



SEAWELL™ SYSTEMS CONSUMER PREFERENCE CASE STUDY:

Exploring Consumer Preferences for Novel Active Packaging Solutions vs. Traditional Packaging Options for e-Commerce Seafood Delivery

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Background and Objective

Aptar Food + Beverage — Food Protection developed SeaWell™ active packaging systems to control liquid build up in seafood packaging, reducing microbial growth and extending shelf life. Aptar's SeaWell™ active packaging system was originally presented as a thermoformed tray with cavities into which a GRAS (Generally Recognized as Safe) technology blend was dropped and secured with a heat-sealed piece of non-woven fabric. This creates a “false floor,” separating the seafood from any standing liquids. The thawed or naturally released liquids are allowed to fall through the non-woven fabric into these cavities, reacting with the proprietary GRAS ingredients to form a gel. This innovation, “Drip-Lock™ technology,” allows the gel to remain secured in the wells of the tray (Figure 1).

While in-store retail sales of the SeaWell™ system have proven successful, the rapid expansion of the e-commerce landscape led the company to explore how its unique packaging systems could best serve e-commerce and home delivery markets.

To address the specific needs of these markets, Aptar evolved its SeaWell™ active packaging design into a pouch configuration (Figure 2). The concept is the same as with the tray, except the absorbent technology blend is housed in quilted pockets inside the pouch, hidden by the seafood that is packaged inside of it. The patented Drip-Lock™ technology provides the same liquid separation effect to protect seafood from increased bacterial growth, but in a format that is more conducive to e-commerce.

With the development of this new format and its quick acceptance in retail, Aptar was interested in understanding consumer preferences for the new SeaWell™ active packaging pouch versus a traditional plain polybag package often found in e-commerce seafood shipments. To that end, Aptar commissioned a consumer preference study with Kaplan MRD to determine seafood buyer preferences between these two types of seafood packaging.

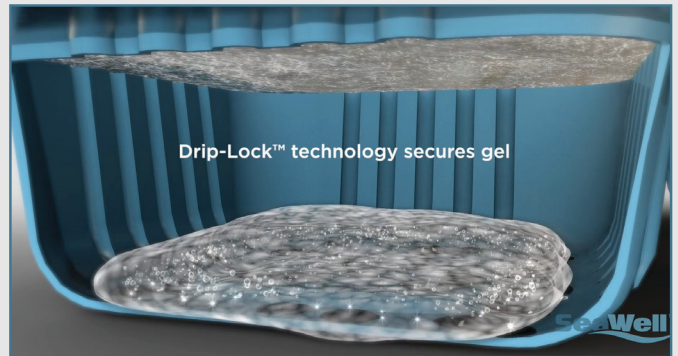


Figure 1: A view inside SeaWell™ Technology

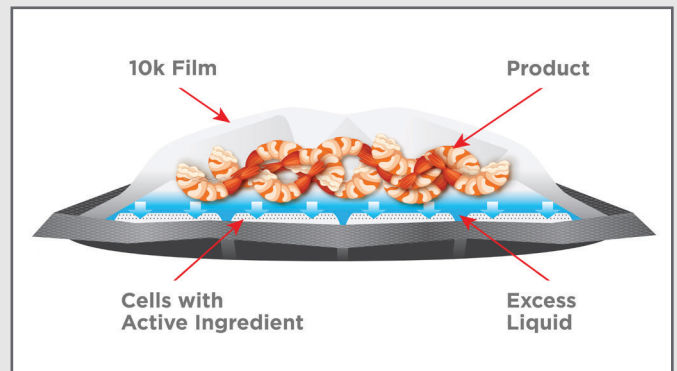


Figure 2: Illustration of SeaWell™ Pouch System

Study Methodology

Participant Selection:

Kaplan MRD screened heads of households to identify those who had purchased frozen or refrigerated shrimp in the past three months and who, specifically, had groceries delivered to their home (e.g., used a home delivery service directly from a supermarket/grocer via a shopping service like Instacart, or ordered a meal kit from a service such as Hello Fresh, Home Chef or Blue Apron). Qualified respondents were invited to participate in a brief study at appointed times at a research site.

