

Valorisation of Bakery Waste to Produce Bio-emulsifier

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Bakery Waste Issue

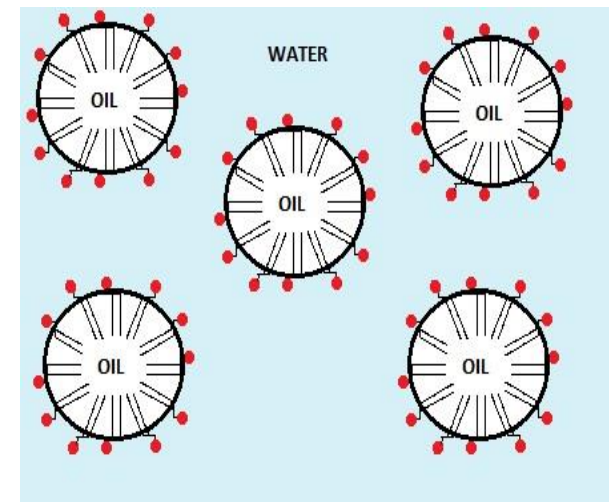
- Almost 900,000 tons of bread in the UK is wasted every year – around 24 million slices every day.
- Food waste data published by the major supermarket in 2015/16, reported about 1/3rd of its 59,400 tons of food waste are bakery products including bread.
- Mostly, food waste ends up in landfill, or is used for composting or anaerobic digestion. But they are costly methods of disposal.
- In our group, we investigated the potential of bakery waste as a medium to produce bio-emulsifiers.

Bio-emulsifiers

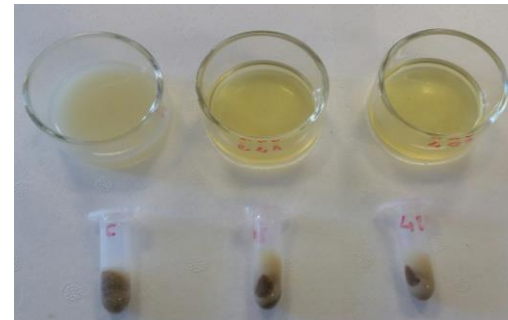
Highly-effective biotechnology based surface-active multi-functional products

Properties:

- ❖ Non-toxic, Non-hazardous
- ❖ Thermostable
- ❖ Low surface tension
- ❖ Emulsify: wide range of hydrophobic compounds - Stable emulsion

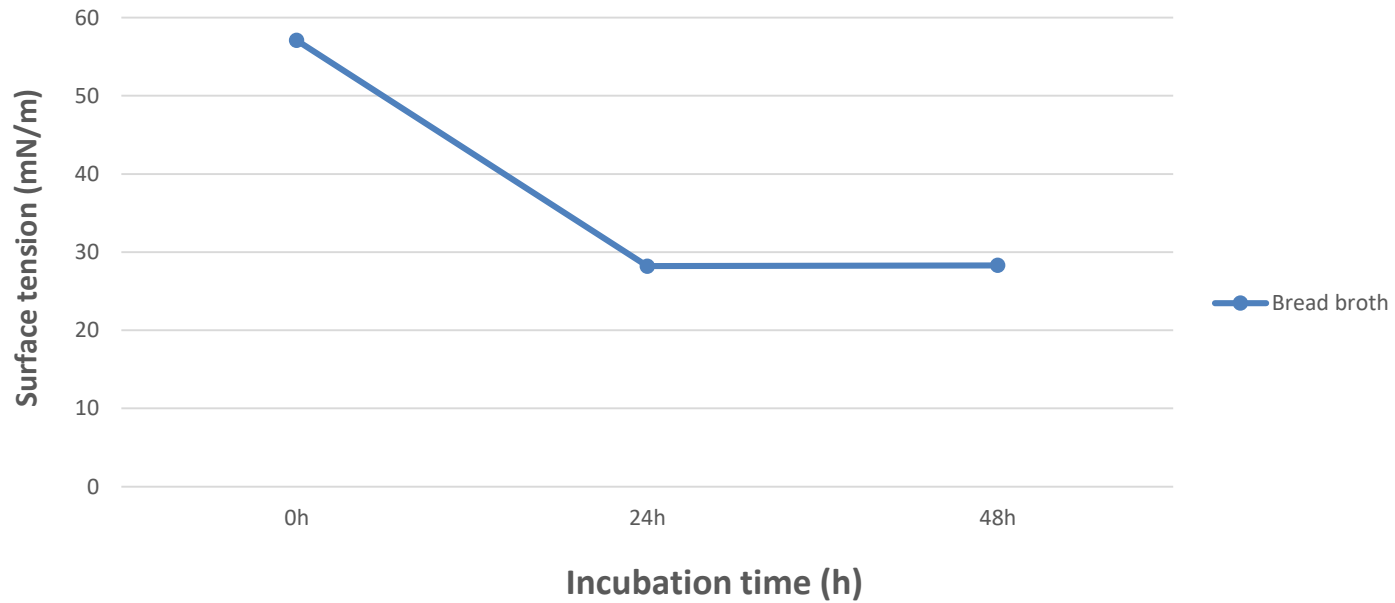


Methods



Results

Surface tension results of Bio-emulsifiers produced by *Bacillus subtilis* SA-6



Applications of bio-emulsifiers in food industry

