

2016 NZIFST/CREST Student Product Development Challenge



Protein Pancakes



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Brief

Rather than a specific brief, we were given a set of guidelines of things we could incorporate – which were relevant to today's society:

- Use a product unique to New Zealand in our product.
- Use a pulse flour in our product, in line with the United Nations 2016 Year of the Pulses.
- Make use of the edible waste stream – including foods that are discarded from mass producers of popular foods (e.g. cocoa husks from chocolate).

Aim

To create a dry-ingredient pancake mix, which is:

- High in protein
- Very healthy (low in fat and sugar)
- Gluten-free and vegan
- Easy to make (so is an ideal food option for trampers, campers or people with little time to cook).
- Has savoury and sweet flavours

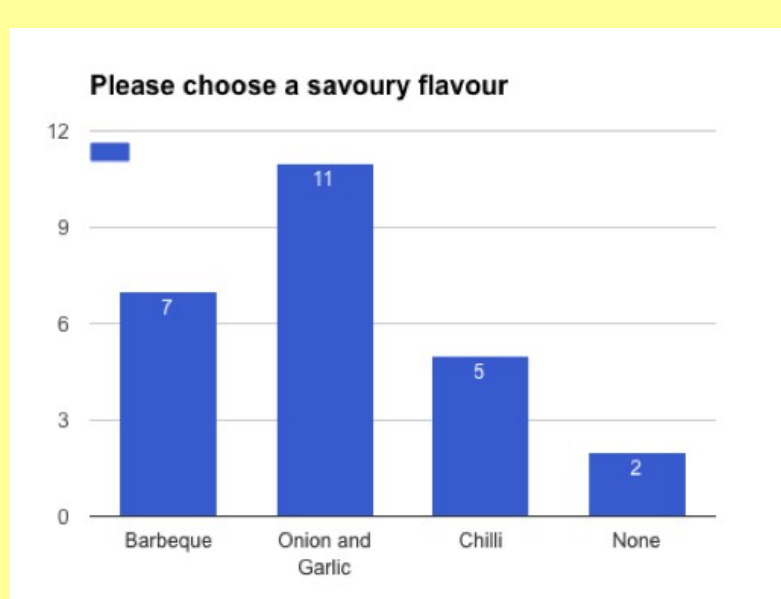
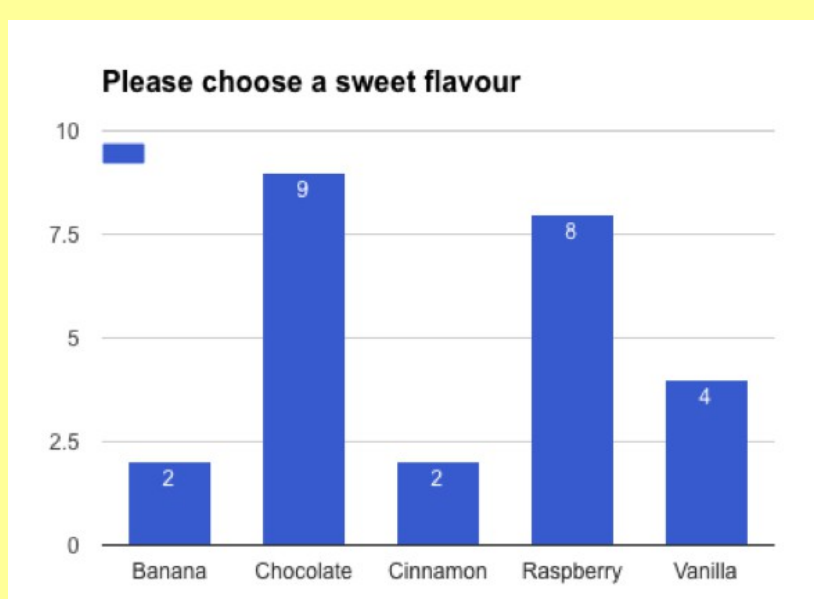
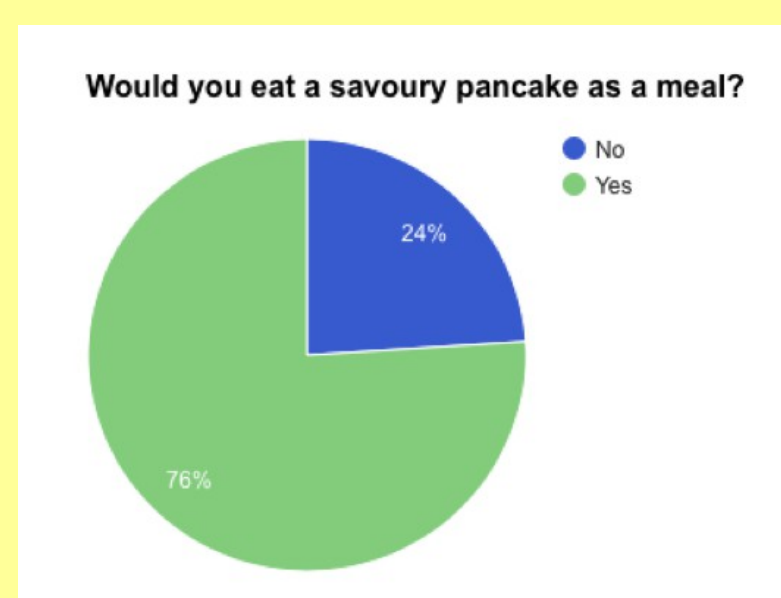
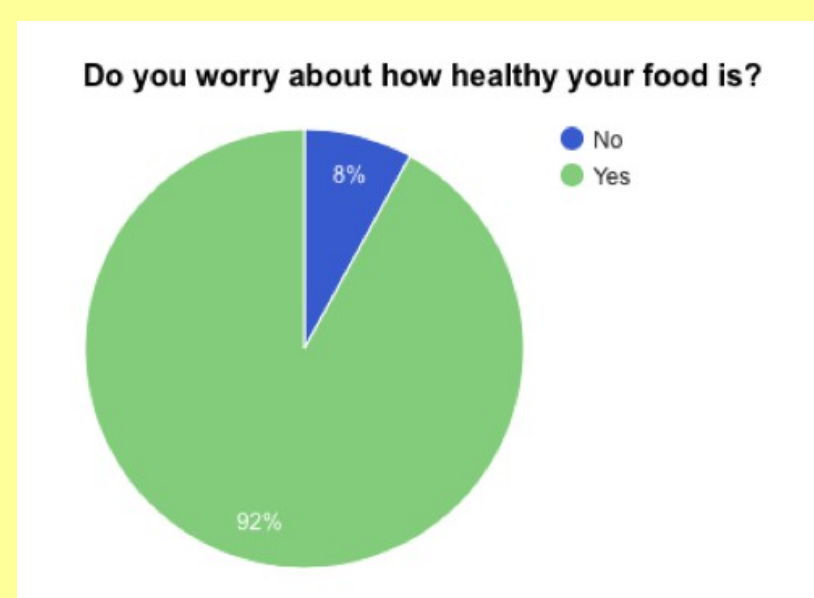
Client/Target Market

