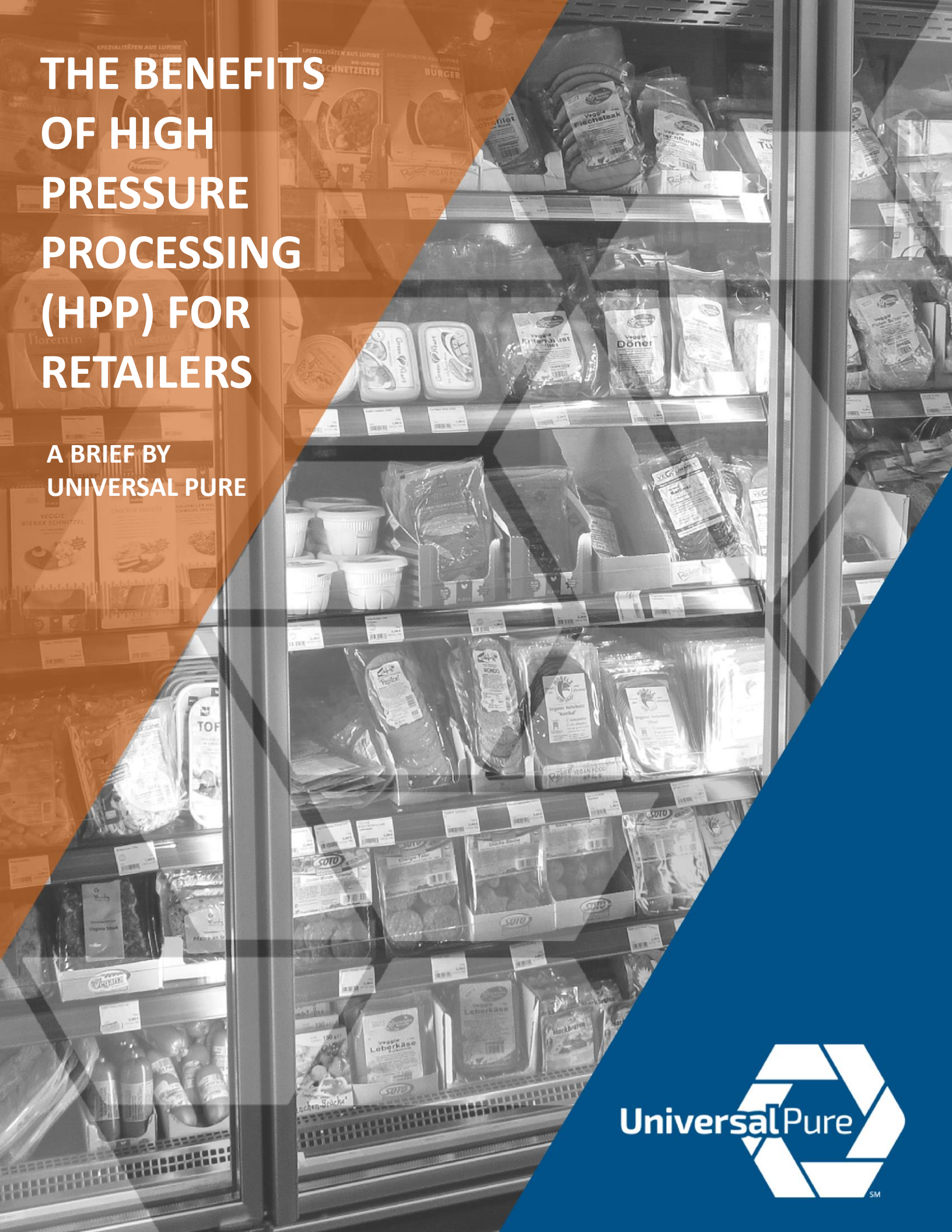


THE BENEFITS OF HIGH PRESSURE PROCESSING (HPP) FOR RETAILERS

A BRIEF BY
UNIVERSAL PURE



Universal Pure

SM



HOW CONSUMER DEMAND IS DRIVING FOOD & BEVERAGE MARKET SHIFTS

The food and beverage industry is experiencing a noticeable shift in consumer demand for fresh, natural foods that are prepared without harmful ingredients historically used for preservation. This shift is driving producers and retailers to align and seek out solutions that cater to the priorities of consumers. So is a world in which foods can be produced safely, preserved naturally, and maintain freshness longer without affecting the taste too good to be true? Answer: it is not. Enter High Pressure Processing (HPP).

HPP is a unique food processing method that utilizes water and pressure to inactivate food-borne pathogens and spoilage organisms. This solution enables food safety and cleaner labels, free of preservatives and added ingredients. According to a survey by Universal Pure, the largest provider of HPP services in North America, 69% of food manufacturers believe the most important benefit of HPP is the alleviation of artificial/chemical additives & preservatives.

