

CATEGORY 4 RESOURCE DEVELOPMENT

Group ID 4-047

PROJECT FTA

Jovan Lim Chen Yu 101 (14) [LEADER]

Kang Yi Heng 101 (15)

Eshai Ho 101 (9)

Ian Choong 101 (10)

ABSTRACT

Unbeknownst to many, harvested meat has a great impact on the environment. It releases lots of greenhouse gases and can be considered slightly unethical, among many other concerns. Project Food Technological Advancements (Project FTA) has made a package of comprehensive, weekly newsletters to help our generation realise the benefits of cultured meat. These newsletters contain lots of information such as the cons of harvested meat and the future of cultured meat. There are also simple yet helpful images in case the readers get confused. Each one will have a recipe that uses cultured meat. There will be 4 newsletters altogether, each one focusing on a different aspect, like introducing cultured meat and stating cultured meat's benefits. We hope that this will encourage people to switch to cultured meat in the next few years, and there will be less harvested meat being purchased.

1 INTRODUCTION

1.1 Rationale

The greenhouse gases produced from killing the livestock and produced by the living livestock itself are contributing to 18% of the world's human-produced greenhouse gas emissions. This will affect almost everything - from opening a hole in the ozone layer to overheating the sea and killing innocent organisms. The increase in greenhouse gas emissions can pose multiple risks to human health and increase the risk of extreme weather events.

The meat production of harvested meat is also highly inefficient, especially red meat. It takes about 25 kilograms of grain - to feed the animal - and roughly 15000 litres of water for the cows. The process for pork and chicken is much less intensive. 30% of the world's land is used for livestock farming. Since food and water are scarce in many parts of the world, this represents insufficient resources.

The poor are also affected by the production of harvested meat. Feeding grain to livestock increases the global demand and price for grain, making it harder to feed the poor instead. If the

grain were to be fed to humans instead of the animals, we could feed an extra 3.5 billion people. In short, industrial livestock farming is not only inefficient but also equitable.

Most of the harvested meat we consume came from animals that have been injected with antibiotics to accelerate weight gain and infection control. However, when we humans consume meat, it may potentially threaten our lives because of the resistant bacteria. High red meat consumption can also cause other diseases and health risk factors such as heart disease, stroke, diabetes, and various cancers. These diseases represent a major part of the global disease burden so reducing consumption can offer substantial public health benefits.

1.2 Objectives

The objectives of Project FTA are as follows:

- Spread awareness of cultured meat
- Provide an intuitive and informative way to make known the cons of harvested meat

1.3 Target Audience

Teenagers aged 13 to 18, regardless of their level of knowledge towards sustainable meat.

1.4 Our Resource Package

We wrote 4 newsletters, with each newsletter progressively furthering the reader's knowledge on the subject. These newsletters are shown and attached below but for ease of reference, here are brief rundowns of each newsletter.

1.4a Newsletter 1: Introduction (By Eshai Ho 10109)



We introduced cultured meat to our target audience, have a collection of four articles, in progressive order:

- Introduction
- About Cultured Meat
- Differences
- Recipe

1.4b Newsletter 2: Cultured Advantages (By Jovan Lim, 10114)

ISSUE 2

JULY 2021

CULTURED ADVANTAGES

OFFICIAL PROJECT FTA NEWSLETTER



In this newsletter, we talked about the advantages of cultured meat in a collection of four articles, in progressive order:

- Recap and Introduction
- The Benefits
 - The Ethical High Ground
 - Environmental Reclamation
 - Practicality Test
- Recipe Time!

1.4c Newsletter 3: Cultured Advantages (By Kang Yi Heng, 1O115)

Issue 3

July 2021

OFFICIAL PROJECT FTA NEWSLETTER

CULTURED CONCERNS

and how to address them

INTRODUCTION

Kang Yi Heng

In the previous newsletter, we learnt about the benefits of cultured meat, such as the ethical and environmental benefits. Now, we will be addressing concerns you may have regarding cultured meat, so as to reassure you that cultured meat is a good choice to purchase.

