

Processing under pressure has been in existence since the turn of the last century, but in recent years, the food industry has embraced the technique.

In high pressure processing (HPP)—also referred to as ultra high pressure processing (UHP) or hydrostatic pressure processing (HHP)—food or other substances are subjected to elevated pressures (from about 14,000 pounds per square inch, or psi, to 130,000 or more, depending upon the product). HPP has proved very effective in killing/inactivating many food-borne pathogens (including *Listeria*, *salmonella* and *E. coli* O157:H7, as well as yeasts and molds), and is capable of extending shelf life far beyond that of thermal processing methods such as pasteurization.

“The process kills all the enzymes and microbes that lead to spoilage and enzymatic reaction,” says Al Ahmer, vice president, processed products for Santa Ana, CA-based Calavo, which uses UHP technology to produce a number of different avocado products, including guacamole. “So you don’t need to use preservatives.”

And because HPP is done with-



HPP technology shows great promise for many ready-to-eat foods

out added heat, the texture, flavor and appearance of foods are almost indistinguishable from fresh, according to proponents. “It’s the biggest advance in food processing technology since freezing,” says Pat Adams, CEO of Kent, WA-based Avure Technologies, a major global supplier of the Fresher Under Pressure technology used by many processors.

Until very recently, HPP has been used mainly for refrigerated and high-acid foods, such as milk, juices, and fruit purees, where it significantly reduces the processing temperature and time compared to pasteurization.

However, as researchers began experimenting with higher and higher pressures, a whole new universe of products were found

to be suitable for HPP techniques. These include fresh raw vegetables, salsa and guacamole, dairy products such as cheese and yogurt, and fresh and processed meats, including luncheon meats—with their tremendous potential for *Listeria* contamination. Seafood is another product that does well under pressure; in fact, one of the most exciting new applications for HPP is in the area of shellfish, such as oysters, mussels and lobster, which can be processed right in the shell.

Motivatit Seafoods, in Houma, LA, was the first processor in the United States to use hydrostatic high pressure processing commercially for oysters. The company’s Gold Band oysters have a shelf life of 21 days according to Mike Voisin, Motivait’s eighth generation CEO, compared to 10-14 days for the freshest unprocessed oysters. The process reduces to nondetectable levels any bacteria of concern, including *Vibrio vulnificus*, and it “springs” the oyster shell, so that when the customer removes the signature gold band from around the shell, the oyster is virtually shucked.

“The process gets rid of all the heebie-jeebies, and allows us to serve a clean, safe, fresh-tasting oyster,” says Chris Johns, execu-

tive chef of the Orleans Casino in Las Vegas, whose operations include Big Al’s Oyster Bar.

Lobsters are literally shucked via HPP, yielding whole, raw tails, claws and knuckle meat that provide fresh quality with better uniformity and less waste and damage to the meat. “Getting a 20 to 30 percent yield increase is fantastic, especially when the supply is dwindling,” notes Avure’s Adams. “And not having to hold and handle live lobsters is a great benefit.”

Another beneficiary of HPP is processed meats such as ham, sausage and luncheon meat—which have traditionally been processed first, then sliced and packaged, affording ample opportunity for deadly post-processing contamination. With HPP, these products are cooked and sliced, then subjected to pressure, eliminating the danger.

“It’s like sending something to the bottom of the ocean, where living organisms like *Listeria* cannot survive,” says Carla Dougherty, senior product manager for Hormel Foods, which began using HPP technology on its sliced deli meats earlier this year. “But because the process uses isostatic pressure—which is equal in every direction—there is no change in the appearance, taste or texture.”

SneezeGuard Systems

Whenever food is presented for patron self-service



Clockwise left to right: Bridged Stationary Guards, Carousel Guard, Serpentine Guards, two Folding Portable Guards, and the 2-D Adjustable Guard.

Call for a product catalog or visit us at www.sneeze-guard-solutions.com

SNEEZEGUARD SOLUTIONS® 800-569-2056 

ADVERTISER INDEX

Page	Company	Web site
2	Server Products	www.server-products.com
4	MicrobeGuard	www.microbeguard.com
4	PanSaver	www.pansaver.com
7	Tyson Foods	www.tysonfoodsinc.com
9	SANIGUARD	www.saniguard-online.com
11	Foodhandler	www.foodhandler.com
19	SneezeGuards	www.sneeze-guard.com
20	Ecolab	www.ecolab.com