

# Adding Value to Food: Case Studies

4th Annual Seafood  
Processing &  
Preservation  
workshop

Tuesday 1<sup>st</sup> April 2008

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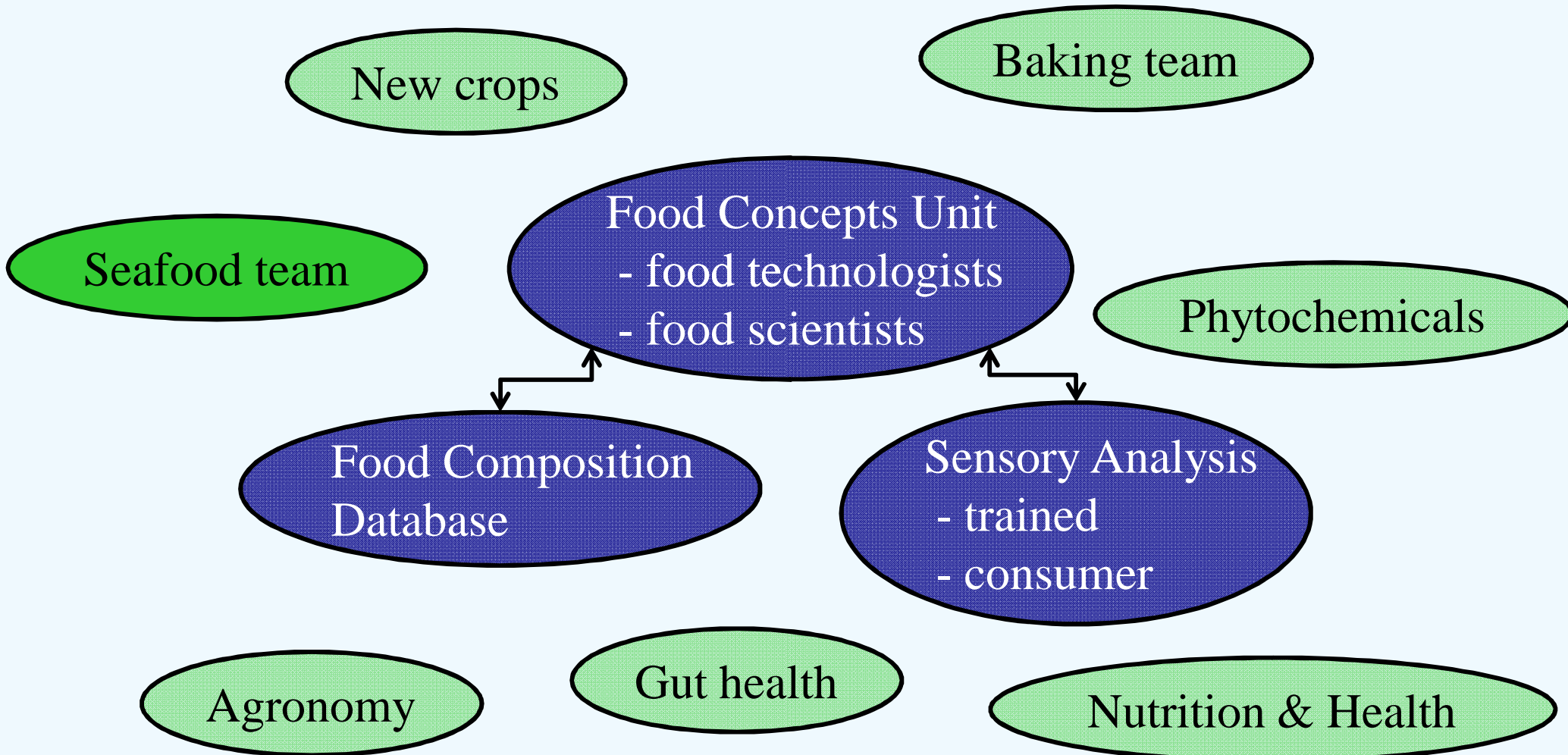
# What's driving our strategy?

