

TECHNICAL BRIEF:

FreshWell™ Absorbent Packaging Systems Provide Superior Protection Over Standard Trays to Enhance Food Safety

OVERVIEW

Foods with naturally high water activity and liquid content are at increased risk for harmful bacterial growth and chemical degradation that can occur throughout the supply chain and during shelf life. Processors often use standard trays with synthetic pads to help absorb excess liquids in attempts to maintain food safety and freshness. However, this solution, while common, has its weaknesses. For example, synthetic pads do absorb most of the excess liquid in a container, but the pad is still in contact with the food, therefore allowing bacteria to flourish. The pads can also release some of the liquid it has absorbed, further contributing to spoilage by feeding chemical reactions that can break down the food. Additionally, the pad is not integrated into the packaging, which means that when the consumer opens the package, the synthetic pad can fall out and contaminate surfaces or stick to the food itself, increasing risks in the kitchen.

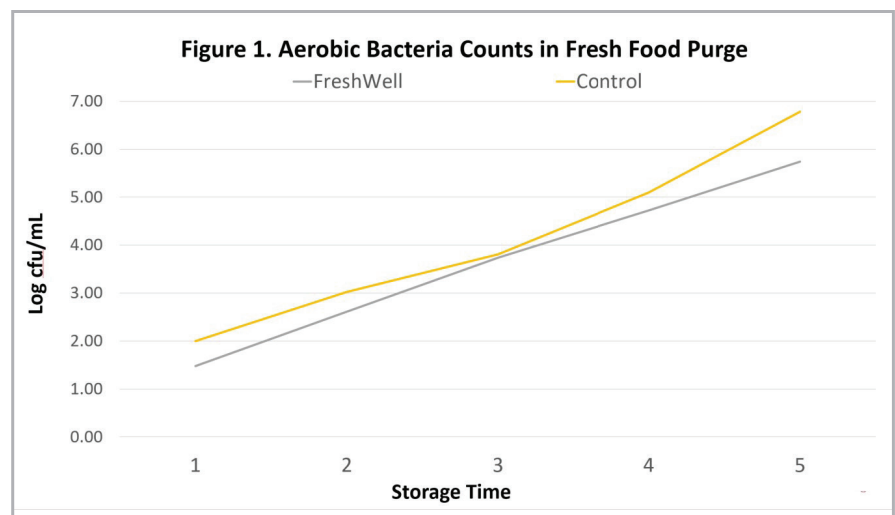


FreshWell™ absorbent packaging systems provides a solution to these longstanding challenges in the food industry, improving freshness, enhancing safety and extending the shelf-life of products. In fact, studies show that fresh cuts using the system can see up to 12-14 days of shelf life. The uniquely designed technology absorbs and controls excess fluid from products by safely securing it in the bottom of the package, keeping the food product separated from its juices and decreasing overall water activity in the package. This reduces bacterial growth and slows chemical processes, yielding impressive gains in assuring food safety.

STUDY RESULTS

A study comparing aerobic bacterial counts, yeast and mold, and *Listeria monocytogenes* growth on food using a FreshWell™ tray versus a standard tray provided strong evidence of the efficacy of this patented system.

The Freshwell™ System ensures all excess moisture not needed by the food is channeled into the bottom wells of the tray where a patented natural absorbent helps keep the food fresh and safe longer. Figure 1 shows how the system slowly decreases the growth of all aerobic bacteria in the liquid purged from the food product and maintains below the 7 log or 10,000,000 cfu/ml required for safe RTE foods beyond five days. In a standard tray, this liquid is still in contact with the food, resulting in an increased level of bacteria resting on the food, leading to faster spoilage.