In this newsletter, we discuss the concerns of cultured meat in a collection of numerous articles, in progressive order:

- Introduction
- Economic, Health, Practical Concerns + Addressing Them
- Pork Shoulder Recipe

1.4d Newsletter 4: Cultured Aspirations (By Ian Choong, 10110)

The image shows the cover of a newsletter titled "Cultured Aspirations". At the top, it says "AUGUST 2021 | ISSUE 4". The main title "CULTURED ASPIRATIONS" is in large, bold, black letters. Below it, the subtitle "The Future of Cultured Meat and Its Potential" is in a smaller font. On the right side, there is a section titled "THIS WEEK'S FEATURED ARTICLES" with a list of topics: "Review; Looking Forward", "Current Situations", "Medicinal Potential", "Can we manage to make it work?", "Economic Potential", and "Recipe". On the left side, there is a green box with the text "Review; Looking Forward" in white, followed by a paragraph of text in white: "What do we now know about cultured meat? What's next? In the past few newsletters, we first learnt what cultured meat was, before we dived into the benefits and addressed your concerns. However, one thing we have yet to address is the future of cultured meat. How will its production change? Will its cost go down? What can we expect from the cultured meat industry in the next decade? The future of cultured meat is a lot more than that, as you shall soon find out."

We talk about the future of cultured meat in a collection of numerous articles, in progressive order:

- Introduction
- Current Situations
- Medicinal Potential
- Can We Manage to Make It Work?

- Economic Potential
- Recipe

1.4e Recipes for Each Newsletter

To allow for a more hands-on approach, we decided to include a weekly recipe for each newsletter, encouraging the meats to be replaced with cultured meat alternatives. E.g., we included an air-fried breaded chicken recipe and suggested to include both harvested and cultured meat chicken meat.

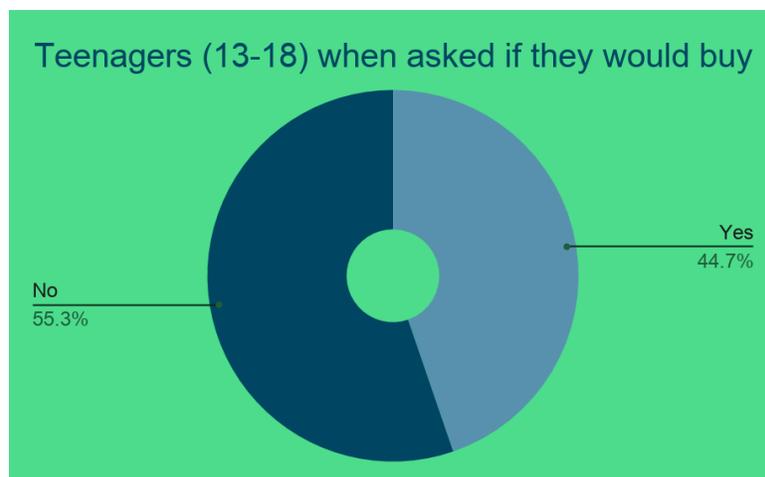
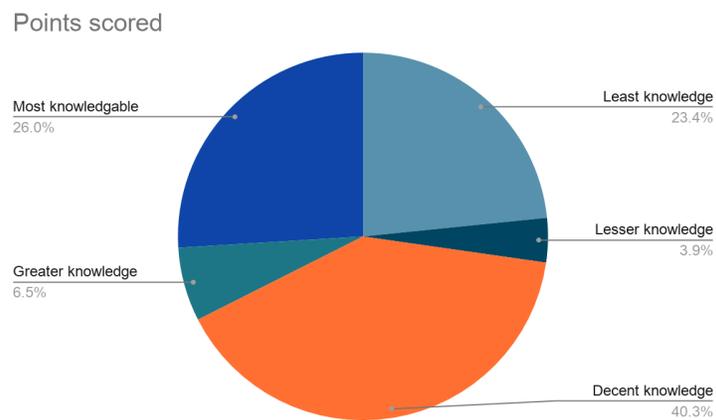
2 REVIEW