International consumer market drivers

- Health
- Convenience
- Premium/gourmet
- Sustainability

We're taking advantage of these opportunities across the value chain  
– from production to product

# Food Science Capabilities





## Food Concepts Unit - Who we are.....

- Brings together skills from across the institute to design innovative products and ingredients with an emphasis on health
- Expertise across wide range of raw material particularly CFR legacy materials: cereals, seafood, vegetables
- Ingredient functionality and interactions, formulation, product development – new products, prototypes, concepts, and ingredients
- Work with industry AND pull through early phase research



## Food Concepts Unit - What we do...

- New product development (NPD)
- Reformulations of existing products
- Ingredient functionality and interactions
- Process optimisation
- Enhanced nutrition
- Label compliance
- Information mining

**REGULATORY**  
FSANZ  
NZFSA

**PRODUCTION**  
Info on Equipment  
Details of contract manufacturer

**INGREDIENTS**  
Supplier details  
Samples  
Specifications

**PACKAGING & GRAPHICS**  
Suppliers & Designers  
Equipment options

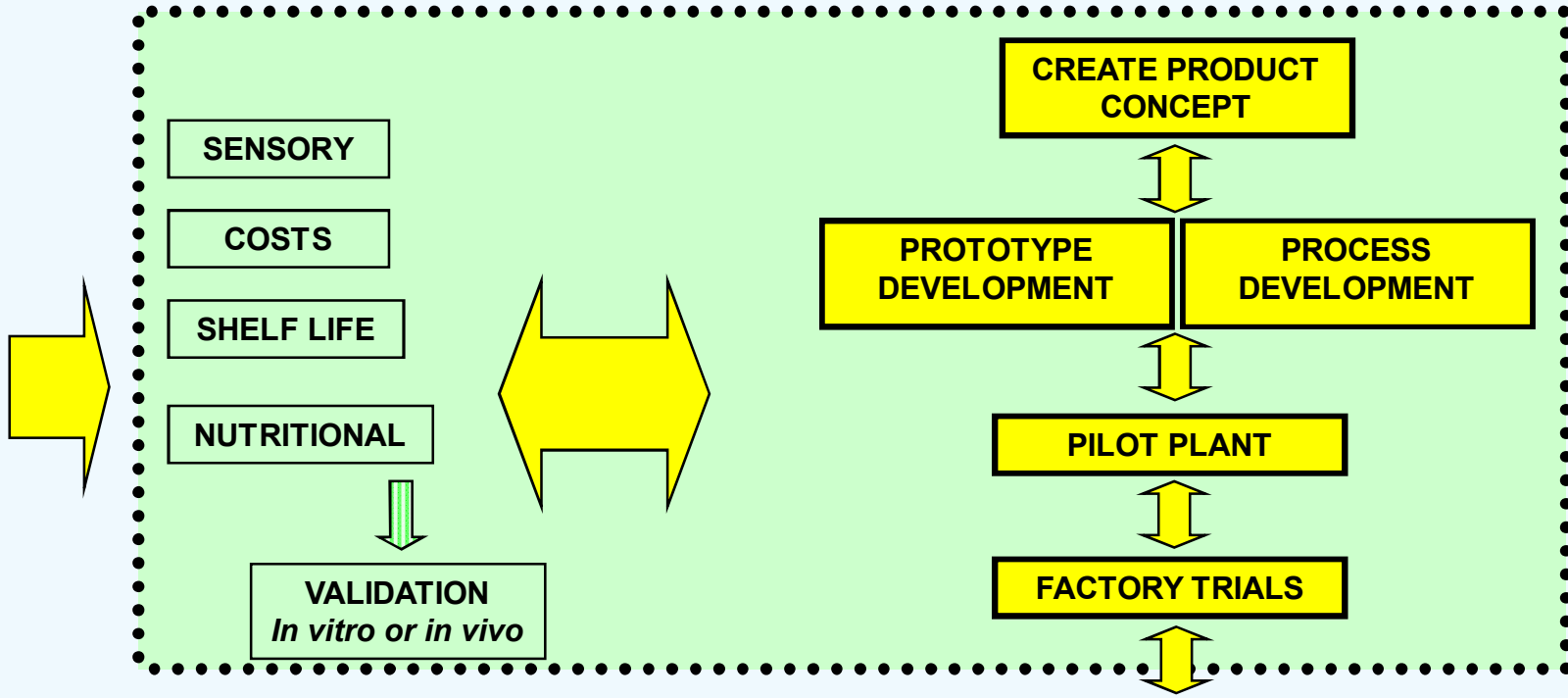
**What we do...  
Product Development**



**PROJECT CLIENT**

- BUSINESS PLAN
- MARKET INFO.
- PRODUCT DEFINITION
- TARGET MARKET & PRICE
- BRANDING
- PRODUCTION
- INGREDIENTS
- PACKAGING

**CFR FOOD CAPABILITY**



**PRODUCT LAUNCH**

## Case Studies ...

### Old fashioned Foods – Rice Bran Oil Spread



### Aotearoa Seafoods Limited - Ready to Eat Mussels



# Case Study 1





# Case Study 1

*Alfa's  
one*<sup>TM</sup>

- TBG funded
- Waste stream conversion to high value consumer products
- Target was a functional food (natural plant sterols,  $\gamma$ -oryzanol, vitamin E)
- Develop a technology platform (IP) for other products



