



Fish gets case-ready

Anne Marie Mohan, Senior Editor

Several years ago, Beaver Street Fisheries of Jacksonville, FL, one of the nation's largest distributors of frozen seafood, began implementation of a case-ready program with the installation of one shrink tunnel, 8 ft of infeed conveyor and some stainless-steel tables. "We had been looking for a process that would allow us to do

what meat and poultry distributors have done for a long time, which is offer their products

in a refresh area in the grocery store, so that customers can have a choice of product that is thawed for their convenience, ready for a meal," explains Jim O'Brien, BSF general manager.

Since beginning the program in spring 2002, BSF has expanded its case-ready capabilities to include two tray-wrapping lines with equipment

Angling for a share of the case-ready retail market, Beaver Street Fisheries commits itself to the business, hook, line and sinker, with high-speed tray-wrapping lines that produce 2,400 trays per hour of case-ready fish.

that automates tray labeling, checkweighing, case sealing and case labeling. In addition, by replacing its original wrapping machine with two Ossid® 500E end-seal stretch/shrink wrappers and shrink tunnels from Ossid Corp. (www.ossid.com), BSF has eliminated product waste at the retail level by ensuring leak-free tray-packs.

Established in 1950 by the Frisch family, BSF—aptly named for its original location on Jacksonville's West Beaver Street—began as a small, fresh-fish store serving the local area with catch procured from the Gulf and

Atlantic coasts. Today, the still-family-owned operation has grown to become a \$350 million, national distributor of seafood and meat, with 98 percent of its business concentrated on center-of-the-plate seafood.

BSF imports nearly 1,000 containers of seafood and meat annually from more than 50 countries. Among its products are shellfish, such as clams, crab, lobster (from its Bahamian division), oysters and shrimp; 31 varieties of fish, including orange roughy, tilapia, perch, salmon, cod and halibut; and specialty items like alligator, octopus, squid and turtle, among others. The products, which are marketed under the Sea Best and Sea Best Gold brand names, are offered for foodservice, retail grocery and wholesale club distribution in bags, boxes, vacuum-packs and tray-packs.

Loaded trays are placed on an infeed conveyor leading to a continuous-motion stretch/shrink-wrap machine, left, that uses an automatic indexer to eliminate misfeeds and other operator errors. Once shrink-wrapped, the trays are carried through a metal detector, below, that looks for ferrous, nonferrous and stainless-steel contamination, after which they are manually labeled.



To learn more about the history of case-ready packaging, see PD's 40th anniversary editorial, which discusses **INNOVATIONS IN PACKAGING** since 1963. www.packagingdigest.com/info/evolution



When seafood comes into the plant, it is processed either through the company's dry side or its wet side. The dry side is a frozen-to-frozen packaging transition, where a seafood product comes into the plant in bulk and is boxed, bagged or trayed according to a particular customer's specifications—never leaving its frozen state. The wet side handles products such as crabmeat that are combined with various ingredients like egg, mayonnaise, mustard, ketchup or other condiments, or seafood products that are breaded. Shellfish or fish are then stuffed or patties are made, and the product is quick-frozen. "It then gets treated the same way the dry product does: It is boxed, bagged or trayed," says O'Brien.

BSF's meat division, serving some of the finest resorts in the Bahamas, offers pork, lamb and beef, imported from around the world, for restaurant and foodservice distribution. The company is also ramping up an Internet business, expected to launch in September, that will offer steak and seafood selections online.

The company's current HACCP (FDA Hazard Analysis and Critical Control Point)-approved, USDC (U.S. Dept. of Commerce)-inspected seafood production plant covers more than two city blocks and includes more than 2.5 million cu ft of freezer space.

Over the last seven years, according to O'Brien, BSF has grown its sales by more than \$260 million. "The growth," he says, "is directly attributable to aggressive positioning overseas and to vertical integration, through automation and other capital investments. In the last five years, we've added a new freezer, a new cold dock and a new production area, and within two years, we will add another freezer that will hold about 17,000 pallets."

Like the company itself, BSF's case-ready program has also experienced incredible expansion in a short timeframe—growing from 600 cases/day to 3,300/day in just three years. During a recent visit by PD, the company demonstrated its tray-wrapping capabilities on two lines that have been continuously evolving since 2002.

When BSF first began packaging its product for case-ready distribution, its shrink-wrapping line was very basic, requiring much manual labor. O'Brien, in fact, recalls that "it kind of looked like the 'I Love Lucy' episode where they were trying to keep up with a conveyor while wrapping chocolates." He explains: "We would load the trays with fish and then bring them through the shrink-wrapping machine and then pack them out. We would do that in series, so we'd move from the packout to the packing table to the conveyors to the backside of the machine, and then back to the tray-wrap tables. We'd even have to diaper [add nonwoven, drip-absorbent sheets] and label the trays by hand."

Just five months after initiating its case-ready program, BSF expanded its capabilities with 16 ft of infeed and outfeed conveyor and a new stretch-wrap system, coupled with a new shrink tunnel, that ensured greater leak-resistance. Since then, through trial and error, the company has upgraded

to two complete wrapping lines that include metal detection, weighing, case taping and more.

