

Napier Girls High School Emergency Eats



ACKNOWLEDGEMENTS: Paula Campbell (Kaweka Food Co), Suzy Newman (Teacher), Pip Duncan (Vegetables.co.nz Sponsorship)

Issue:

The product being developed was identified as a gap in the market for emergency meals targeting children. We want to provide a balanced meal consisting of vegetables, carbohydrates and meat.

Aim/Project Brief:

The aim is to produce an emergency meal fit for child consumers aged (5-12 years). We are to create a shelf stable, single serve meal suitable for either personal or family emergency packs.

Product development:

Twelve individual concept meals between the team were brainstormed. These meals were then screened to four concepts meals. All four concepts were produced and screened. Screening methods conducted were sensory testing, product suitability for the target market, surveying and *Kaweka Foods Co* feedback. Meatballs was the final concept chosen.

Method:

The team discovered a niche in the market which then led to consumer research of the clientele. Functional modelling such as concept screening and prototypes were undertaken to find the most preferable to the target age group. Quality evaluation was completed to minimize risk and chances of malfunction via numerous sensory testings and evaluation.

Experiments:

Meatball development was conducted by pilot trialling on a small scale with the use of a household 'pressure cooker'. This is a simulated version of thermal processing that *Kaweka Foods Co* completes. The team had experimented with couscous, white rice and mashed potato as to determine the best starch to accompany the meatballs. The experiment was concluded with sensory testing and nutritional analysis to decide on appropriate starch.

Sensory testing:

Sensory testing was conducted on the target market test subjects (18, year two 6-7 year old students at Te Mata Primary, Hawkes Bay). They trialled this by completing a face survey where they coloured in what face related most to how much they liked or disliked the particular starch food that accompanied the meatball meal. Couscous was the most favoured and also has the higher nutrition value.

Meal specifications:

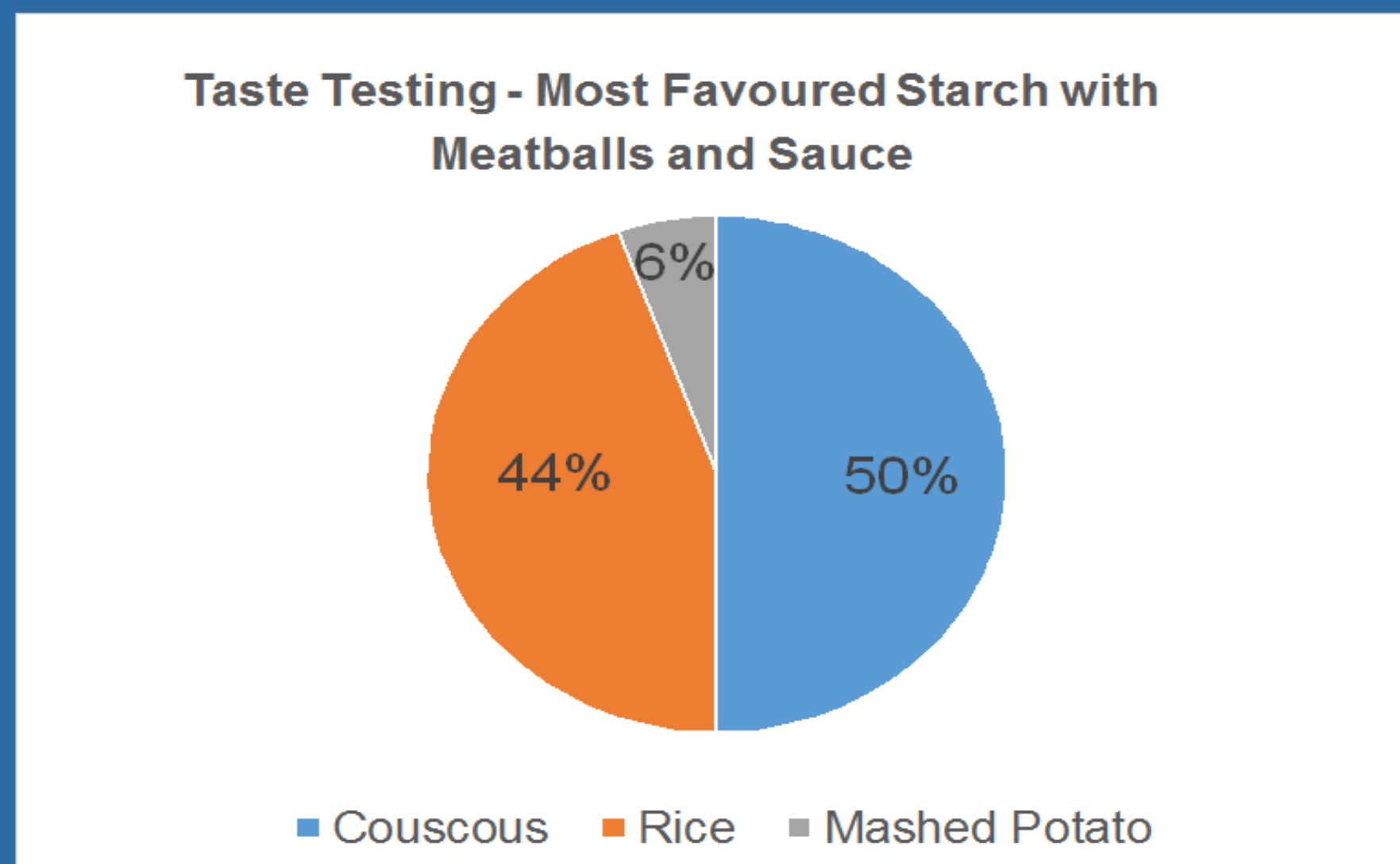
- Be retorted to ensure it is commercially sterile and therefore shelf stable.
- Packed into a 280g size aluminum foil stand-up pouch serving two children.
- Be appealing when consumed heated, and ideally palatable when required to be eaten if there are no heating facilities available (i.e. in an emergency situation).
- Meet the required nutrition specifications of the customer.
- Contain a minimum of two servings of fresh (not frozen) vegetables which feature at www.vegetables.co.nz