# Case Study 1



## PROJECT TASKS

1. Gathering essential background knowledge
2. Process development – lab scale
3. Product development
4. Shelf life
5. Factory trials
6. Clinical trials – Nutrition & Health Team
7. Baking application trials

# Case Study 1

*Alfa*  
*one*<sup>TM</sup>

## 1. Gathering essential background knowledge

- Patents
- RBO composition & health properties
- Margarine manufacture
- Competitor analysis



# Case Study 1

*Alfa*  
*one*<sup>TM</sup>

## 2. Process development – lab scale

- Worked with engineers

## 3. Product development

- Texture
- Stability
- Flavour
- colour



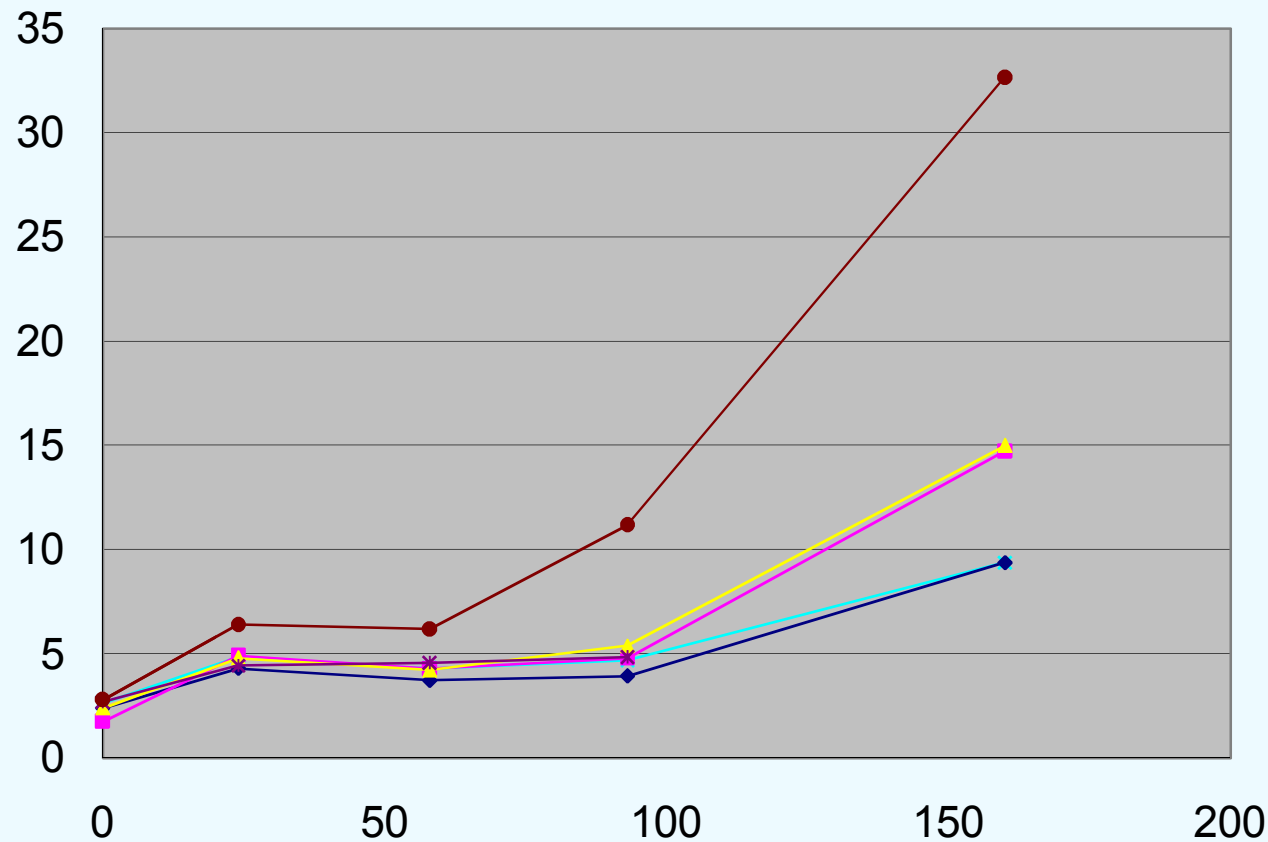
# Case Study 1



## 4. Shelf life prediction

- Microbiological
- Oxidation
- Colour
- Texture

Oxidation - Peroxide Value versus Days



# Case Study 1

*Alfa*  
*one*<sup>TM</sup>

## 5. Factory trials

- Present during the trials:
  - formulation,
  - emulsion formation,
  - crystallising and packaging
  - optimising line speeds
  - worked with factory staff
- Food safety programme
- Shelf life validation studies





