

Shelf-life Extension for Ready-to-Eat Foods



The global food industry is under rising pressure to meet consumer expectation on food safety, healthy and fresh food, especially in this pandemic era. The fast pace of modern society is also changing consumer habits. More and more people are demanding for ‘fresh-like’ and convenient products for example ready-to-eat foods. Technological innovations can help to meet customer expectations on maintaining food quality, natural freshness, and extending product shelf life for ready-to-eat foods^{2,5}.

A Bright Future for High-Pressure Processing (HPP)

HPP is a non-thermal preservative technology that maintains the gentle preservation of food via high pressure without additives or heat. It is a cold pasteurisation technique that uses pure water. The high pressure eliminates food-damaging bacteria and helps to slow down the decay process. It helps to keep the freshness as well as maintain the mouthfeel, appearance, aroma, taste and nutritional properties^{1,5}.

Innovations in Packaging to Prolong Shelf-life

Perishable RTE foods always have a limited shelf-life. A technology called **sous vide packaging** helps to prolong their shelf life⁴. It is a thermal treatment method in water bath and steam which significantly reduces the microbial growth. Sous vide technology also gives better sensory quality in RTE foods that satisfies consumer demands⁴.

Another new concept of packaging innovation in RTE food is using a **bio-based packaging materials** such as biodegradable bioplastics (PLA) from seaweed⁵. It is used as packaging materials for products with a short shelf life like fresh RTE food such as fruit and salads⁵.

Last but not least, the incorporation of **nanoparticles** in food packaging materials is one of the smart packaging applications which bring advantages in improving mechanical, thermal, and barrier properties⁵. For example, food freshness can be monitored using time–temperature and oxygen indicators to reduce food loss⁵.

Conclusion

Continuous innovative developments in packaging along with improved technologies have shown greater results in extending the shelf life and quality of ready-to-eat foods. At DPO, our in-house brand – **Foodcraft** brings you a range of RTE foods in a portable way for anyone to have on-the-go meals.

References

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