

# SYNTHESEA

## Hello!

This is the first newsletter from Synthesea, the sustainable aquaculture startup. We produce bacterial omega-3 as a sustainable and cost effective alternative to omega-3 from wild fish.

We look forward to using this forum as a way of updating you on our monthly progress as well as our 'ask'- anything we're working on that those in our network might be able to help us with. This first newsletter will be a little lengthy, but there's lots to cover! Future newsletters will be significantly shorter.

If you want to keep up with us in real time, follow us on our social media:

[Linkedin](#) and [Twitter](#).

## An Introduction

Our team met each other last December at the Imperial Synthetic Biology Society's Advanced Hackspace competition. Despite being a group of complete strangers of random degrees and interests, after weeks of work, we managed to come up with a potential solution to a problem that was worth solving.

More than 50% of fish are from aquafarms. However, fish need to be fed omega-3 in order to grow healthily and be nutritious. In order to provide this

omega-3, aquafarmers take small, wild caught fish which contain omega-3, crush them, and incorporate them into feed. This means that fish farms are dependent on wild caught fish, making it highly unsustainable. As overfishing depletes our oceans, it also becomes more costly as the prices of fish rise.

We want to convert a cheap and sustainable plant oil into omega-3 using bacteria. This can act as an alternative to wild-fish derived omega-3, disrupting the supply chain.

If you want to know more, here's an [article about us written by Thought for Food!](#)

## Progress Updates

Looking back, the past five months has been an intensive learning experience. Through hours of research, insightful advice from our mentors, guidance from our professors, and educational workshops and bootcamps, our knowledge has grown at a rapid pace. Our problem and solution have evolved immensely, constantly challenged by new perspectives. Some key milestones:

- Scientific background: mapped out the genes and pathways of our process, allowing us to plan our prototype
- Prior examples of technology: found published literature that explored a technology similar to ours for different applications, showing viability
- Identified areas of impact: understanding of potential markets and the demand for our product
- Developed our business model canvas

While our team came together because of our shared interest in science and synthetic biology, this started as nothing more than a passion project. It was participating in competitions that really transformed it- from a hazy concept scribbled on the whiteboards in SAF building, into an idea worth investing time and money into. We've entered five competitions, and managed to achieve good results for all five:

- 12/19 Advanced Hackspace Competition: *Won, £500*
- 01/20 Pioneer Fund Grant: *Won, £500*
- 02/20 Thought for Food: *Finalist, summit delayed to October*
- 04/20 CIPTA: *Won, £200*
- 04/20 Global Cleantech Challenge: *Won, £10,000*

## The Future

While we've made strong progress the last few months, it's clear that we have plenty of things to work on. Covid-19 has prevented our plans to begin building our prototype, but there's lots that can be done outside the lab still.

This month, we're looking to prime ourselves to be as ready as possible to enter the lab when the lockdown situation eases. This means additional research, timelines, and order preparations.

We're also going to deepen our market understanding by continuing to reach out to people in the industry, gathering new insights and their opinions of our product. This information will mould our business plan, giving us structured milestones to achieve.

## **Our Ask**

If anyone has contacts in aquaculture, aquafeed, or anywhere in the fish supply chain anywhere around the world, it would be very helpful if you could connect us! This will greatly help with our market research.

We'd like to thank our mentors and advisors who've guided us so far, as well as competition organisers who provided us with learning experiences and capital even with the ongoing pandemic.

Our journey to enable sustainable aquaculture may be a long one, but this is only the beginning. I hope you're excited as we are.

Ting

Synthesea