



David Li - Max Hertzum - David Wu - Liam Middlebrook

Aim:

Our initial aim was to make an ice cream that was on-the go, that is portion controlled with healthy attributes, so it won't compromise a healthy lifestyle.

Issue:

After conducting some research regarding our target market, we realised that we're dealing with teenagers who require lots of protein for growth and proper development. We also saw that there was also a gap in the market for high protein ice cream. A growing trend, bubble tea, has a huge appeal to Gen Z and millennials, so we decided to combine the two ideas.

Desirable Attributes:

- An ice cream which has a unique and adventurous flavour.
- Appeal to Millennials and Gen Z.
- Use ice cream as a focal point.
- Must fit into one of Tip Top's production lines.
- Comply with Tip Top's legal standards of egg free, palm oil free and natural colours and flavourings.
- Be safe to consume.
- Contain health benefits such as increased protein.

Method:

- Researched societal issues, possible gaps in the market and what was trending.
- Conduct further market research by looking at existing products on the market.
- Consumer research (e.g. survey consumer desires and wants to ice cream given our restraints via a survey).
- Initial research. We trialled different recipes to locate area of difference to texture with regards to the recipe.
- Sensory testing. We got feedback regarding textures of trials via Hedonic Scale.
- We investigated legal requirements to see benchmark for nutritional claims.
- Prototype development. We built on original recipes to determine final formulation
- Designed packaging for eventual presentation of product.

Development Process:

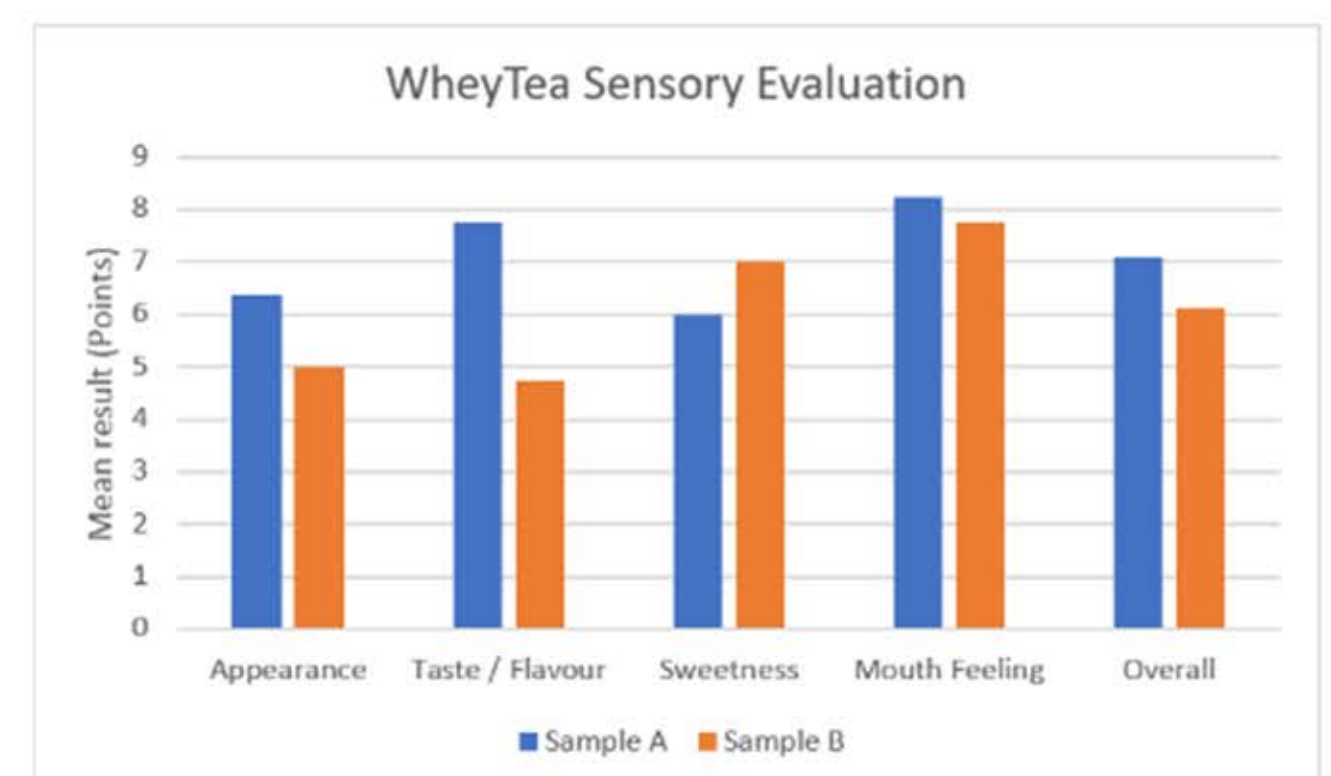
In the first trial ended up churning our ice cream for too long meaning it was the wrong texture. We fixed this by reducing the churning time for future experiments in order to make the ice cream the right texture and not stick to the inside of the bowl. Then, we better incorporated our thickening and emulsifying agents to make the ice cream's texture more consistent. We later incorporated the pasteurization process after doing some research. Another critical control procedure we took was freezing.

