



Final Bar



Racey Recovery

"Speedy snack to keep you on track"



Danielle Sutherland and Sarah Adam

NEED FOR OUR PRODUCT:

Both members of our team have a keen interest in a wide variety of sporting activities, both having represented Auckland and New Zealand in their respective sports. As a team we know how important recovery is to be able to perform at the optimum level consistently, and have struggled to find a product that meets our need of a balance between protein and carbohydrates. Cost is a huge factor that comes into play and also have found majority of products are too sweet, heavy and not enjoyable to consume directly after sport. Therefore we decided to direct our focus to this gap in the market.



Bronwyn Munro and Aditee Naik

OUR CLIENTS

Futureintec Facilitators introduced us to Aditee Naik and Bronwyn Munro. Aditee has got a Masters in Sensory and helped us partake in professional sensory evaluations of products already on the market as well as our own bar to help us develop and understanding of the perfect product. Bronwyn assistant product manager at Horleys Sports Nutrition and has provided our team with her professional opinion and advice to improve our bar and has also sourced relevant products that we would not have been able to access otherwise. We have communicated with our clients via email to organise regular meetings to consult our ideas.

BRIEF

Bronwyn Munro is the assistant product manager of Horleys, has created an opportunity for us to develop a sports nutrition product. We are concerned that athletes and people that are physically active do not receive the required essential nutrients needed for effective, fast repair and recovery. We find that existing products are generally quite expensive, too dense and too sweet to consume straight after physical activity. Through discussions we have found that there is a gap in the market with banana flavouring. Therefore our aim is to create a natural (not processed) bar that is designed to consume after exercise and is light, not too sweet and is cost effective.

Key Factors:

- Cost
- Taste
- Size
- Fit for Purpose
- Skills
- Appearance
- Clients needs
- Use of specific ingredients and nutrients

DISASSEMBLY

We disassembled existing products similar to our initial idea for the recovery bar. We found that the product contained a very low amount of fruit and nuts. It was quite dense and had artificial flavouring in it.

Although the product was advertised as nice and natural the ingredients seemed quite processed. This knowledge informed us to look at developing a product that would incorporate more fruits and nuts and improve the texture so it was less processed.



Disassembly

PACKAGING

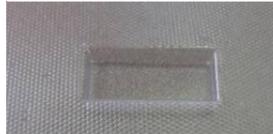
After looking and analysing existing packaging we came up with our own original Racey Recovery Packaging. We decided that we want to have an environmentally friendly packaging that is made out of materials that are sustainable and eco-friendly to maintain the natural appearance.



Packaging

METAL CUTTER

When wanting to create multiple bars at once we found that the vacuum formed mould was not as effective because although it meant that the bars were perfect size, it was very time consuming as we could only shape each bar one at a time. We thought of creating a metal 'cookie-cutter' type tool to assist us in making this process a lot quicker. Now to create the perfect shaped bar we can make a whole lot of the mixture and the cut out the bars to then each cook individually. This will mean that the time consuming process of fitting all the ingredients into the mould will not need to happen and we will be able to create our bar at a quicker rate.



Mould



Metal Cutter

TRIALLING

- Trial one: original recipe
- Trial two: Blending the topping to get it binding better
- Trial three: Wheat germ or Bran instead of flour in base and added Sesame Seeds and Cranberries and tried Nutella
- Trial Four: Fresh Banana, Chips, Banana Smoothie Base
- Trial Five: Banana Chips and Artificial flavourings, and Jaggery instead of Brown Sugar
- Trial Six: Experimented different ways of incorporating Banana Chips
- Trial Seven: Perfecting Cooking times
- Trial Eight: Rice Syrup instead of Glucose Syrup.

VACUUM FORMING

After discussions amongst ourselves we decided that our original way of cooking the bar as one (like a slice) and then cutting it into pieces was not very effective because the size and appearance of the bar was not satisfactory. The bars were all slightly different sizing and did not have a very nice appearance as they were very 'chunky' looking. Also some bars had the perfect crunch to them as they were the outside pieces but some did not.

We went and talked to our Material Technology teacher Mr. Bennett who guided us towards making a vacuum formed mould to shape our bars in so then they could cook individually. This worked well and we got perfect shaped and sized bars to the dimensions 9cm x 4cm x 1cm everytime.



