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NO FOWL PLAY

Poultry processor makes no bones about its uncompromising food safety and quality obsession

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BRUNO GIANNONE, Vice-President, Giannone Poultry



From Left: Giannone Poultry vice-president and general manager Bruno Giannone; PLAN Automation's senior technician Eric Morisette; and Giannone's plant manager Pascal Lavallée pose for a group shot in front of the new Eagle RMI 400 PXT X-Ray inspection system at the plant.

NO BONES ABOUT IT

High-end poultry processor deploys new state-of-the-art X-Ray inspection technology to remove tiny bone particles and other contaminants from its new boneless chicken product line

By George Guidoni, Editor
Photos By Pierre Longtin

Waking up with the chickens may not be everyone's ideal way to kick off a new day. But for the hardworking folks employed at the **Giannone Poultry** processing plant in Saint-Cuthbert, Que., being an early bird is all part and parcel of putting in a good day's work.

Founded in 1989, the family-owned business has come a long way since shifting its focus from raising small-game birds to producing premium fresh chicken products for an ever-growing list of customers across Canada and New England, and it did not achieve this successful transformation by simply winging it.

Aside from being one of the first North American processors to use revolutionary new air-chilling methods to produce tastier and more wholesome meat, the pioneering company has also been a poster child for the virtues of humane animal treatment and welfare, headstrong in its belief that a happier chicken is always bound to be a better-tasting chicken.

As the company's website proudly proclaims, "The Giannone method is based on ethical concerns for the welfare of animal and humane care, which results in a more tender, tastier product.

"We give our chickens the time to complete their normal growth cycle, making sure that they are grain-fed with corn, soy and wheat supplemented with natural vitamins and minerals.

"All our chickens are raised in barns to give them enough room for freedom of



movement.”

The company’s genuine animal welfare ethos—validated with the *Antibiotic-Free Certified Humane* certification—is in fact one of the several calling cards used by Gianni Poultry to grow its client base in the highly competitive poultry industry.

With capacity to slaughter and process up to 725,000 broilers per week, the 250,000-square-foot Saint-Cuthbert production facility has recently started a second production shift to keep up with soaring market demand for its products, boosted even further with Gianni obtaining the highest *Halal* certification for the *Halal* hand-slaughtered method.

Employing about 250 people, the busy plant houses a total of six production lines—each dedicated to a specific product type—to turn out a variety of products ranging from whole chicken to seasoned whole chicken and various primary and secondary cuts, which are shipped in bulk or vacuum-sealed inside air-tight skin packaging for retail sale.

“We are a high-end poultry processing plant that aims for nothing less than 100-percent quality and service levels,” says Gianni Poultry vice-president Bruno Gianni, citing the company’s unique air chilling process as one of several key competitive advantages in what he calls a “very tough” market segment.

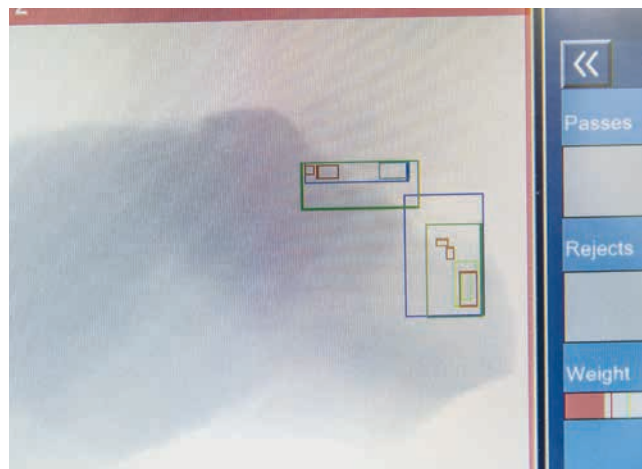
“All our chickens are chilled in our exclusive air-chilling process with no water added,” Gianni explains.

“This ultra-modern system is greatly superior to the regular water-based method,” he says, “because air-chilled chicken conserves the meat’s natural juices, while also preserving its precious enzymes and proteins.

“Eliminating water from the process reduces bacterial contamination and significantly extends the product’s shelf-life,” says Gianni, noting that Canada is the only country to have a supply management system for live chicken products.

“As a federally-inspected slaughterhouse we have many regulatory systems that we have to respect,” says Gianni, “and we have to plan all our slaughtering and marketing operations within this supply system, ensuring optimal safety and full compliance to regulations from plant level to the environmental impact.”

On the plant level, the company spares



no effort to maintain a strict *HACCP* (*Hazard Analysis of Critical Control Points*)-compliant sanitation and hygiene environment as required by its *SQF* (*Safe Quality Food*) certification, one of the highest levels recognized worldwide under the *GFSI* (*Global Food Safety Initiative*) program, and its commitment to environmental protection is second to none, according to Gianni.

“We treat 100 per cent of all the water coming out of the plant operations,” he says, “and we also have an environmental certification that allows us to burn all the sludge that the processing plant produces, so there is no sludge sent to the landfill.”

