



University of Exeter

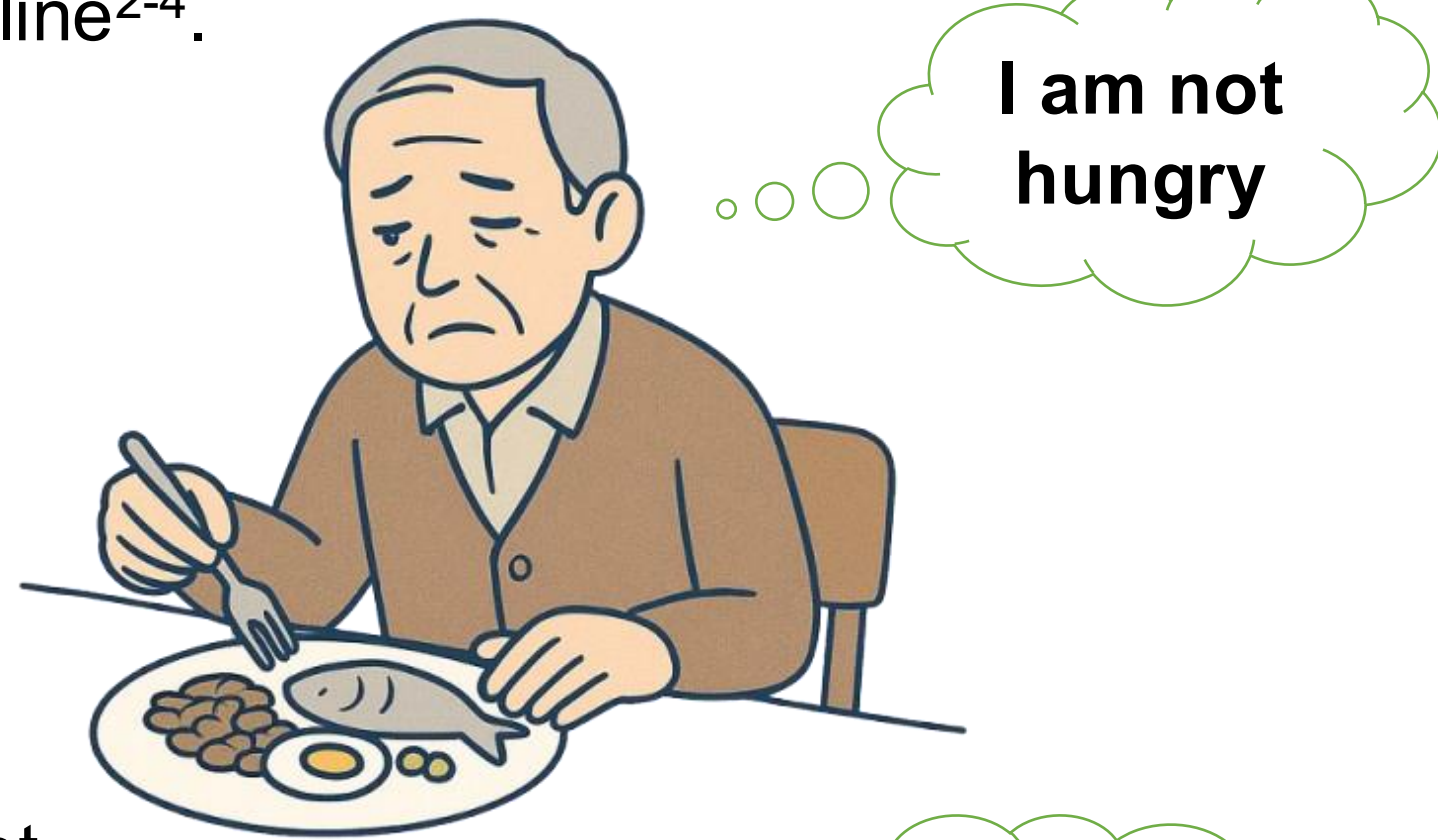
# ProSauce: The development and testing of a plant-based, protein-dense sauce to optimise taste, cost and nutrition of meals for older adults

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## Background

Older adults are at increased risk of protein-energy malnutrition<sup>1</sup>, contributing to sarcopenia, frailty, and functional decline<sup>2-4</sup>.

