

Food Chemistry

Chemical and biochemical changes in foods during processing and storage.

- A comparative study of lipolysis and proteolysis in Cheddar cheese and yeast inoculated Cheddar cheeses during ripening.
- The pH value and freezing point of milk in the western and southern Cape and factors affecting these values.
- Chemical changes of a soya milk powder during storage.

Food Microbiology

Microbiological food safety and spoilage.

- E. coli in food products.
- The taxonomy and significance of *Chryseobacterium* strains in food products.

Meat Science and technology

Chemical stability of muscle foods, with a special interest in the lipid component. Manipulation of the lipid component of diets of meat producing animals with the aim of improving technological and health properties of fat tissue.

- The role of yeasts during the ripening of salami.
- Significance of lipids in fermented meat technology.
- Lipid quality of pork and its significance in meat technology.
 - Improvement of subcutaneous fat quality of pigs by means of dietary manipulation.
 - Back fat quality of pigs in South Africa: A survey.
 - A study on the chemical stability of dried camel meat during storage.
 - A comparison between grain fed, grass fed and organically produced beef in terms of fatty acids of nutritional importance at retail level.
 - The effect of dietary CLA supplementation on the technological, chemical and sensory quality of pork.

Dairy Science and technology

Milk composition. Ways to reduce the lactose content of milk for the subsequent use in dairy products. Detection of adulteration of milk in South Africa, and upgrading of the screening methods that are applied. Alternative biological and technological methodologies in cheese processing.

- A comparative study of proteolysis in Cheddar cheese and yeast inoculated Cheddar cheese during ripening.
- The quantity and Quality of milk in Mangaung.
- Participatory development of an indigenous goat cheese product: monitoring of the chemical, nutritional and microbiological quality from milk to cheese.
- The use of irradiation and elevated temperature in the ripening of cheddar cheese.
- Lactose intolerance and a possible cure.
- The rapid detection of recombined milk in the fresh milk industry.
- Milk composition of non-dairy animals.
- Prebiotic oligosaccharides in milk.

Plant product technology

The effect of agricultural practice on food quality of crop plants.

- Post harvest chemical changes of vegetables under modified atmosphere packaging.
- Morpho-agronomical and molecular marker based genetic diversity analysis and quality evaluation of [*Sorghum bicolor* (L) Moench] genotypes.
- Sorghum quality on milled products.

- Development and application of a small scale canning procedure for the evaluation of small white beans (*Phaseolus vulgaris*).
- Uses of Green indigenous vegetables in traditional foods.
- Determination of the nutritional quality as well as the sensory evaluation of the fruits from available Burbank spineless prickly pear cultivars in South Africa.

Food Engineering

Factory planning

- Energy, thermodynamics and heat transfer.
- Conduction, convection, radiation, heat exchangers.
- Mass transfer.
- Steam supply.
- Design of a factory for evaporation and frying of liquid foods and applicable principles.
- Supply of refrigeration and cold rooms.
- Compressed air: in work place cleaning and its engineering principles.
- Engineering aspects involved in factory effluents.
- Automatisation and instrumentation.
- A study tour during the April holiday.

Product development and Sensory analysis

Multi-disciplinary nature of product development

- Definitions and criteria for new product development, principles, approaches.
- The consumer.
- Relationship between sensory new product development, principles, approaches.
- Relationship between sensory evaluation and product development.