Modeling the growth behavior of foodborne pathogens by real-time PCR
## －Predicting the influence of temperature abuse－

成果の特徴

- Develop a rapid and specific genome-based method to collect numerous bacterial growth data from various food samples.
- Construct predictive models that enable the estimation of bacterial response to fluctuating temperature conditions.
- Evaluate the difference between the prediction results from real-time PCR data and traditional agar plate count method.

成果の内容

Growth pattern in the temperature abuse scenario
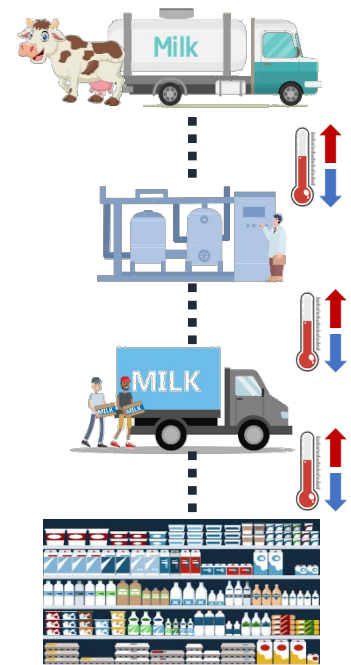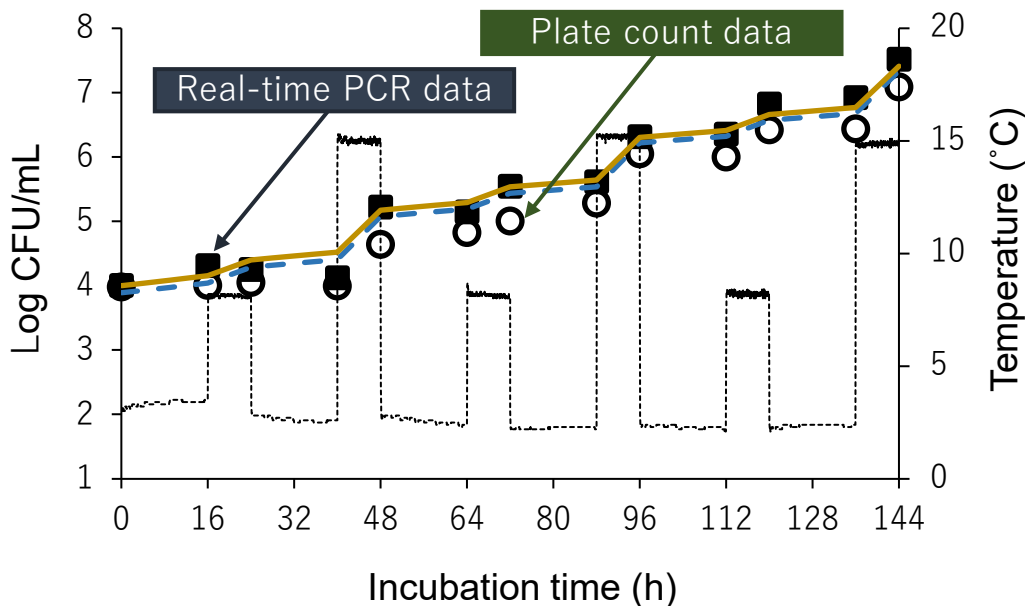
成果の活用

Genome-based analysis method such as real-time PCR enables accurate quantification of bacterial number despite the influence of stress conditions caused by processing treatments, food properties, temperature, and storage conditions that the traditional agar method cannot do. Real-time PCR is a promising data collection tool for customized prediction models, which is important for food companies to estimate the behavior of different pathogens in specific food types subject to food company conditions.

参考

Noviyanti, F., Shimizu, S., Hosotani, Y., Koseki, S., Inatsu, Y., Kawasaki, S. (2020) *Foodborne Pathogens and Disease* **17**, 693-700.

代表研究者：Fia Noviyanti
所　　　属：食品研究部門　食品流通・安全研究領域
　　　　　　食品安全・信頼グループ

農研機構
NARO 国立研究開発法人 農業・食品産業技術総合研究機構