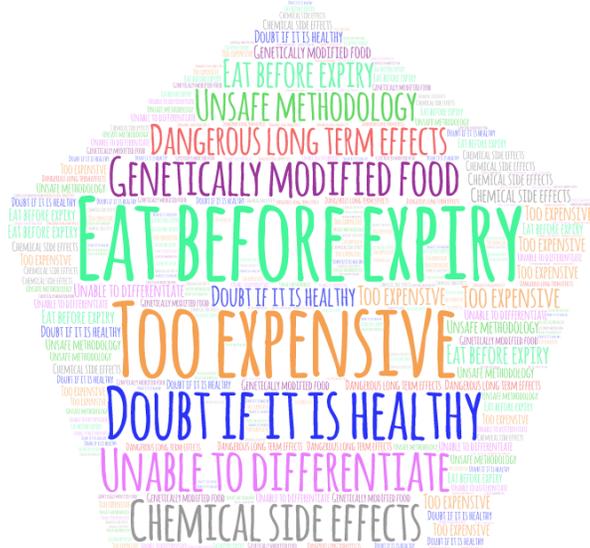
Many resources about cultured meat like ScienceDirect were not meant for teenagers, and contained information that teenagers would struggle to comprehend. They were also out of the way, so it was unlikely people would find the article unless they deliberately searched for the article. Videos and interviews were also over an hour long, such as the interview with Eat Just and this would deter our target audience from watching it.

3 RESEARCH AND METHODOLOGY

3.1 Needs Analysis

A survey was conducted to find out more about students' knowledge of the problems caused by harvested meat and to understand their concerns about cultured meat. Of 100 students aged 13-18 throughout schools, we found that around 74% of respondents show decent to excellent knowledge of cultured meat. We also found that the concerns of harvested meat range from cost (31% of respondents) to the potential safety or lack thereof (10% of respondents). The results below are put into a visual representation of our results in the survey.





3.2 Media Analysis and Literature Analysis

We scanned through the web to find multiple videos and relevant interviews for our resource, before putting in QR codes to help further our points. We also analysed interviews of professionals and took down important information to be put into our newsletter. Afterwards, we then reviewed many research papers done in websites like Science Direct and Google Scholar. We then drew the scientific information from these papers, made them more beginner-friendly and less scientifically termed before we segregated each of our points into points which could be written in articles.

3.3 Development of Resources

After we found our sources, we went in a systematic manner in creating our resources.

The first was to filter out notable points of information which feed to our newsletter's topic, choosing certain points which would benefit us in the newsletter, before paraphrasing and linking together these points, forming together a coherent string of different articles to be put in a document and we then wrote about our topics specifically. This took two weeks total.

Next, we then placed these strings of articles together in a newsletter in Canva, using the Newsletter function. We also searched for suitable images and recipes for each newsletter and chose a different template for each. Finally, we sent the completed newsletter to our mentor, Mr Lim Zhan Yi, and with a lot of comments we went to work on Draft 2, and then Draft 3.

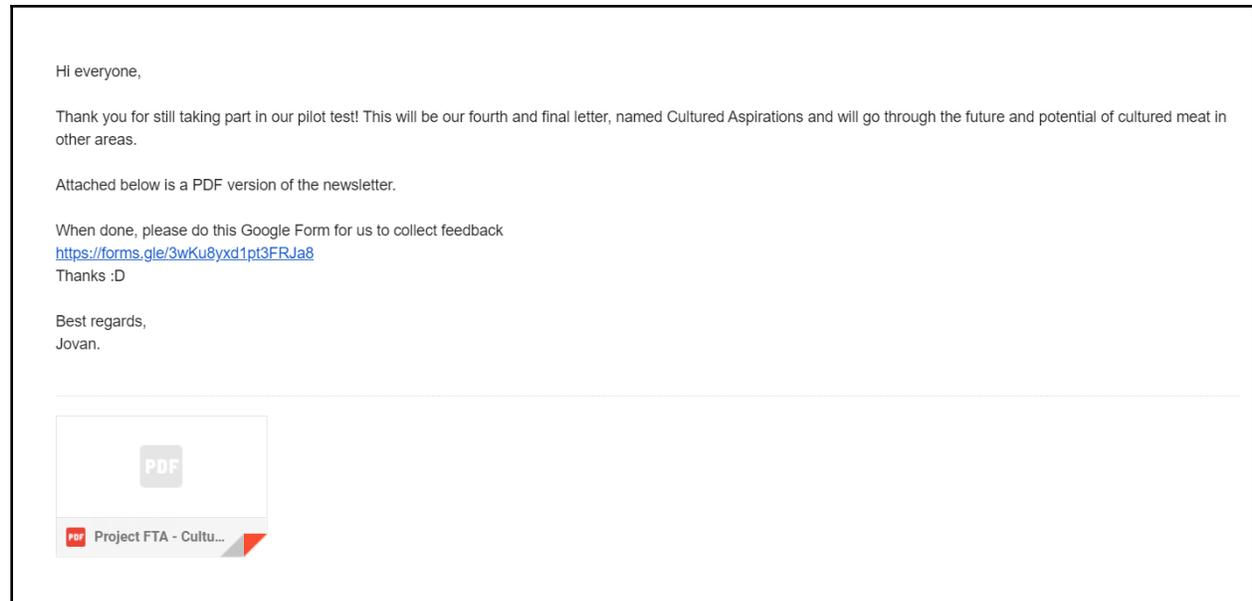
Afterwards, we were greenlighted and started on the next section of the Resource Development, the Pilot Test.

