

Polymer nanocomposites & active antimicrobials in meat packaging



Description

Pilot line production of functional polymer nanocomposites from natural halloysite nanotubes (HNTs) that release active antimicrobials in fresh meat packaging applications to extend food life.


Objectives

- To analyse and demonstrate the positive environmental impacts by extending fresh meat life-shelf using antimicrobial surfaces,
- To perform a risk assessment focused on toxicity and safety issues,
- To reduce costs by applying smart technologies in the supply chain and processes optimisation,
- To evaluate the social impacts, to stimulate the use of novel technologies and to increase retailers and consumers acceptance.

Activities

- Sustainability assessment:
 - Life-Cycle Assessment LCA,
 - Life-Cycle Costing LCC,
 - Social Life-Cycle Assessment SLCA,
- Market uptake:
 - Market analysis,
 - Consumers and retailers behaviour,
 - Health and safety assessment.

Challenges

- Input data complex to collect 
- Technical knowledge required 
- Legal & legislation barriers 
- Technology readiness level 

Expected outcomes

- Enhance food safety for consumers,
- + 25% shelf-life of food products,
- Reduction of operational costs for food manufacturers,
- Reduction of food waste.