Sample Specifications:

Aptar provided Kaplan MRD with equal amounts of SeaWell™ pouches and traditional plain polybag packages for the study. The packages were the same size, free of any graphics, and contained equal amounts of shrimp at the same price point. The packages were stored frozen and moved to refrigeration for thawing 48 hours prior to interviews. They were then exposed to participants “as is” during interviews.

Study Presentation:

Study participants were shown a SeaWell™ pouch and a traditional polybag package lying flat and side-by-side on a table (Figure 3). They were asked to look at both packages carefully and were permitted to hold the packages for observation. Each package pair was exposed to a maximum of five respondents to prevent over-handling.

Subsequently, an interviewer asked the participant questions about the packages and recorded their responses. Areas of questioning included package preference for having shrimp home-delivered,

reasons for the preference, and preference for various attributes such as overall quality of the packaging, being able to keep the product fresh, being able to keep the shrimp firm, being more up-to-date, being better constructed, overall appearance of the product in the package, eliminating the need for draining, eliminating the need for rinsing, and being safer and more secure for home delivery.

After this initial study was completed, Kaplan MRD conducted a secondary phase, repeating the process above and expanding on the research. In the second phase, after the initial questions regarding preference for various attributes, respondents were asked to open the pouches with scissors and pour the contents into separate bowls. Participants were then asked additional questions focused on their preference for attributes such as handling the package and the amount of liquid in the package when pouring, overall appearance of shrimp in the bowl, appearance of texture of shrimp in the bowl, and having a good shrimp smell. Finally, a question was asked about the importance of several possible benefits of the “unique technology that absorbs excess moisture.”



Figure 3: Traditional polybag at left, SeaWell™ pouch system at right.

Results

Assuming equal pricing and the same amount of shrimp in each package, 65% of participants in this study indicated a home delivery preference for the SeaWell™ pouch over the alternative traditional plain polybag (Figure 4).

When asked to explain their reasons for preferring the SeaWell™ pouch over the plain polybag, the most common responses revolved around the benefits derived from absorbency and having less free liquid. Participant responses indicated that the package itself is seen as “high end” for this category as a result of the black backing and sturdier construction. These seem to set an expectation for leak prevention.

After visual and tactile observation, the study indicated that the new SeaWell™ pouch was preferred on all attributes considered. The greatest advantages identified for SeaWell™ over the plain polybag were in the areas of construction, eliminating draining, and being safer or more secure for home delivery.

After opening the packages with scissors and pouring the contents into separate bowls, there was still a preference among participants for the SeaWell™ pouch. Common positives about the SeaWell™ active packaging system were related to having less of the undesirable liquid and better appetite appeal. Specifically, SeaWell™ has its largest advantage on the amount of liquid found in the package when pouring. The SeaWell™ pouch also appears to have advantages on overall appearance of shrimp in the bowl, appearance and texture of the shrimp, and having a good shrimp smell after pouring. Some participants thought the pouch would maintain the product longer for home delivery scenarios.

Prior to opening, little was known about what was inside the SeaWell™ pouch other than the shrimp (i.e. the non-woven fabric and GRAS certified blend that enables Drip-Lock™ technology). After pouring, there was some recognition of the absorbent qualities of the material, and participants were asked to rank the importance