Trial One



Trial Two



Trial Three



Trial Four



Trial Five



Trial Six



Trial Seven



Trial Eight



Taste Testers

Sport Prefect Lucy Creighton

NUTRIENTS:

High in Protein

Essential to athletes to grow, renew, repair and maintain muscle tissue

High in Carbohydrates

Provides energy to meet demand of the body alongside allowing for muscle recovery

High in Magnesium

Helps the muscles of the body repair and steadies the hearts rhythm to allow the body to produce energy and protein

High in Potassium

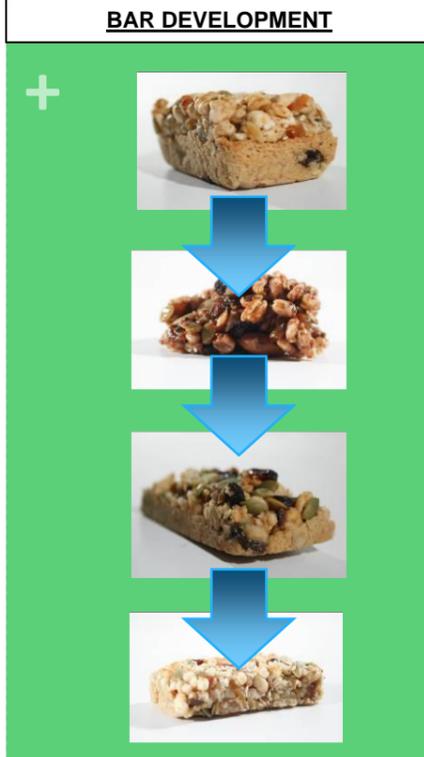
Helps prevent getting muscle cramp and is needed to help muscle and nervous system functioning as well as balances the amount of water in the blood and within body tissues.

FUTHER WORK:

We think that we have done enough trials and our clients, stakeholder(s) and the team are satisfied with our final product and so no further work would need to be done with development of the recipe. For a mass production in a factory proper equipment to assist with the layering of the bar would have to be looked and according to our client (Bronwyn Munro) may need to be created. Our team is having a meeting with the product development team from Horleys sometime after the 19th of September as Bronwyn is currently away on leave.

To get our product on the market further work would need to be done to create a more professional packaging and more accurate nutritional evaluation of the bar. It would then need to be marketed and put onto the shelves.

BAR DEVELOPMENT



Our Mentors

Huge thank you to all our mentors, especially Mrs Sehji (our teacher), for all their help and guidance!

Ingredients for base	Nutrients	Properties
Flour Bran Rolled oats	Carbohydrate, Vitamin B1, B2, niacin, minerals Dietary fibre	Base ingredient Fibre
Desiccated coconut	Manganese, selenium, tryptophan, potassium, Vitamin B1, dietary fibre, magnesium, protein	Add to the taste of the bar sweetener
Brown sugar Sultanas egg	antioxidants Tryptophan, selenium, iodine, Vitamin B2 (riboflavin) protein, vitamin B12, phosphorous, Vitamin B5, Vitamin D	Wet ingredient-binding agent

Ingredients for topping	Nutrients	Properties
Puffed wheat	Dietary fibre Vitamin B	texture
Almonds (chopped)	Anti-oxidants, helps to lower LDL, Vitamin E & B (riboflavin, niacin, thiamin, Bit B6) folate	Firm but tender texture
Sunflower seeds	Vitamin E & B (thiamin) manganese, magnesium, selenium, vitamin B5, folate	Sweet, nutty, chewy texture – also helps with natural (green) appearance
Pumpkin seeds	Manganese, Magnesium, phosphorous	crunch
Sesame seeds	Manganese, potassium, calcium, iron, magnesium, zinc, selenium	Crunch Banana flavour
Banana chips	Vitamin C, Iron, dietary fibre, Vitamin B6, magnesium, potassium, manganese, vitamin A	High energy, low fat Colour to add to appearance. Apricot taste sells well on the market taste
Raisins (pitted) Apricots (dried)	antioxidants Vitamin C, A, beta carotene, dietary fibre	Flavour and wet binding ingredient Wet binding ingredient
Cranberries (chopped) Peanut butter	Vitamin C, dietary fibre, manganese Manganese, tryptophan, Vitamin B3 (niacin) foliate	Low cost sweetener and preservative
Honey Corn syrup		Adds to the nutritional value and helps give banana flavouring. Increases protein for muscle recovery.
Crossfire Banana Protein Protein Chips	Magnesium, protein, potassium, calcium, vitamin A and vitamin C High protein	