## – Nutrition & Health

enefit analysis

ication trials



# Case Study 2





## Case Study 2



Aotearoa Seafoods Ltd

- TBG funded
- value added, convenience seafood product
- combination of ingredients, equipment and process
- Develop a technology platform (IP) for other products



## Case Study 2



### PROJECT TASKS

1. Information search
2. Concept development
3. Prototype development
4. Packaging development
5. Process development
6. Factory trials
7. Shelf life





## Study 2

rch



## Case Study 2



Aotearoa Seafoods Ltd

### 2. Concept development

- Half shell mussels in sauce.
- Fit into the ready meals range.
- Convenient to prepare (ready in minutes/ does not require thawing)
- Versatile dual ovenable (suitable for micro-waving or oven heating).
- Flavoured glaze with good freeze thaw properties, adherence, and prevent freezer burn.



## Case Study 2



### 3. Prototype development

- Garlic Butter flavour and 3 indigenous flavours
  - Manuka Smoked Kelp
  - Lime and Kawakawa
  - Chilli and Horopito



## Case Study 2



### 4. Packaging development

- Set No. of half shell mussels
- Medium Size Mussel
- Frozen and transported at  $-18^{\circ}\text{C}$
- Dual ovenable (CPET)
- Product stability & protection
- Enhance and compliment a gourmet product
- Minimum packaging and Recyclable
- Off the shelf vs. tailor made packaging
- NIP



## Case Study 2



### 5. Process development

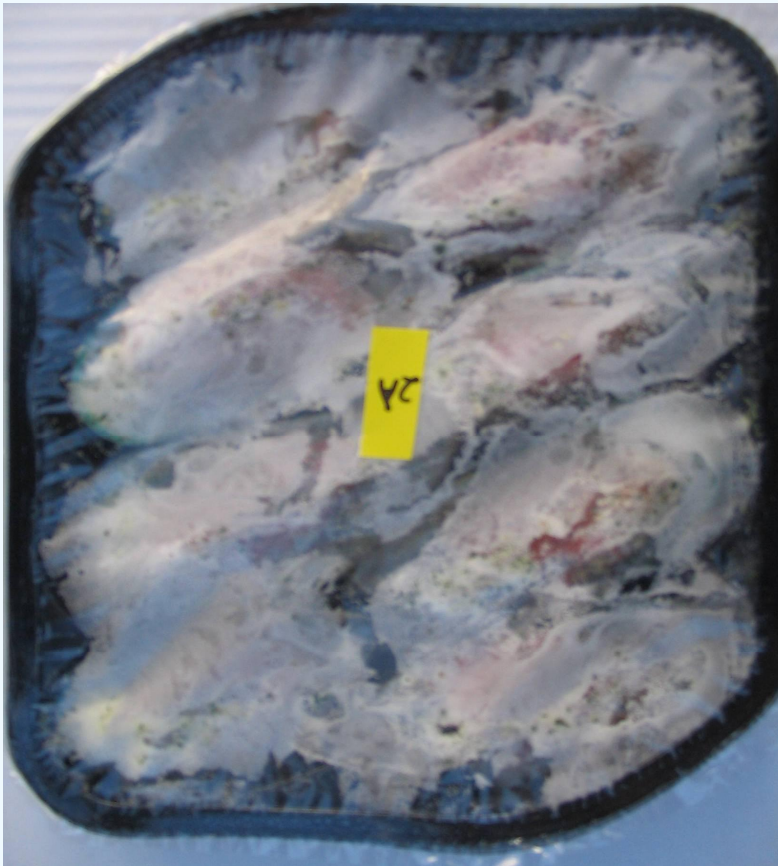
- Application of glaze - spray or dip?
- Vibration shaking of herb mix
- Flavour addition warm or frozen?
- Freezing – spiral or rack?
- Addition of half shells into packaging – warm or frozen?



## Case Study 2



### 6. Factory trials





## Case Study 2



### 7. Shelf life

- Acceptance
- Colour
- Dryness
- Ice on product
- Ice on film



# New products...



## imp Stuffed Jalapenos





# Foods Canned Crab





## Deep Sea Adventure





## 's Buttered Lobster Bites





## Flavoured Surimi



# Thank you

- Carl Massarotto - Food Technologist  
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