Food Safety: For the Birds

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West Liberty Foods is an Iowa-based turkey processor that was opened in 1996 when the Iowa Turkey Growers Cooperative (ITGC) purchased a soon-to-close Oscar Mayer processing plant in West Liberty, Iowa. The following year, ITGC began processing the turkeys grown by its grower-owners, and the company now employs about 1,860 workers.

Over the years, West Liberty Foods has expanded from its original location, opening a slicing facility in Mount Pleasant and a facility in Tremonton, Utah, which provides processing and distribution to West Liberty Foods' customers in the western half of the country.

Where It All Started

Most of the product that is processed in West Liberty Foods' original 270,000 square-foot facility in West Liberty comes from the daily shipments of turkeys provided by the 47 growers who now make up the ITGC. Each day, 21,000 birds are slaughtered, prepared and cooked on-premises for West Liberty Foods' many well-known retail and foodservice customers.

Employees are segregated by task, keeping unnecessary movement throughout the

facility to a minimum and decreasing the possibility of accidental contamination of clean processing rooms.

Tom Alberti, the Plant Manager of the West Liberty facility says, “Employees are specifically trained for each part of our process."

In addition to controlling the traffic flow in the West Liberty processing facility, the company employs various techniques and programs meant to improve quality and safety. These include:

- A strict adherence to Good Manufacturing Practices.
- Monthly employee training sessions, put in place to both teach skills to new hires and to sharpen the skills of veteran employees.
- Annual USDA Food Safety and Inspection Service audits.
- Third party audits by British Retail Consortium (BRC).
- District veterinary inspections, which ensure the proper care of all animals prior to slaughter.

Energy Efficiency Inside West Liberty Foods

By Vilter Manufacturing, a division of Emerson Climate Technologies

West Liberty Foods relies on central ammonia refrigeration systems for blast freezers, space cooling of process rooms and shipping docks, and cold storage. Cooling demands are not constant, so the facility utilizes part-load operation. Energy efficiency is important, so the refrigeration systems are designed with efficient evaporative condensers and Vilter single screw compressors with dual-slide modulation.

A significant contributor to West Liberty Foods’ operating success is the use of single screw compressor technology for their refrigeration system. The facility’s single screw compressors provide lower life-cycle costs and higher reliability than other compressor designs. Vilter’s single screw compressors deliver higher performance than twin screw compressors and have fewer moving parts than reciprocating compressors.

West Liberty Foods benefits from the balanced design of Vilter’s single screw compressors, resulting in very low bearing loads. This contributes to the plant’s operating success with

greater reliability, less down-time for service, and lower parts and maintenance costs.

Besides ultra-low bearing wear, Vilter's balanced design decreases vibrations and sound levels. The addition of the Parallex™ slide system allows the compressor to run at optimum efficiency. The dual-slide Parallex system is the key to part load efficiencies. The capacity and volume slides, oriented in parallel, move independently of each other based on load, eliminating over or under compression and saving motor horsepower.

Day in the Life of a Turkey

After harvesting, turkeys are conveyed through tanks at 140°F for three minutes to assist in the feather-removal process. Once the birds are evicerated, they are then conveyed to a chilling system comprised of 64 sections that move at a rate of 2.1 minutes per section. The whole birds are then de-boned and most of the meat is used in West Liberty processes. Some meats are blended and formulated into log form and cooked in West Liberty ovens.

Alberti says, "All products are prepared according to customer specifications."

Some of the company's non-turkey products are delivered frozen to the West Liberty facility, where they are thawed in a room containing four defrost tumblers.

Alberti says, "By efficient transfer of energy, the use of defrost tumblers creates a safer, faster, more effective way of defrosting." The tumblers can take eight hours to thaw product to an exact temperature.

Beef being prepared for West Liberty Foods' restaurant clients is injected with a brine solution and then tumbled in a seasoning solution before being cooked and prepared for slicing.

A day in the West Liberty location's on-site slicing room is divided into three shifts: first shift, second shift and a sanitation shift. But although some of the finished products are sliced on-site at the facility in West Liberty — in order to meet the demand of a growing business — the company has opened a facility in Mount Pleasant, Iowa that is singularly focused on slicing the finished products supplied by the West Liberty facility. The majority of the cooked turkey and other meat is sent about 60 miles south of West Liberty to Mount Pleasant where it is sliced and prepared for delivery to West Liberty Foods' customers.

Movin' on Down the Road

West Liberty Foods' Mount Pleasant facility opened in 2004. Since then, the facility has expanded from eight to 20 processing lines. The Mount Pleasant plant handles the bulk of the slicing operations for the Iowa facilities and is accessible to the interstate and only a short drive from the company's main processing facility in West Liberty.

Dave Greiwe, plant manager at the Mount Pleasant plant, says that the location for the facility was chosen in order to decrease the potential for food contamination. "Being such a short drive from West Liberty, we're able to receive the cooked product quickly and get it into the slicing room." Greiwe goes on to say that the facility was "built from the inside out," as the West Liberty team chose to retro-fit an existing building.

In addition to its location, the Mount Pleasant facility employs numerous techniques in order to keep its meat products free of contamination. The facility houses its processing lines in individual slicing cells jutting out from a meat-prep room at its center. The slicing cells are cooled to under 40°F to prevent the growth of bacteria. Each cell has separate air units and drains, keeping the cells cut off from one another and minimizing any potential contamination. All employees who enter any of the cells must wear clean suits and pass through boot washers at facility entrances.

Keeping a Lock on Food Safety

Such safety mechanisms have been put into place in order to meet the rigorous standards of West Liberty's internal food safety program and in order to pass the BRC's food safety audit. All West Liberty facilities are USDA-inspected, with USDA personnel on site between 22 and 24 hours per day. Like its West Liberty counterpart, the facility in Mount Pleasant runs a comprehensive employee training program, including specific training sessions run by equipment vendors.

But the Mount Pleasant facility isn't just safe, it's efficient, too. At full production speed, the facility slices around 6,000 pounds of product per hour. After slicing, the turkey and other meat products are packaged and then prepared for shipment by Millard Cold Storage. All product is tested by a leak detector at the end of the packaging line, ensuring the integrity of the packaging. Once packaged, turkey leaving the Mount Pleasant facility has a 56-day shelf-life.

Everything's Coming Up Turkeys

As 2010 draws to a close, West Liberty Foods is looking to the future. The company is committed to continual improvement of its food safety initiatives through investment in equipment, process efficiencies and employee training. The company is also aiming to evaluate its retail presence and continue to attend to the needs of its retail, food service and wholesale customers.

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