Making donated milk more accessible through improved processing techniques

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Current infant feeding modes (regulated)

Breastfeeding

Exclusive feeding rate is 40%

Donated milk

Contamination risk, but is antimicrobial

Premature hospitalised infants

Infant formula

Accessible

Lacks protective components

Direct contamination risk

Risks of not receiving breastmilk in the first 6 months

	Low income countries	High income countries
Formula fed infants	6-10 times more likely to die from diarrhoeal or respiratory disease (WHO)	3 times more likely to be hospitalised for respiratory disease (UNICEF)

Current processing techniques of donated milk

Holder Pasteurisation

62.5 ° C for 30 minutes

Problems:

- uneven heat transfer
- Difficult to pasteurise large batches
- Degrades many immune components

Storage: Frozen

Problems

- Limits capacity
- Expensive
- Short-shelf life
- Limits ability to ship

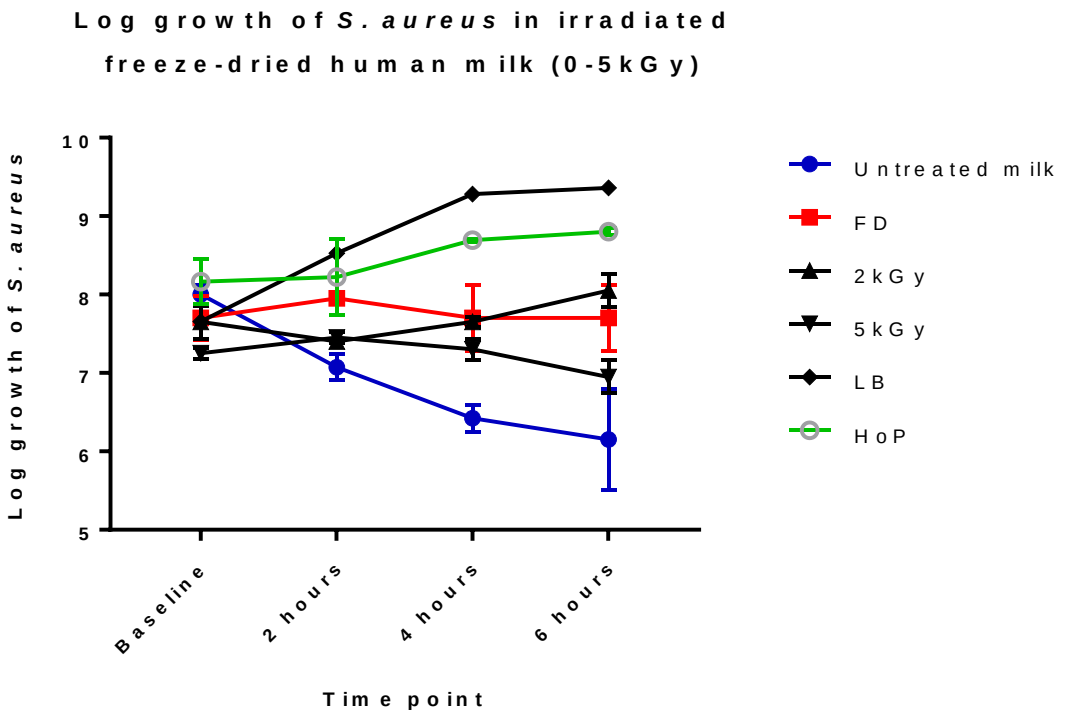
Aims

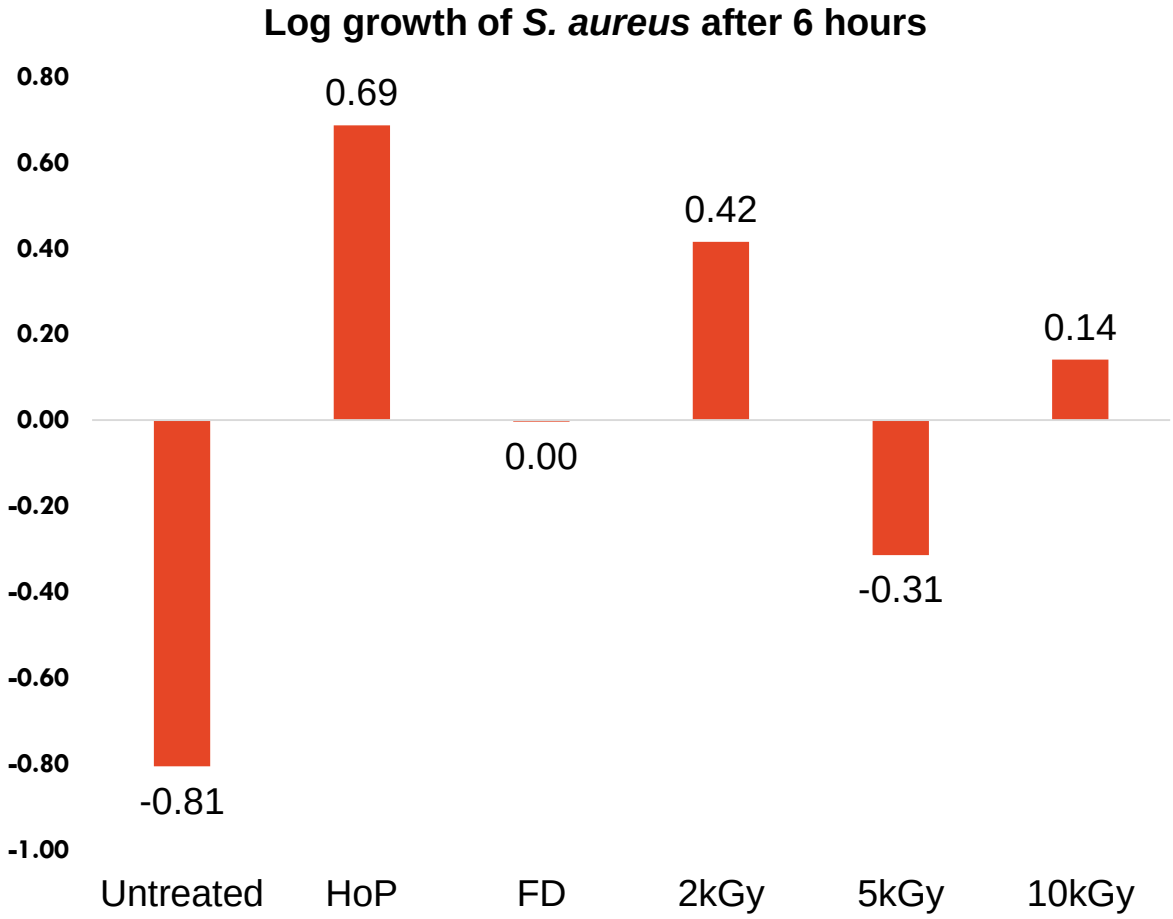
1. Establishment of reference data using a range of accepted analytical techniques to characterise human raw human milk.

- Physicochemical properties
- Functional properties

2. Study of the impact of treatment of different milk processing methods (freeze-drying and spray-drying, irradiation and heat)

Antimicrobial capacity
Test pathogen: Staph aureus





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