Constraints:

Packaging: the product needed to fit into the retort packaging. The meal required to be thermally processed and convenient to eat in an emergency situation.

Starch Type: unable to use traditional spaghetti pasta due to the thermal processing which degrades texture. Research took place to find a starch with texture that was appropriate for the packaging as a substitution.

Target Market taste preferences: Children (5-12 years) as our target consumers have limited food experience and preferences. This meant that additional ingredients such as chilli or hot ingredients had to be eliminated from the product. Portion size and actual meatball size had to be modified appropriate for a child's requirements.

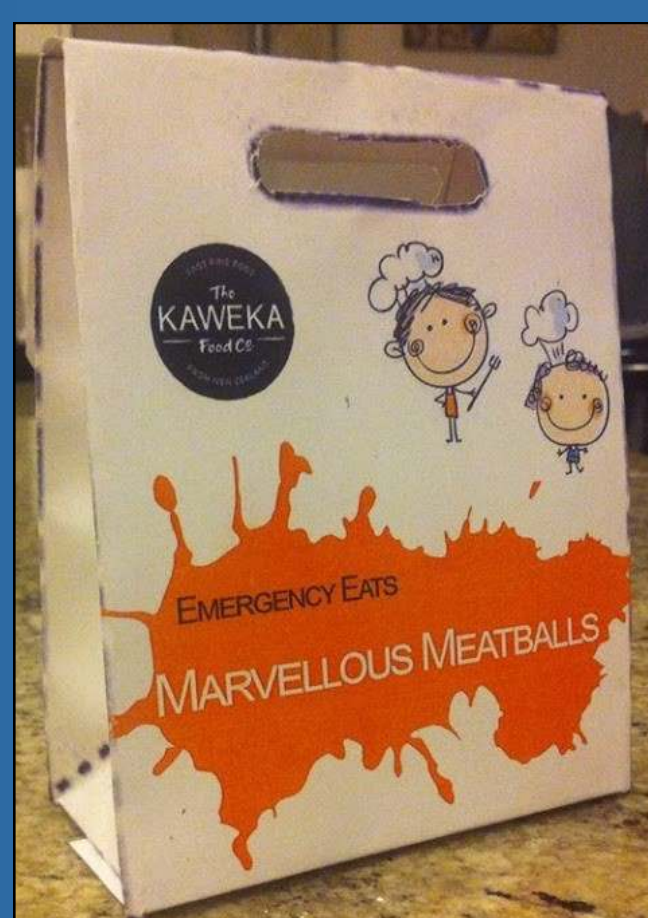


Meatballs & Couscous

Conclusion:

In consultation with *Kaweka Food Co* our product specification were viable for full scale production. Sensory evaluation has shown positive results with the target consumer group, children aged 5-12 years.

Further consumer trialling and market costing would be required to ensure the **Emergency Eats** product was viable for commercial production.



Annalise Stuart, Bethany Collingwood, Bridget Cudby, Monica Chau, Suzy Newman