Age-related appetite loss

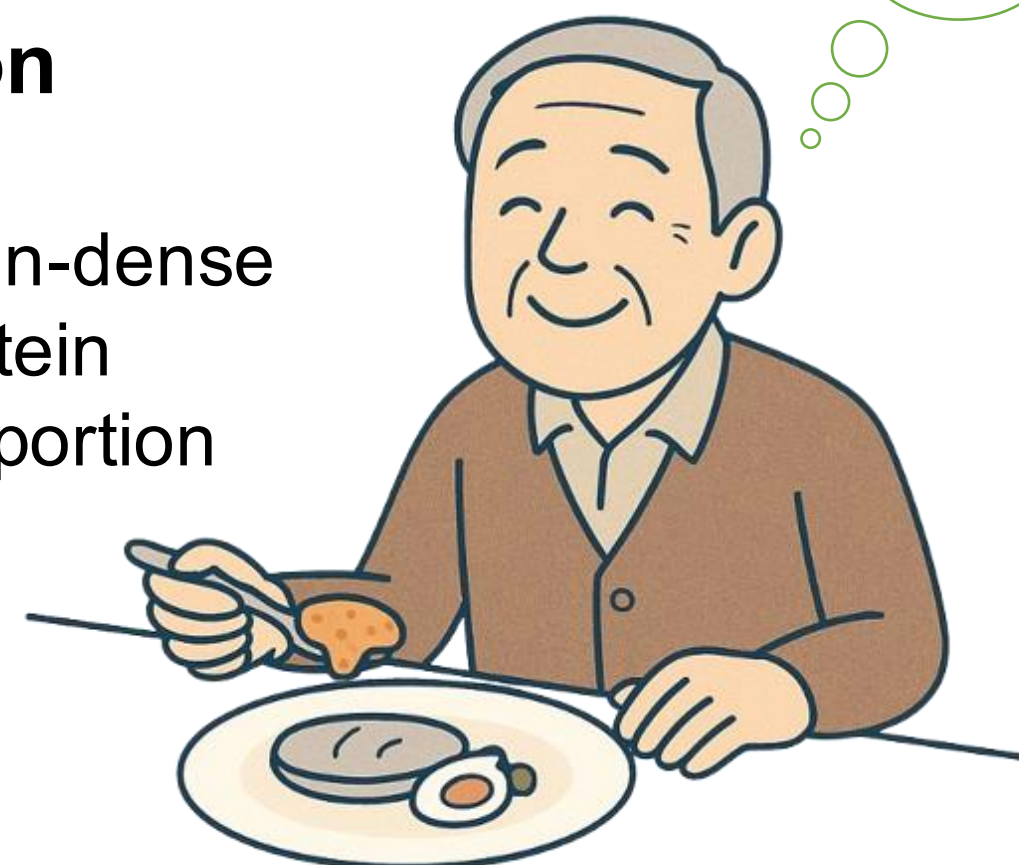


Harder to meet protein requirements<sup>5,6</sup>



## Our Solution

Plant-based, protein-dense sauce to boost protein content of smaller portion meals.



