Evaluation of the microbiota of foods with metagenetics
The food ecosystem

Ressources

Food matrix: nutrients for microorganisms

Microbiota

Environment

Process: temperature, pH, gaz, additives, ...

Raw products/ingredients, Environment (handling, cross contamination, biofilm)
The food ecosystem

Micro-organism communities

Risk

Benefit

Illness  Spoilage  Preservation  Fermentation
The food ecosystem

- Raw meat, fish, fruits, vegetables: $10^3$ to $10^9$/g
- Dehydrated, high sugar or very fatty foods: $10^2$/g
- Cooked products, chilled ready meals: $10^2$ to $10^9$/g
- Fermented products: $>10^9$/g
- Gut: $10^{11}$/g
- Soil: $10^9$/g
Hurdle theory
CASE STUDY
Extending shelf life

Comparison of Belgian beef meat with others countries

beef meat for export

Comparison of storage conditions
CASE STUDY 2
Extending shelf life

beef meat for export