Throughout our research, we determined a number of possible target markets that our product would apply to. These included:

- Vegans
- People with gluten and lactose intolerances/allergies
- Health-conscious people
- High-performance athletes
- Trampers/campers
- People in earthquake prone countries

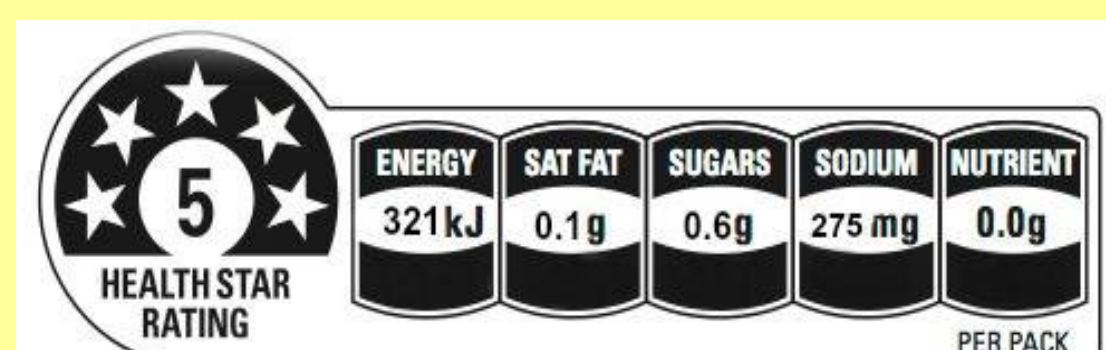
Surveying

As part of our research, we surveyed year 11, 12 and 13s as well as some staff at our school. We wanted to gauge what demand there was for our product within one of our potential target markets. We took the results and used them to help develop our other flavours. We wanted to have a sweet, a savoury and a plain flavour to increase options, and therefore increase our market. We produced several graphs to visualise the results of our surveys:



Acknowledgements

Many thanks to the following for their support – Clare Chandler, Simon Holst, John van den Beuken and Ms Susan Binns. Many thanks also to Pacific Flavours & Ingredients for sponsoring us.



Procedures

- Created a production timeline with deadlines – ensuring we kept on track with our project.
- Attended many meetings to brainstorm ideas, and met with our mentors to discuss possible ideas.
- Narrowed down our ideas, by researching and then trialling our ideas – and after consulting our mentors and supervising teacher, decided to create a dry-ingredient pancake mix.
- Researched existing products on the market, analysed what ingredients to use, and based our initial recipe on existing pancake recipes.



- Sent out a number of surveys, asking students at our school questions primarily regarding flavour preferences. We analysed these results and decided to create the most popular flavours.
- Held a product testing day at school, to get opinions and advice from our peers, allowing us to finalise flavours and recipes.
- Members of our group in charge of production finalised the recipe, whilst other members contacted suppliers for suitable product packaging and designed labels and our logo.



- We were contacted by Pacific Flavours and Ingredients, who offered to sponsor our group for the competition. We decided to incorporate one of their products (soy protein isolate) in our recipe – which ensured there was plenty of protein in our pancakes.
- Finalised recipes, calculated the nutritional content of our product – and calculated and achieved a Health Star rating of 5/5 stars.
- Added these onto the designs for our packaging labels – which we got printed as stickers to stick on the sample of our packaging.
- Created our poster and board, which would be presented on the judging day.

Final Recipes

Plain (Net weight of dry mix = 210g):

- ½ cup gluten-free flour
- ¼ cup chickpea flour
- ¼ cup quinoa flour
- 1 tsp baking powder
- ½ tsp baking soda
- 1 ½ tbsp stevia
- 2 tbsp ground chia seeds
- ¼ cup soy protein isolate
- Pinch of salt

Barbeque (Net weight of dry mix = 217g):

- Plain recipe
- 2 tsp American steakhouse seasoning
- 1 ½ tsp smoked paprika spice

Chocolate (Net weight of dry mix = 230g):

- Plain recipe
- 2 tbsp Cadbury drinking chocolate
- 1 ½ tbsp Cadbury Bournville cocoa powder

1 recipe = 8 servings

(each serving makes 1 large pancake)

Each serving needs to be mixed with 60mL of water to make the pancake mix.

Nutrition Facts for Plain Recipe

Nutrition Information		
Servings per package:	8.00	
Serving size:	30.00 g	
	Average Quantity per Serving	Average Quantity per 100 g
Energy	96 kJ	321 kJ
Protein	8.6 g	28.7 g
Fat, total	0.2 g	0.7 g
- saturated	0.0 g	0.1 g
Carbohydrate	2.9 g	9.6 g
- sugars	0.2 g	0.6 g
Sodium	82 mg	275 mg