## Objectives

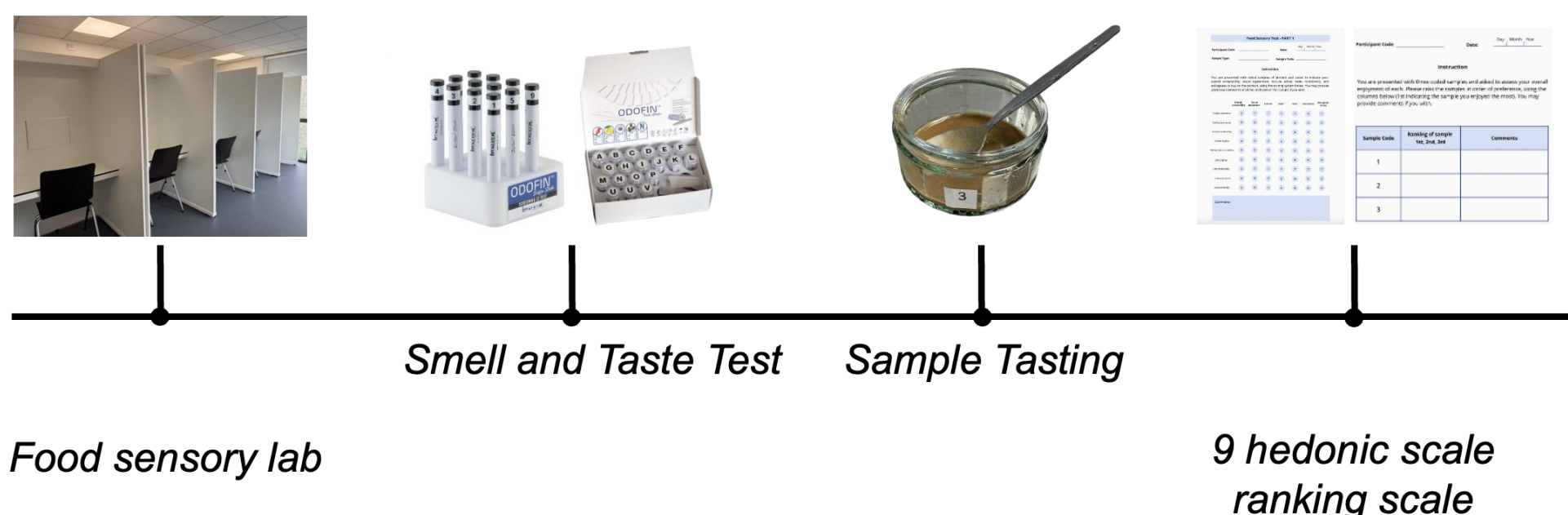
We evaluated sensory properties of different formulations to develop the sauce and maximise acceptability.

## Methods

42 community-dwelling older adults aged 60 and over participated two phases of study:

**Phase 1:** Participants evaluated three formulations composed of blended plant-based protein sources.

### Phase 1



### Phase 2

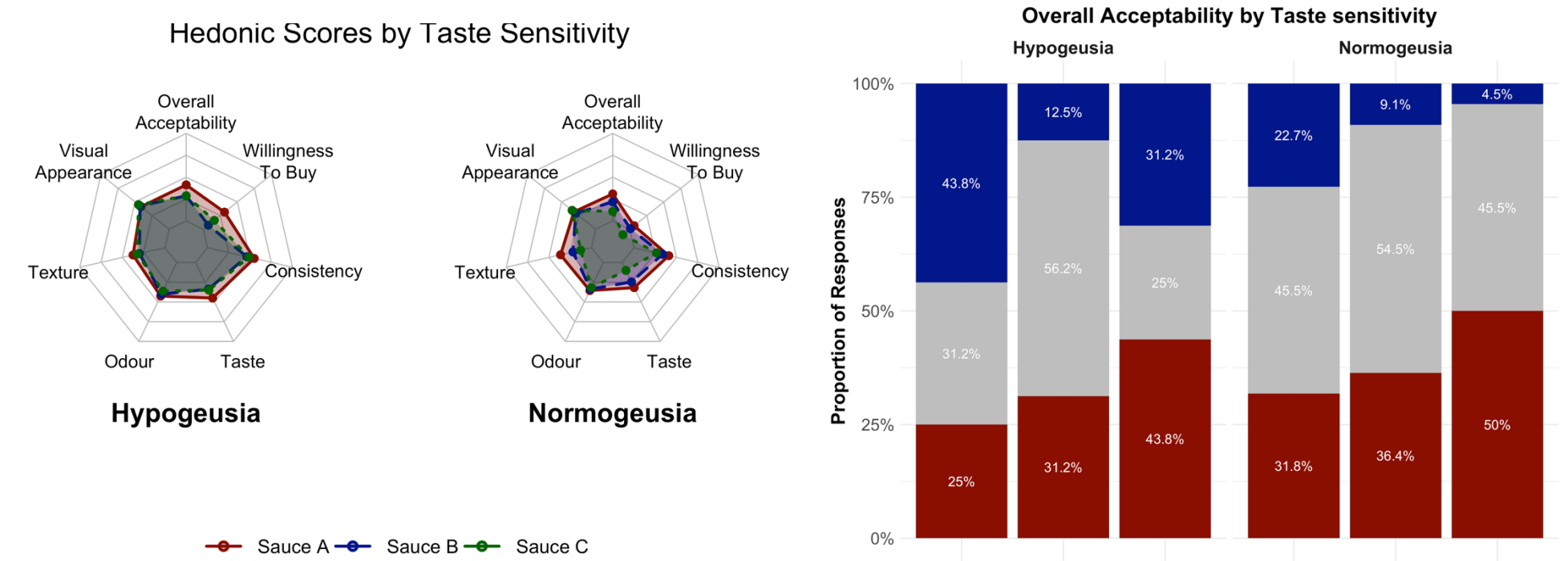


**Phase 2:** Participants consumed three identical meals with two optimised plant-based sauces and one commercially available vegetarian sauce.