Nutrition Summary:

Due to our product's composition we can legally describe our product as an increased source of protein, as it contains 25% more protein than in regular ice cream. We can also make the claim that our product is comprised of entirely natural and ethically sourced products. This is good for our product as it appeals to our target market of Gen Z and Millennials who tend to be more environmentally aware.

Sensory Analysis:

Sample A was preferred over Sample B by our surveyors. We noted that the sweetness of Sample B was preferred by our consumers over Sample A. We had to find the balance of sweetness and texture for them, with Sample A having a slightly smoother texture due to the selection of ingredients we chose to use. They both had very similar looks and flavour, nearly indistinguishable, so on those fronts we didn't have to worry too much.

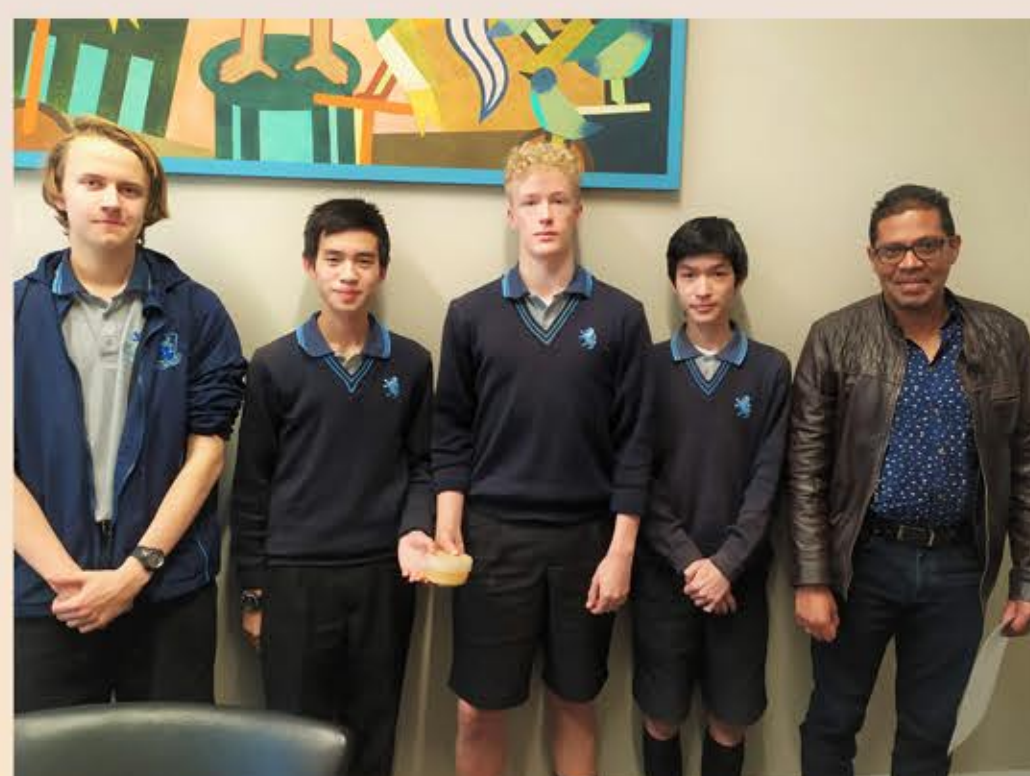


Issues encountered:

- Finding the base recipe of our ice cream and getting it to industry standard.
- Incorporating enough air into our ice cream so it wasn't "dense" and churning it for the optimum amount of time.
- Finding correct ratio of emulsifiers and stabilisers to keep a decent, consistent texture.
- Trying to meet the legal definition of ice cream and having high protein
- Coming up with a unique flavour for our ice cream
- Finding the right sweetness and balancing it with the tea flavour
- Integrating the whey powder was difficult as it messed up our established texture
- Deciding on the right packaging concept that met the brief

Outcome:

For our final product we managed to create an ice cream using proper industry standard materials such as emulsifiers like CMC and stabilizers like LBG and increased protein. We also included our original milk tea flavour idea. Our sensory tests showed that our texture improved dramatically as we progressed until it was like marketed products. We balanced the Earl Grey and sweetness until it was more than acceptable to all our testers.



NUTRITION INFORMATION		
Servings per package:	1.00	
Serving size:	250.00 g	
	Average Quantity per Serving	Average Quantity per 100 g
Energy	2700 kJ	1080 kJ
Protein	15.9 g	6.4 g
Fat, total	43.3 g	17.3 g
- saturated	27.8 g	11.1 g
Carbohydrate	49.4 g	19.8 g
- sugars	47.9 g	19.2 g
Sodium	124 mg	50 mg

Ingredients:

Milk, sugar, cream, xanthan gum, LBG (locust bean gum), CMC, tea, tapioca pearls (cooked)

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