Protein for Life: Towards a Focused Dietary Framework for Healthy Ageing

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Background

• Project funded by the ‘Priming Food Partnerships’ initiative

• Sandpit Event, Bristol September 2016

Aims of the Sandpit:

○ To foster partnerships in **pre-competitive research**, across the food chain and **between disciplines**

○ To fund **innovative research** of relevance to the food industry and addressing a public health challenge

○ To stimulate preliminary research to give support to further research investment
Project Team

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Prof Jeff Brunstrom
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Dr Alexandra Johnstone
University of Aberdeen

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Dr Liz Williams
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Industry Stakeholders
The Public Health challenge

• There are now more people in the UK aged 60 and above than there are under 18.5

• The number of people aged 65+ is projected to rise by over 40 per cent in the next 17 years to over 16 million.

• ‘Ageing well’ – is priority public health message (WHO)

• 50% of adults fail to meet the RDA for protein
  • Failure to address this will have significant impact on public health
The Public Health challenge

Protein slows the decline of muscle mass and strength (sarcopenia) related to ageing.

We are failing to meet the need for food products to support healthy ageing.

One third of adults over 50 years consume less than protein intake recommendations.

Protein 4 life is a collaborative grant between academia and the food industry to work towards food solutions.
Protein For Life

OUR RESEARCH QUESTION IS: How do we maintain a healthy protein intake in an ageing population?

OUR AIM IS: To develop and to disseminate a set of design rules for formulation of palatable higher-protein foods.
Project Objectives

1. To develop a **multi-disciplinary evidence-base** around protein intake and decision making in older adults

2. To identify **design constraints** for academic and industry partners

3. To use outcomes from Objective 1 to yield a **set of design rules** for higher-protein products

4. To formulate and trial an exemplar product based on the design rules

5. To disseminate our findings to key stakeholders; to develop a more general roadmap to inform product development
Work Packages

• **WP1** - Profiling of consumer behaviours for protein intake

• **WP2** - Focus groups and interviews on consumer barriers and opportunities for protein consumption

• **WP3** – Choice architecture

• **WP4** – Development of documentation on protein ingredient range with industry partners

• **WP5** – Development of a design brief

• **WP6** – Production of exemplar products and product assessment by consumers

• **WP7** – Communication brief and knowledge launch
WP1: Profiling of consumer behaviours for protein intake
Work Package 1

• Three different data sources used to develop a profile of the type, quantity, quality and timing of protein intake

1. National Diet and Nutrition Survey (NDNS)
2. Consumer Data
3. Food diary analysis from two projects from University of Sheffield

• 3 age groups – 40-54 years, 55-69 years and 70+ years
WP2: Focus groups and interviews on consumer barriers and opportunities for protein consumption
Focus Groups

- 40 community-dwelling **healthy mid-life** (40-54 years), **young old** (55-69 years) and **older old adults** (70+ years)

- **product-based reasons** (e.g. appearance and taste)
- **environmental-based reasons** (e.g. convenience and effort to cook)
- **cognitive-based reasons** (e.g. nutritional knowledge and health beliefs)

**Important information on psychological/behavioural drivers for food choices and preferences**
Key findings

- Over 60% of participants were not aware of recommended daily protein intake

- Poor understanding and awareness of the health benefits of protein

- The most important factors influencing purchasing of protein based foods are:
  - Taste and versatility
  - Healthiness of the food
  - Personal health complaints
WP3: Choice Architecture
Work Package 3

• **Choice Architecture** - A laboratory-based technique to quantify individual differences in ‘preference for protein’

• A broader understanding of individual drivers of choice

• Information about how these ‘food-choice architectures’ change with age
Key findings

• The importance of perceived healthiness and perceived value of nutrients changes with increasing age

• In the 70+ group, participants were more likely to choose a higher protein food if it is also considered to be less filling

• Over 70’s age category in particular may be unwilling to consume a product designed to increase their protein intake.
WP4: Development of documentation on protein ingredient range with industry partners
Deliverables

• Academic review of the current literature to collate information on the optimal sources of protein considering amino composition and palatability, sustainability, public acceptability.

• Industry facing report on opportunities and barriers to increasing protein intake with consideration to cost, blendability, palatability and impact on processed final product.
WP5: Development of a design brief
**Academic Data –**

Which products are acceptable and enrichable?

Are there gaps (meals / times / formats) and opportunities?

**Academic insight –**

Optimal types of protein for health?

Optimization for sustainability?

**WP5 –**

Development of a Design Brief–

We will draw together leads and industry partners

Workshop format

Present what we know

*In an ideal world we would.......*

Determine limits of what can be

*In this world we can.......*

*Integration of information to yield a design brief*

**Industry Data –**

What sources are affordable, modifiable in the manufacturing environment?

Constrains around preparation storage, pricepoint?

**Industry Insight –**

What products are adaptable in practice?

What *culs de sac* can be avoided?
WP6: Production of exemplar products and assessment by consumers
Exemplar product production

• Led by Campden BRI

• Involvement from all industry partners

• Biscuit product with two different amounts and two different types of protein
Consumer Testing

- Carried out at Aberdeen, Newcastle, Sheffield and Bristol

- 50 participants in each age range (40-54 years, 55-69 years 70+years) across the sites.

- Participants will complete a sensory panel for each exemplar product in which the product will be assessed alongside a comparable, commercially available product

- Participants will be asked to rate a range of sensory responses including palatability, mouth feel, acceptability and expected satiety.
WP7: Communication brief and knowledge launch
Communication brief and toolkit

• The communication brief will be a written document summarising the findings from the study

• Toolkit for stakeholder agreement
  - video clips and social media content
  - Infographics
  - press-release statements
  - Powerpoint slides
Knowledge Launch

• Half-day event hosted at Campden BRI to which all members of Campden BRI will be invited

• Project team will present the main findings of the research and also highlight the communication brief and toolkit

• Members will be encouraged to provide feedback on the study and engage in discussions on future collaborative opportunities.
Protein for Life Outputs

Nutrition Bulletin

NEWS FROM THE RESEARCH COUNCILS

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Summary

• Multidisciplinary novel approach to tackling a public health issue with relevance to the food industry

• Pump-priming study – only the beginning!

• New approach for the research councils to foster the relationship between industry and academia
Any Questions?

www.proteinforlife.co.uk