“HPP is a preferred technology for food safety, food quality and shelf life. Consumers want better-for-you foods that are fresh, tasty, preservative-free and safe, and HPP can help deliver these results.”

*Mark A. Duffy
CEO of Universal Pure*

WHAT DOES THIS MEAN FOR RETAILERS?



One of the most recognized changes that producers and retailers are catering to is the increase in consumer demand for fresh/refrigerated foods as an alternative to frozen options. This shift favors foods on the perimeter of stores, and as a result, retailers are partnering with companies that produce fresh products. 85% of retailers say they have been affected by the demand for fresh foods, and 78% go so far as to say they are favoring the companies that produce these products.

The result of this shifting focus fares well for HPP, the preferred method of food processing as it relates to food safety, food quality and waste reduction. 85% of retailers say that the method of processing used by a food manufacturer affects their decision to purchase.



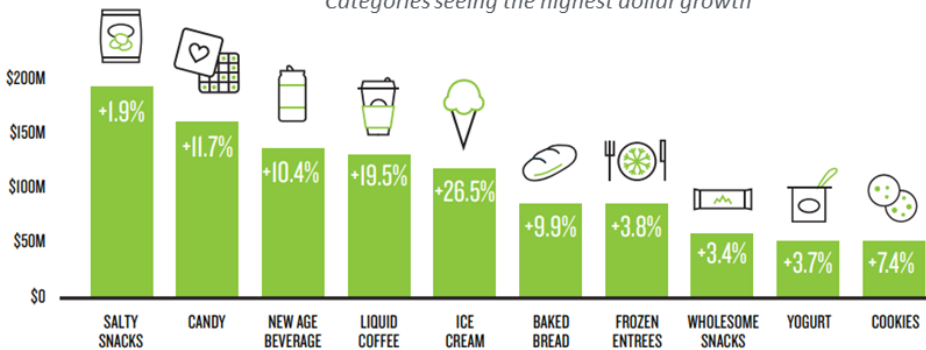
STATE OF THE MARKET

Private Label is Growing...



...and Clean Label Products are Winning Across the Store

Categories seeing the highest dollar growth



HPP helps you deliver what the market is demanding:

- > High quality
- > Safer food & beverages
- > Clean label
- > Store branded
- > Fresh/refrigerated

Universal Pure can work with your **co-manufacturing partners** or bring our relationships to help you **innovate and deliver** the best products to your customers – **we are your solutions provider**

80% of shoppers believe private label are as good as or better than national brands

Food and beverage industry headlines focus on “clean-label movement” and food recalls



NEWS | July 19, 2017

Chipotle Customers Report Foodborne Illness Symptoms Online

By Staff



On Tuesday morning, a Chipotle Mexican Grill location in Sterling, VA was temporarily shut down after receiving multiple complaints from customers about foodborne illness. The closure was so that the location could sanitize the restaurant. This comes after a handful of *Escherichia coli*, norovirus and *Salmonella* outbreaks at multiple Chipotle locations in 2015 and 2016.



FDA announces ‘enforcement discretion’ for specific FSMA regulations

Although FDA has temporarily relaxed some specific rules, processors are not necessarily off the hook, and may want to contact their food safety consultants.



The Information Source for Food and Beverage Manufacturers

Home / Industry News / 2017 / FDA Issues New Guidance to Food Industry Amid Recall Criticism

FDA Issues New Guidance to Food Industry Amid Recall Criticism



Study reveals growing interest for HPP food technology

FSM EDIGEST | October 3, 2017

Embracing the Clean Label Movement

By Sean Riley



Many consumers look at the label when making decisions about their food choices, and most often they are looking for clean-label foods to complement their healthier lifestyle. According to the 2016 “Food and Health” survey from the International Food Information Council, [1] 47 percent of consumers look at the ingredients list when making a purchasing decision.



CDC names top five foodborne illnesses in United States

BY NEWS DESK | JANUARY 11, 2018

The top five germs that cause illnesses from food eaten in the United States are norovirus, Salmonella, Clostridium perfringens, Campylobacter and Staphylococcus aureus, aka staph.



HPP: Achieve High Standards of Food Safety Without Compromising Food Quality



Universal Pure conducted an industry survey in 2017. Amongst a group of producer and retailer respondents, the survey found that HPP is rapidly growing in favorability, and is a preferred method of food processing compared to alternative methods.

