



A food grade environment for the testing, validation and improvement of existing and novel materials as foods including nutritional content, advanced compositional analysis, shelf life and consumer preferences.



Food Production Lines:

Food grade processing and laboratories conforming to BRC standards:

- **Meat:** Goods reception with delivery yard, proof of concept scale processing facilities (90m²) and cold storage for meat product raw materials.
- **Dairy and liquids:** Reception (130m²; capacity: 1-500 litre batches), thermal processing and separation of raw milk feedstocks allowing pilot scale pasteurisation, filtration and other treatments in batches (up to 1000 litres) and continuous mode (5000 litres/day). Cheese, cultured milk products, butter and frozen product manufacturing (capacity: 1-100 litre batches) and replicated samples to study a range of novel products simultaneously.
- **Grains and pulses:** Processing and formulation of raw goods, on-site baking including preparation of functional food materials for consumer testing.

Demonstration Kitchen and Sensory Booths:

- **Demonstration kitchen:** Full audio-visual support within a commercial kitchen will allow for real-time remote viewing in addition to presentation and recording capabilities for novel product development and preparation.

- **Sensory Analysis:** Six booths for trained taste panels, served by a dedicated kitchen and incorporating computerised response system to allow real-time responses to organoleptic and sensory properties of novel foods (taste, texture, appearance, etc.) to be collated.

Novel and Functional Foods:

- **Foods and Bioprocessing:** The food production lines and processing capability link with the food grade **Downstream Processing** and **Fermentation Units** within the **Biorefining Centre**, allowing food materials to be easily transported between each zone.
- **Foods and health claims:** The **Future Food Centre** will be integrated with the activity of the Aberystwyth University Well-being and Health Assessment Research Unit (WARU) and will be well placed to develop evidence for health claims relating to novel foods.

Laboratory Analysis: composition, shelf life and safety:

- **Food quality and composition:** Access to excellent facilities in the **Advanced Analysis Centre** to determine food composition using standard and bespoke tests (e.g. essential fatty acids, nutraceuticals, micronutrients, chemical determinants of bioactivity, flavour and colour development).
- **Food characteristics:** a fully equipped laboratory for measuring the physical characteristics of liquid and solid foods (e.g. meat texture).
- **Food storage:** replicated thermal environment modulation cabinets to study a range of temperature and humidity effects on food maturation processes.
- **Retail display cabinets:** to study effects of shelf life and types of packaging on food quality (e.g. colour testing, food stability).
- **Food safety:** a designated microbiology laboratory to test and measure microbial spoilage.

