

Extended Freshness in Food Storage

A Comparative Analysis of Cambro
FreshPro Series Food Storage Containers

FRESH
PRO



CAMBRO
TRUSTED DURABILITY

www.cambro.com

Introduction

Cambro submitted the FreshPro Series system, including FreshPro CamSquares and CamRounds storage containers, seal covers, and drain shelves, to the Johnson & Wales University Ecolab Center for Culinary Science for independent third-party testing. The mission of JWU Providence's Ecolab Center for Culinary Science is to support foodservice professionals with their innovation needs, from product development to nutritional labeling, basic laboratory analysis, and more. The objective in choosing this testing center was to obtain independent, scientifically validated data on product performance.

Goal

The goal of the testing was to evaluate whether the FreshPro Series food storage system provided superior freshness extension compared to alternative storage methods, including standard plastic containers, metal food pans, and coverings such as plastic wrap.

Scientific Factors

The rate at which food degrades depends on several factors, including its composition, storage conditions, and exposure to environmental elements. Important food product and environmental considerations that were made in testing were:

- **Water content (Moisture level):** Foods with high moisture content such as fruits, vegetables, and dairy degrade faster as water promotes microbial growth and enzymatic reactions.
 - **Oxygen Exposure:** Oxygen promotes oxidation, accelerating food spoilage.
-

Criteria

To measure freshness performance, the Johnson & Wales University Culinary Science team conducted a comparative study that focused on food product freshness during long-duration storage on multiple food samples at controlled temperatures for congruent durations.

Project Findings: Seal Covers **Doubled Shelf Life** While Drain Shelves Extended Freshness **By 2 Days**

Seal Cover

- Freshness assessments suggest that the FreshPro Series containers with respective tight-fitting FreshPro Seal Covers were far superior to other storage solutions because of its ability to prevent oxygen exposure.

Drain Shelves

- Sliced tomatoes stored in the FreshPro Series containers with respective FreshPro Seal Covers and Drain Shelves were visibly fresher (compared to all other storage solutions assessed in the project) for a longer period of time not only due to limited oxygen exposure but also the added benefit of the drain shelf, which allows excess liquid to drain away from the ingredient.

Results: FreshPro Seal Covers Double Shelf Life



CONTAINER	ACCESSORIES	USABLE SHELF LIFE	NOTES
RASPBERRIES			
FreshPro Series Food Storage Container	FreshPro Seal Cover	10 Days	Visibly usable, no visual signs of breakdown at Day 10
FreshPro Series Food Storage Container	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Competitive Plastic Food Storage Container	Compatible Lid	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Compatible Metal Lid	5 Days	Past usable shelf life on Day 5



CHOPPED ASPARAGUS			
FreshPro Series Food Storage Container	FreshPro Seal Cover	10 Days	Visibly usable, no visual signs of breakdown at Day 10
FreshPro Series Food Storage Container	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Compatible Metal Lid	5 Days	Past usable shelf life on Day 5



WHITE BUTTON MUSHROOMS			
FreshPro Series Food Storage Container	FreshPro Seal Cover	10 Days	Visibly usable, no visual signs of breakdown at Day 10
FreshPro Series Food Storage Container	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Compatible Metal Lid	5 Days	Past usable shelf life on Day 5



CHOPPED ROMAINE			
FreshPro Series Food Storage Container	FreshPro Seal Cover	10 Days	Visibly usable, no visual signs of breakdown at Day 10
FreshPro Series Food Storage Container	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Compatible Metal Lid	5 Days	Past usable shelf life on Day 5

Results: FreshPro Drain Shelves = 2 Extra Days



CONTAINER	ACCESSORIES	USABLE SHELF LIFE	NOTES
SLICED TOMATOES			
FreshPro Series Food Storage Container	FreshPro Seal Cover and Drain Shelf	7 Days	Past usable shelf life on Day 7
FreshPro Series Food Storage Container	FreshPro Seal Cover	5 Days	Past usable shelf life on Day 5
FreshPro Series Food Storage Container	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Competitive Plastic Food Storage Container	Compatible Lid	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Plastic Wrap	5 Days	Past usable shelf life on Day 5
Metal Food Pan	Compatible Metal Lid	3 Days	Past usable shelf life on Day 3; Metal pan broke down the material even faster

Conclusion: Seal Covers Doubled Shelf Life While Drain Shelves Extended Freshness By 2 Days

In summary, Cambro's FreshPro Seal Covers are proven to double the shelf life of stored ingredients compared to other storage methods, while significantly enhancing freshness and overall food quality. Additionally, the inclusion of FreshPro Series Drain Shelves preserve highly perishable ingredients by up to two additional days.

The FreshPro Series storage system is engineered specifically to meet the urgent challenges of modern kitchens: rising costs, waste reduction, and sustainable practices. By doubling freshness, the FreshPro Series system promotes less ordering, less preparation, and less waste – without compromising on quality.



ECOLAB CENTER
FOR CULINARY SCIENCE



www.cambro.com

CAMBRO U.S.A.
TEL: 1(714) 848-1555
FAX: 1(714) 230-4375
international@cambro.com

CAMBRO EUROPE
TEL: (49) 7022 90 100 0
FAX: (49) 7022 90 100 19
cambrogermany@cambro.com

CAMBRO CHINA
TEL: (86) 752-2885018-8809
FAX: (86) 752-2885038
cambrochina@cambro.com

© Copyright Cambro Manufacturing Company
LITX25FRWPEN