Talent show: Aquafeed companies show off at F3](#)

Aquafeed manufacturers and alternative feed ingredient suppliers from all over the world gathered in Silicon Valley for F3, the Fish Free Feed contest. In the hub of innovation, solutions to a global problem were on full display.

[Aquafeeds](#)

[Aquaculture Exchange: Rick Barrows](#)

After 14 years with the USDA's Agricultural Research Service, Rick Barrows talks about the importance of finding 'complete' and commercially viable alternative sources of omega-3 fatty acids and continuing innovation in the aquafeed sector.

About The Advocate

The Responsible Seafood Advocate supports the Global Seafood Alliance's (GSA) mission to advance responsible seafood practices through education, advocacy and third-party assurances.

[Learn More](#)

Search Responsible Seafood Advocate



Advertising Opportunities

[2022 Media & Events Kit](#)

Categories

[Aquafeeds](#) [Aquafeeds](#) > [Health & Welfare](#) > [From Our Sponsors](#) > [Innovation & Investment](#) > [Intelligence](#) > [Responsibility](#) > [Fisheries](#) > [Artículos en Español](#) >

Don't Miss an Article

Featured

- [Health & Welfare](#) [An update on vibriosis, the major bacterial disease shrimp farmers face](#)
- [Intelligence](#) [A seat at the table: Fed By Blue team says aquaculture needs a stronger voice](#)
- [Responsibility](#) [Quantifying habitat provisioning at macroalgae cultivation locations](#)

Popular Tags

All Tags ▼


Recent

- [Fisheries](#) [Second Test: Another filler for the fisheries category.](#)
- [Fisheries](#) [Test: This is filler for the fisheries Category.](#)
- [Aquafeeds](#) [Test Article](#)
- [Responsibility](#) [Study: Climate change will shuffle marine ecosystems in unexpected ways as ocean temperature warms](#)
- [Health & Welfare](#) [Indian shrimp researchers earn a patent for WSSV diagnostic tool](#)



- [About](#)
- [Membership](#)
- [Resources](#)
- [Best Aquaculture Practices \(BAP\)](#)
- [Best Seafood Practices \(BSP\)](#)
- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)

Stay up to date with GSA

- 
- 
- 
- 

- 

Copyright © 2024 Global Seafood Alliance
All rights reserved.

[Privacy](#)

[Terms of Use](#)

[Glossary](#)