- 85%** of retailers say their company has been affected by consumer demand for more fresh food and beverage options. As a result, they are favoring companies that produce fresh product options, expanding refrigerated sections, and stocking more refrigerated & fresh products
- 2/3** of retailers believe HPP has a better impact on food quality compared to other methods
- 96%** of retailers are more likely to purchase products with a longer shelf life compared to a similar product with a shorter shelf life. HPP extends shelf life of products by 2-10x
- 67%** characterize their inventory of HPP'd products as either substantial or growing
- 3/4** of U.S. consumers say they read nutritional and ingredient labels on food products.* HPP enables clean labels, free of any preservatives or other additives
- 74%** of retailers say the issue of food waste is important to their companies. By extending shelf life of products, HPP can reduce shrink and help minimize food waste.

Overall, HPP was favored by retailers among other food processing methods on measures concerning:

- ✓ Food quality
- ✓ Food safety
- ✓ Food waste

*Food Business News



HOW DOES HPP WORK?

High pressure processing (HPP) is a unique food processing method that utilizes water and pressure to inactivate food-borne pathogens and spoilage organisms

Potable water is pumped into the vessel creating isostatic pressure on the packages

Product is held at a pressure up to 87,000 psi for 1 to 6 minutes depending on the HPP process recipe



CONVEYER

VESSEL

TO PACK OFF

Baskets are loaded with product in final packaging and inserted into the HPP vessel

Pressure is transmitted uniformly throughout the products to disrupt microbial biochemistry of bacteria and spoilage microorganisms

Product is scanned, code/date stamped, and prepared to be shipped to the customers

HPP AT UNIVERSAL PURE

2017 HPP Survey Results



Case Study: Chicken Salad

Universal Pure worked with Chairman's Foods to HPP an all-natural, cleaner label premium chicken salad to meet a retail customer need for 30 day shelf-life post delivery. Traditional methods did not deliver the need for "fresh".



Case Study (continued)

Chairman's is now effectively leveraging the benefits of HPP with multiple refrigerated products and has increased revenues from \$10 - \$35MM.

[Click Here to Learn More](#)



Video: HPP Benefits for Retailers





COMMON HPP APPLICATIONS FOR RETAILERS

Below we have highlighted categories with the greatest HPP opportunities. Food & beverage producers and retail brands are currently leveraging HPP in each category.

PROTEINS



Applications: Sliced Cooked Meats: Chicken, Turkey, Ham and Beef; Uncured Ham and Sausage; Pulled Chicken and Pork, Ground Meats such as Turkey, Chicken and Beef



WET SALADS, DIPS, SALSA



Applications: Salsa, Chicken Salad, Hummus, Tuna Salad, Seafood Salad, Dressings, Dips



BEVERAGES



Applications: Orange Juice, Cold-Pressed Juice, Coconut Water, Smoothies, Kale Drinks, Iced Coffee



Other Product Categories	Applications	Benefits
Dairy	Yogurt & Yogurt Based Dressings, Cream, Sour Cream, Cream Cheese	
Seafood	Oysters, Lobster, Crab, Shrimp, Mussels	
Fruits & Vegetables	Smoothies, Fruit Cups, Spreads	
Pet Food	Ground Meats such as Turkey, Chicken, Beef	

HPP Benefits Key:



Pathogen Reduction



Extended Shelf Life



Allows for Cleaner Label



Reduced Sodium Products



Creamier Consistency



THE BENEFITS OF HPP FOR RETAILERS

Supports Shrink Control

- › Reduce store brand product shrink by 50%
- › Positively impact inventory management in retail locations
- › Increased supply chain efficiencies and cost avoidance
- › Supports corporate sustainability & food waste initiatives

Extends Shelf Life

- › HPP extends shelf-life 2X - 10X

Category	Non-HPP Shelf-Life	HPP Shelf-Life
RTE Meat	50 Days	100+ Days
Fresh Protein	18-21 Days	36-50 Days
Wet Salads	20-30 Days	50-60 Days
Fresh Juice	3-6 Days	30-60 Days
Dips	Varies	2X to 5X
Salsa	Varies	up to 10X

Delivers Cleaner Labels

- › Eliminate preservatives from store brands
- › Appeal to growing consumer demands/expectations
- › 'Free From' = shorter ingredient deck
- › Reduced sodium
- › HPP is a natural process

Ensures Food Safety & Quality

- › Protect brand equity
- › Keep customers safe
- › Reduce media headline risk
- › Regulatory compliance
- › Inactivates Pathogenic Vegetative Bacteria:
 - Salmonella
 - E. coli O157:H7
 - Listeria Monocytogenes (Lm)
 - Campylobacter
 - Vibrio & Viruses In Shellfish
- › Kills Spoilage Organisms
 - Fungi: Yeasts & Mold
- › Inactivates Harmful Bacteria & Food Spoilage Microorganisms:
 - Disrupting Their Microbial Biochemistry

HPP AT UNIVERSAL PURE

How can incorporating HPP positively impact your profitability, products and brand objectives? Contact us to learn more @ www.universalpure.com



CONTACT US TO LEARN MORE



Video: HPP Benefits for Retailers