The process begins off-line, where pre-diapered polystyrene trays ranging from 10×6×1 in. to 15×8×1 in., supplied by **Genpak** (www.genpak.com), are labeled using CTM Integration, Inc.'s (www.ctmint.com) CTM 360 Series label applicator, supplied by **Pro-Motion Industries** (www.pro-motion.ws). Pro-Motion,



Sealed cases convey over an in-motion checkweigher that relays information to a PC. This data is then sent to a print-and-apply labeler downstream, above, that applies front and side labels to the cases.

along with BSF production supervisor Roger L. Denmark, custom-configured the label applicator with a modular loading system and a renester. Bilingual labels provide the Nutrition Facts box.

In the packaging area, frozen, bulk-packed fish is brought in from the freezer in plastic totes, and operators load the trays manually with the frozen product. BSF's case-ready program currently offers

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several types of fish, including tilapia, perch, grouper and salmon; regional items, such as croaker for the Carolinas; and shrimp. On the day of PD's visit, BSF was preparing perch, with operators placing four of the frozen fillets on each tray.

After being loaded with product, the trays are placed on an infeed conveyor leading to the Ossid 500E continuous-motion stretch/shrink-wrap machine, which uses an automatic indexer to eliminate misfeeds and other operator errors. The machine creates tightly wrapped, end-sealed packages that use up to 41-percent less film than standard overwrap packaging machines, according to Ossid, at speeds up to 75 trays/min.

Directly following the wrapper is an Ossid® EES shrink tunnel, which uses adjustable air-flow and temperature controls to ensure that the hot air ducts that follow the tray through the machine draw the end seals properly over the lip of the tray for a leak-proof package. According to Denmark, changeover from one job to another takes just 15 minutes, providing flexibility for a variety of consumer requirements. "We can go from a 15D [family-size] tray, down to a 10P [individual-portion-size] tray and can accommodate film widths from fifteen to twenty inches," he explains.

One of the greatest challenges for BSF in implementing a successful case-ready seafood program was ensuring that the products remain fresh throughout the supply chain. Fish products spoil much more quickly than meat or poultry, resulting in the growth of the *Clostridium botulinum* bacteria, which causes botulism. One of the ways BSF is combating the threat of

botulism is through its use of the Ossid stretch/shrink-wrapping system. "What we found with everyone else's equipment is that it needed to create vent holes in the package to evacuate air and form a tight fit," O'Brien says. "The Ossid does not have to do that, so for sanitation reasons, it was the best equipment choice."

Another way bacteria growth is prevented is through the use of breathable film. BSF's case-ready products use 75-ga **Bemis Clysar**® (www.clysar.com) CR2 anti-fog polyolefin shrink film, which meets the FDA's requirement for 10,000 OTR (oxygen transmission rate) breathable film for such applications.

Lastly, BSF works in concert with its distributors to ensure that product temperatures are maintained at less than 40 deg F until the time of purchase.

On BSF's packaging line, once trays are shrink-wrapped, they are carried by a **Hytrol** (www.hytrol.com) conveyor—used throughout the line—to a **Safeline** (www.metaldetection.com) Powerphase Plus metal detector, which offers increased sensitivity for ferrous, nonferrous and stainless-steel contamination.

Upon exiting the metal detector, trays are manually labeled with preprinted color corner labels that include bilingual copy with federal labeling requirements and recipe information. O'Brien says that BSF experimented with automatic labeling equipment, but as consumers' label specifications continued to evolve, it was more efficient to label by hand.

Labeled trays—which for case-ready typically carry the store-brand name—then accumulate on a **Belco** (www.belcopakaging.com) BLS Lazy Susan turntable, from which they are manually removed for case packing, eight trays per case, by hand. Meanwhile, cases are manually erected and, once filled, are conveyed through a **Belcor** (www.belcor.com) BEL 252 fully automatic top and bottom case taper. The BEL 252 is equipped with **Dekka** (www.dekkaindustries.com) stainless-steel tape heads and the BEL Snap Folder flap-folding system for sealing speeds up to 30

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Sealed cases then convey over an in-motion checkweigher from American Garvens (www.garvens.de) that relays information to a PC. This data is then sent to a Paragon (www.paragonlabeling.com) PLS 300 print-and-apply labeler downstream. The labeler, equipped with a SATO (www.satoamerica.com) print engine, applies front and side labels to the cases. These labels provide the

product description, lot number, customer item number and BSF number. At present, the case weights are manually recorded to determine pallet weights. In the future, BSF hopes to capture and store this information for integration into its warehouse management system.

Once labeled, the cases are manually palletized and are either stored in the freezer until shipment or immediately loaded onto trucks.



Frozen perch fillets, supplied in bulk, above, are manually loaded onto pre-labeled, prediapered trays, left.

After three years of experimentation and what, to O'Brien, sometimes felt like swimming against the tide, BSF has assembled a packaging-line solution that meets its needs for leak-proof, efficient packaging of case-ready seafood. "You open so many doors and go down so many hallways," he remarks. "Today the product we put out—the fish inside the package—is the same one we started with, but the package has completely evolved into something that's more oriented toward the customer. But we accomplished all our goals.

"Our goals were to eliminate or reduce the number of throwaways at the store level through this process, and we did it. We cut it to one-third from one-half, and retail sales increased.

"In addition, the new equipment allowed us to cut back on labor, which reduced overhead and accidents, and it enabled us to go from 600 cases a day, five days a week, to 3,300 per day, four days a week. That's kind of remarkable for what was once just a little mom-and-pop operation."

More information is available:

American Garvens Corp.-A Mettler Toledo Co., 973/276-1093.
www.garvens.de.
Belco Packaging Systems, Inc., 800/833-1833.
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www.belcor.com.
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