## Results

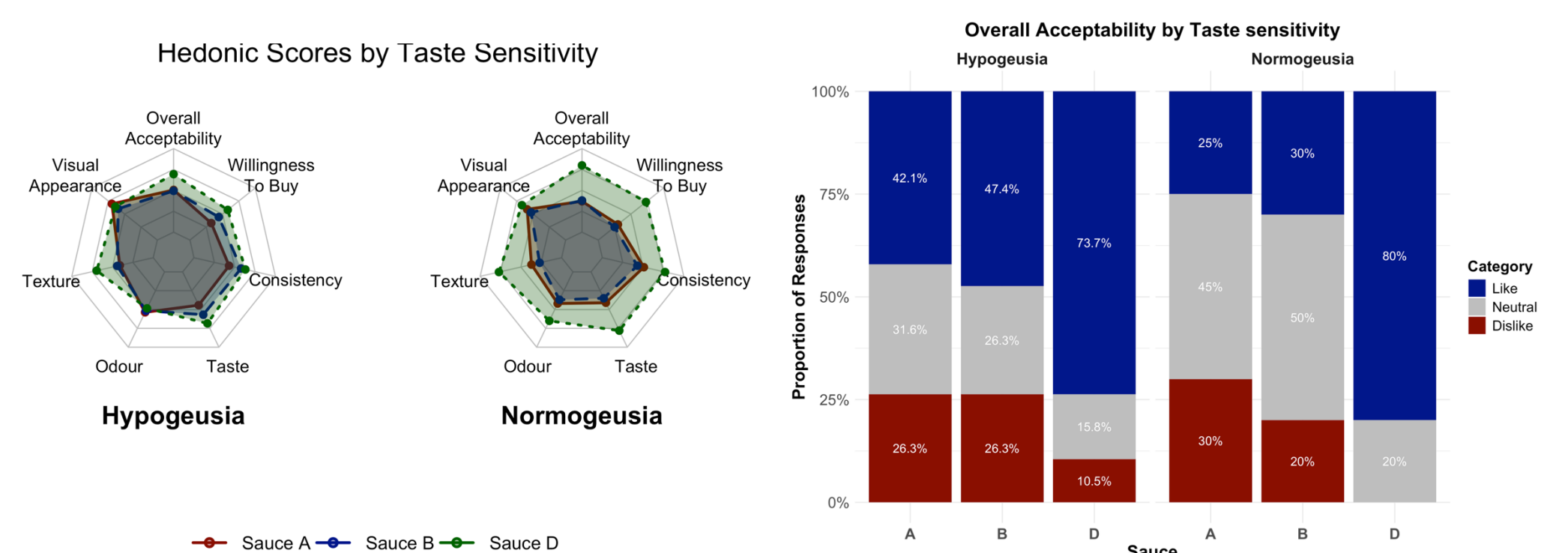
### Phase 1

Overall preferences: 64% prefer sauce A over sauce B; 60% A over C and 49 % B over C.  
Qualitative: Grainy texture and peppery flavour across all three formulations.



### Phase 2

Overall preferences: 42% A > B; 23% A, 28% B > D  
Qualitative: smoother textures & milder tastes preferred.



D: commercially available vegetarian sauce.

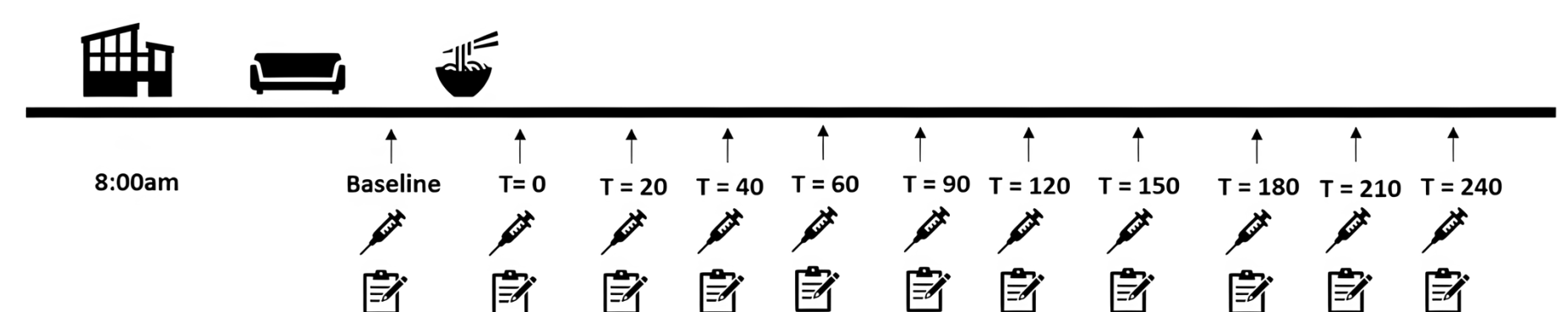
**Formulation B selected for its cost-effectiveness.**

## Next Steps

Randomised controlled clinical trial (NCT06965699)  
Assess postprandial amino acid availability and appetite hormones.

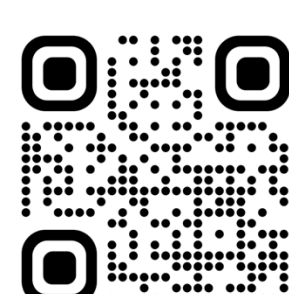
**Aim:** support muscle protein synthesis without appetite suppression.

**Goal:** scalable, sustainable intervention for ageing populations.

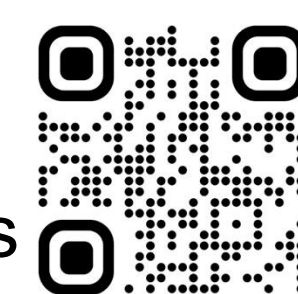


### Key

- Arriving at lab fasted
- Rest for 30 minutes
- Consuming one of the two test meals
- Venous blood sampling
- Subjective appetite perceptions



Scan me for the references



Scan me for the ProSauce webpage and order a free sample