3.4 Pilot Test

For our pilot test, we first finished our first and second drafts with input from Mr Lim Zhan Yi, our mentor and while we were receiving feedback and editing the resources, we also got 50 pilot testees.

Demographic	No. of Pilot Testees
HCI Secondary 1	20
Other Schools Secondary 1	10
Other Schools Secondary 2	10
Other Schools Secondary 3	5
Other Schools Secondary 4	5

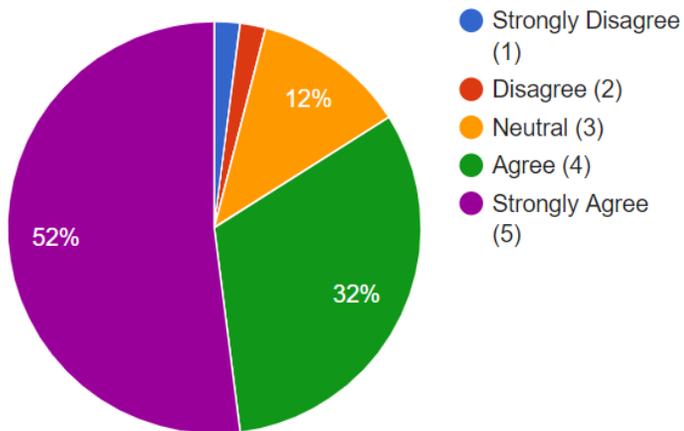
We released these newsletters every 2 days through each student's school email. In each email, we included a PDF version of the newsletter as well as a Google Form to collect feedback. The email would look something similar to this:



4 OUTCOME AND DISCUSSION

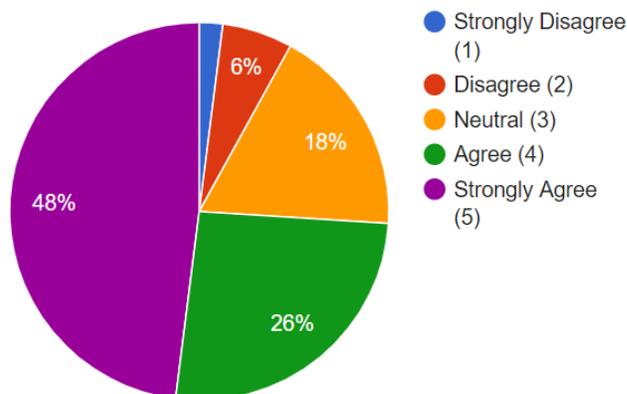
All the resources created were professional and educational. The pilot test allowed the 50 participants to learn something new from the resources and also granted us invaluable feedback from the pilot testers. Google form, we received feedback that out of 50 students, a significant 84% said that they learnt something new and enlightening on cultured meat;

I learnt something new and enlightening from the newsletters



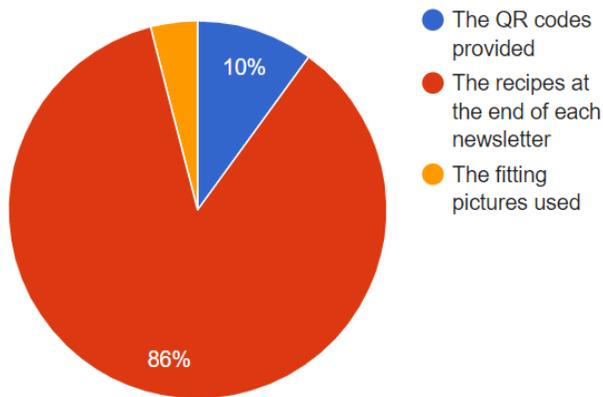
and 72% said they would dive further into the concept out of pure interest.

I will learn more about cultured meat on my own time because of this newsletter series.