Technical Brief (continued): FreshWell™ Absorbent Packaging Systems Provide Superior Protection Over Standard Trays to Enhance Food Safety

STUDY RESULTS *(continued)*

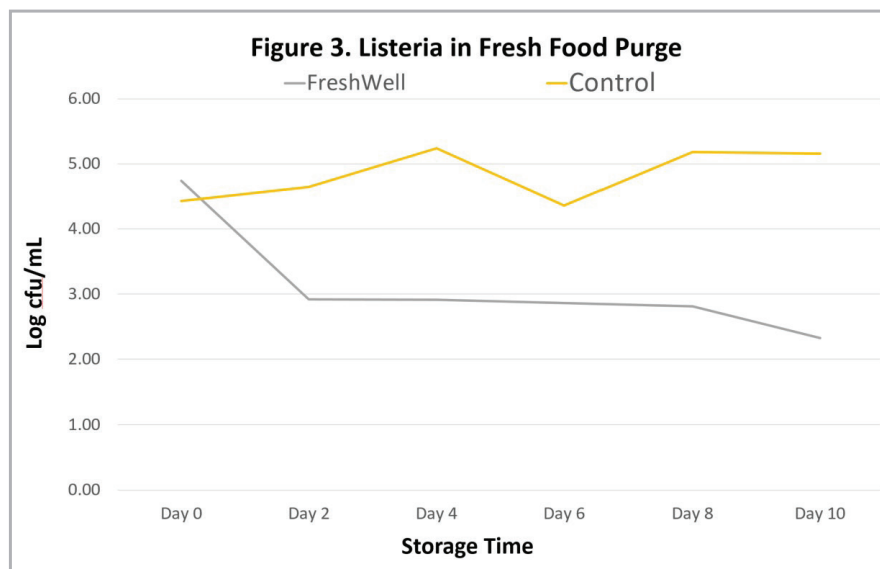
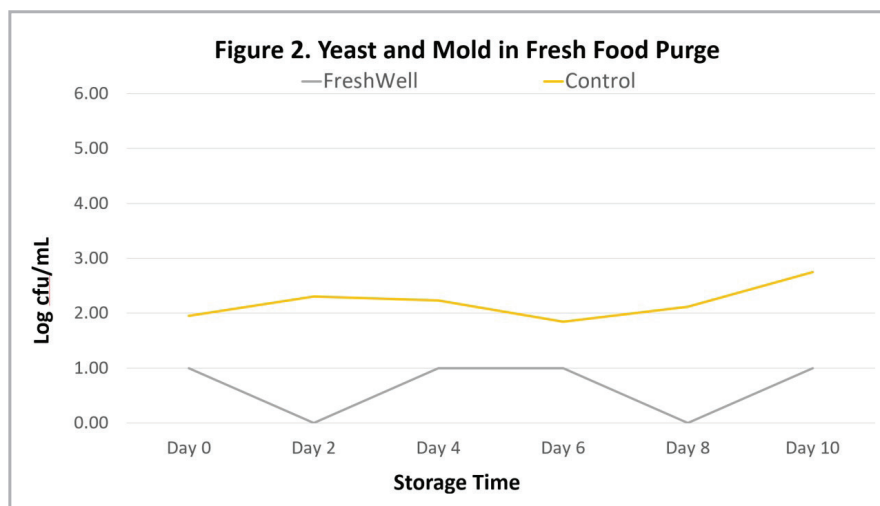
In a similar but longer test, results showed the FreshWell™ System keeping yeast and mold levels at 1 log/ml (Figure 2). Compared to the control trays, FreshWell™ trays yielded 90% less bacteria or only 0-10 bacteria per milliliter compared to 100-900 bacteria per milliliter in the control trays. Yeast and molds are typically visual spoilage organisms and the first ones to create odors.

Lastly, Figure 3 shows the results of a test in which the fresh food was inoculated with *Listeria monocytogenes* to show how pathogens would behave in the FreshWell™ System over time if the food was contaminated. As you can see, the FreshWell™ System inhibits growth of *Listeria monocytogenes* by more than 99% (2 logs) over a 10 day period compared to the control.

CONCLUSIONS

As shown in the test results, FreshWell™ absorbent tray systems deliver superior protection of fresh food products over standard packaging options. In addition to enhancing food safety, this technology features several other valuable benefits, including:

- Dramatic improvement in shelf-life, product quality and product integrity, resulting in increased sales and decreased product waste
- Eliminates the need for spin drying of fresh cuts, resulting in improved yields and reduced product damage
- Integrates with current slicing and sealing equipment
- Tamper evident — peelable lidding film options
- Wide range of sizes to suit the needs of food service, schools and university cafeteria programs, and convenience and grocery stores.




FreshWell™
Absorbent Packaging Systems