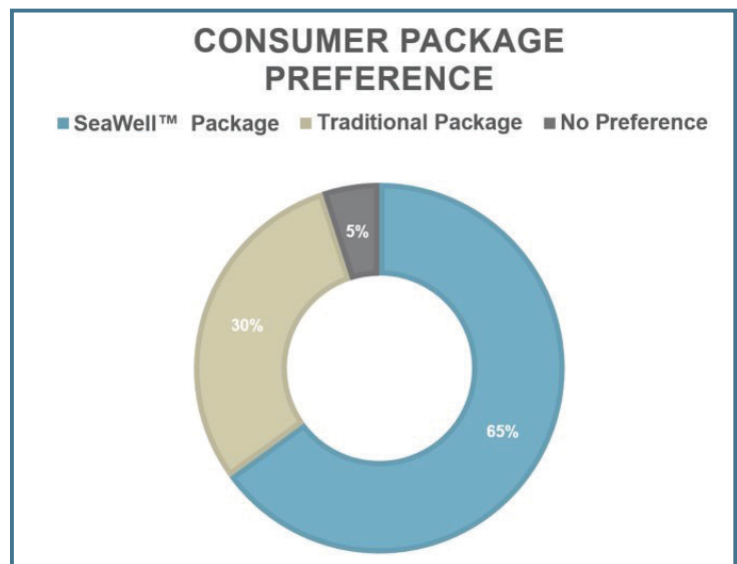


Figure 4: Kaplan Study Packaging Preference Results

Voluntary Participant Comments on SeaWell™ Active Packaging Systems

- Shrimp look fresher, larger, darker, more appealing/appetizing
- Shrimp lay nice, don't crush on bottom, more cushioned, looks like more shrimp in package.
- Shrimp still look frozen after thaw, colder, fresher, will last longer during transport/delivery, better for storage
- Will absorb odor, won't smell if delivery is left by the door
- Will stay moist, fresh, and frozen longer
- Better-looking, eye-catching, premium, elegant, higher-end, gourmet
- Stronger/sturdier bag will prevent leakage
- Black back protects from UV light, looks more sealed/secure/strong, contrasts shrimp well, makes shrimp seem cleaner
- Material holds excess water, helps keep shrimp fresh and keeps moisture away
- Cleaner, less gooey, soaked up juice, looks fresh, not as messy, no water at bottom of bowl
- No liquid to deal with, can go right into prep, ready to be used
- Ok not to rinse before prep if I didn't have water
- Easy to open
- Shelling will be easier

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of several benefits attributed to the technology itself. These benefits included reducing spoilage, keeping the product fresh longer, controlling microbial growth, reducing odors, and eliminating the need to wash or dry food before preparation. Among these benefits, the data suggests that “reduces spoilage” and “keeps product fresh longer” are relatively important to consumers. These two benefits plus “controls microbial growth” appear to be important to more consumers than reduces odors and eliminates the need to wash or dry food before preparation.

Conclusions and Insights

This consumer preference study offered broad, high-level indications of consumer preference for the SeaWell™ pouch over a traditional style plain polybag for e-commerce and home delivery. The voluntary comments made by the untrained participants after their visual and physical handling of the SeaWell™ active packaging system infer that the SeaWell™ system provides a better product and overall user experience than the competitive plain polybag. Participants perceive the SeaWell™ system package as high-end, premium, and eye-catching for this product category with its sturdier pouch and black backing.

Premium brands who are concerned with image quality and wish to uphold a certain elevated standard could benefit from using the SeaWell™ system, encouraging repeat brand purchases with their home delivery services. Leveraging SeaWell™ active packaging systems could help reinforce their premium commitment as opposed to utilizing traditional polybag packaging for their seafood options, leading to improved customer satisfaction

and brand referrals.

Additionally, the study results imply that consumers exposed to shrimp packaged in both a SeaWell™ pouch and a traditional plain polybag recognize the SeaWell™ system's advantages in the areas of construction, design, and function, and believe it offers a safer, more secure package for home delivery and e-commerce. Participants also indicated a desire for packaging that reduced spoilage and kept the product fresh for longer. This promotes the psychological, physical, and emotional satisfaction of customers while handling seafood in the home.

Home delivery of seafood presents many challenges associated with keeping the product fresh en route. The SeaWell™ system's ability to absorb excess liquids and keep the seafood drier during transport helps assure that the product is delivered to the customer in as fresh a manner as possible, improving consumer experiences and increasing opportunities to enhance customer loyalty and secure repeat business.

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