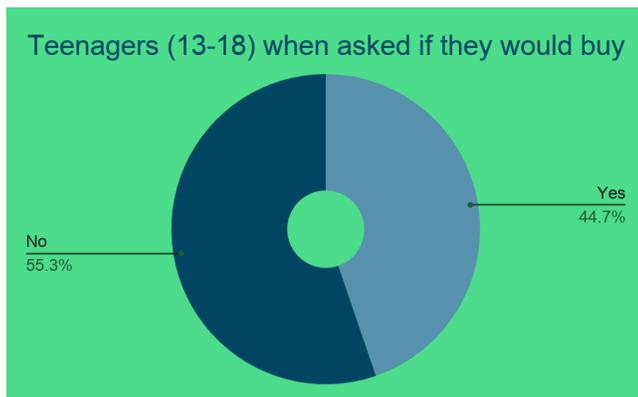
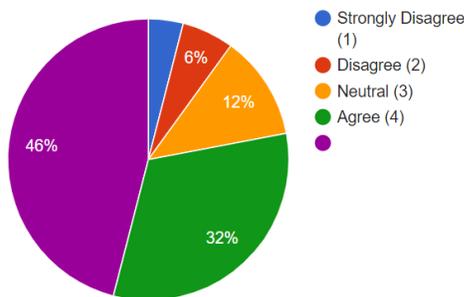
When asked about the highlight of each newsletter, a massive 86% of pilot testees mentioned the use of the recipe, which provided a hands-on approach to our resource, turning the information from theoretical to practical.

What was the highlight of each newsletter? (Simplified graph)



It also sparked 78% of pilot testees to consider switching from harvested to cultured meat in the future.

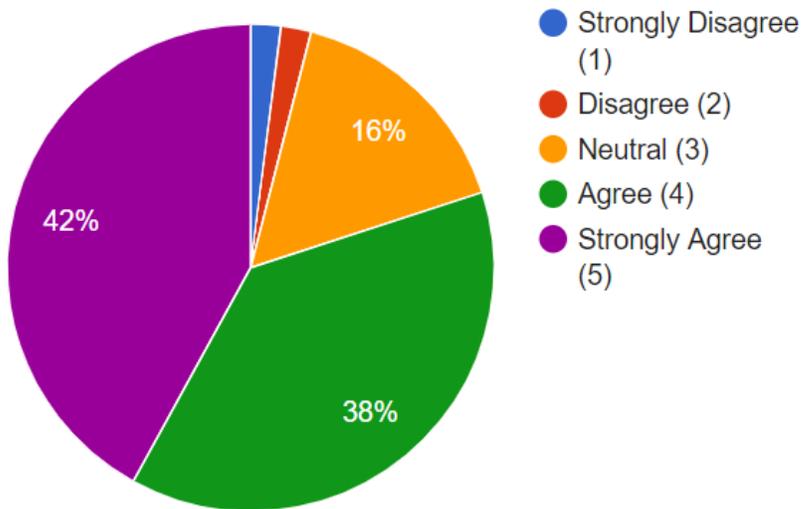
Because of this newsletter, I will switch from harvested to cultured meat.



Put this side-by-side with the initial response to cultured meat in our Needs Analysis. This shows our newsletter really succeeded in convincing teenagers to buy and switch to cultured meat.

80% also said that they felt their concerns on cultured meat had been resolved:

My concerns on cultured meat have all been answered.



When we requested for constructive criticism, we received back 3 main criticisms:

- Too wordy, could use more pictures or imagery.
- Could include interviews with public members of society and adults to look at it from a different point of view
- Title or subtitle could be more gripping

All the resources created received positive feedback, from our classmates and friends who were first sent the newsletter to review. However, we still feel as though all the newsletters could have been more engaging with teenagers outside of just the ones we know and could also interact with adults to provide an alternative stance on the topic.

Nonetheless, in the future, we intend to make more improvements to the newsletter like engaging the public and younger children, soon extending it to a larger target audience, not just teenagers aged 13-18.

5 CONCLUSION

Project FTA was not an easy project. We faced many challenges and setbacks, like when we received no responses from the professionals. We had to do a lot of research to find the desired information to supply our newsletters with. We constantly had to change many things, like changing our entire resource. However, it is with both great relief and pride that we managed to pull through and produce newsletters that were able to achieve our main goals. We learnt much from this project and feel we have done as well as we have accomplished our objectives.

6 REFERENCES

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Images and Screenshots

All screenshots and images were taken from self-designed documents in Canva, Google Forms and Google Mail, by Jovan Lim, 1O114.