As Gianni explains, the facility operates an on-site biomass combustion system using wood and the processed sludge to heat and create the steam required for production and plant needs—eliminating the use of diesel fuel and substantially reducing the company’s environmental footprint.

Naturally, the company’s focus on animal and environmental welfare is fittingly matched by its relentless focus on product and consumer safety, as evidenced by the two *Eagle Pack 1000 Pro* X-Ray inspection systems installed at the

plant in 2009 to detect tiny contaminants making their way into packed cases of bagged bulk chicken products coming off the production lines.

Both units were expertly installed by food safety and product quality-focused staff of *PLAN Automation*, Orangeville, Ont.-based packaging line integrators who are the largest packaging automation supplier in Canada.

Employing over 60 people and 11 technicians at offices across Canada, *PLAN Automation* is in fact Canada’s exclusive distributor for the product inspection systems manufactured by *Eagle Product Inspection* of Tampa Ba, Fla., storing about \$425,000 worth of spare X-Ray system parts at locations in Toronto, Montreal and British Columbia, along with a *PXT* demonstration system ready to be deployed for testing, trials, emergency product reclaim projects and rentals right across Canada.

The two *Pack 1000 Pro* X-Ray systems installed by *PLAN Automation* in 2009 have proven to be exceptionally good servants for the facility’s rigorous quality control process, according to Gianni.

But despite being great for inspecting large-sized cases or packages, the *Pack 1000 Pro* systems have their limitations

(from left) Outside of the Gianni Poultry processing facility in Saint-Cuthbert; the brand new Eagle RMI 400 PXT X-Ray detection system installed by PLAN Automation; chicken breasts pieces being sent back for rework; the new PXT technology poultry bone detection down to 1.0-mm.

“We are a high-end poultry plant that aims for nothing less than 100-percent quality levels.”



(From Left) The Maralec weighing, grading and portioning system supplied to the plant by Reiser Canada; food-contact grade plastic conveyor belting and components used to transfer inspected pieces of boneless chicken for placement inside plastic-lined bulk boxes; finished boneless and skinless chicken breasts inside retail skin-packs.



when inspecting individual chicken breasts, thighs and boneless whole-leg meat.

As a result, Giannone decided he would need even a more powerful X-Ray inspection solution to put to the test on a new production line dedicated to processing boneless chicken products—adding another promising value-added offering to the company's premium product portfolio.

After having installed a new automatic deboning line at the plant recently, Giannone realized the new process also resulted in generating many tiny bone fragments that would stay embedded in the meat—many of them being so tiny that the visual inspection method used by line operators would be ineffective due to their small size.

To resolve this new challenge, Giannone once again turned to PLAN Automation to come up with a suitable solution.

As it happened, Eagle Product Inspection had just introduced a brand new **RMI 400 PXT (Performance X-Ray**

Technology) X-Ray system capable of detecting small poultry calcified bone fragments as small as 1.0-mm or even smaller, compared to the minimum 3.0-mm 5.00-mm particles that traditional X-Ray systems are able to detect, due to their low density and the creation of cluttered images outside of the chicken's breast area, such as thighs and trim.

Combined with an X-Ray infeed and reject system, the new poultry inspection solution was developed specifically to deliver superior inline contaminant and bone detection with reliable and consistent results to provide optimal brand protections.

Designed to **NAMI** standards and built with hygienic construction for the inline inspection of raw and unpackaged poultry products prior to further processing, the new system features unobstructed sightlines and contoured surfaces to minimize potential material harborage areas, while ensuring fast and convenient visual inspection during cleaning with a unique curtain-less design.

According to Eagle, the combination

of breakthrough **PXT** technology and **SimulTask PRO** image analysis software provides the industry's highest level of inline automated bone detection available.

"SimulTask PRO analyzes the high-resolution images captured with PXT, allowing the application of multiple processing algorithms to work in parallel for every image—providing remarkably more accurate image analysis than ever before," says Eagle.

"The ultra-high physical resolution of the detector run in a high-resolution mode, combined with the TDI (time delay integration) array, provides both low noise and high contrast."

Suitable for both slaughterhouses and further processor of meat products, the system excels in the inspection of all forms of poultry—from fresh or frozen, bulk flow to retail, and from single- to multi-lane processing lines—to ensure extremely low FFR (false reject rate) performance to help minimize product rework, while maximizing uptime and improving throughput.

As the product is X-Rayed to detect bone fragments and other foreign body contamination caused by tiny bits of glass, aluminum, steel, stone and other standard foreign debris finding its way into the process, the X-Ray system's contaminant detection sends a signal to the reject unit to activate the retractable belt, whereby the rejected product is dropped onto the reject return conveyor and delivered back to the operators for rework.

Using a lighted trim table, the operators can quickly access and rework the rejected product, which is placed onto a return chute that feeds the main line, while discarding any extra trim or waste into a nearby waste container.

Running at speeds of up to 240 pieces

per minute in dual-line configuration, the new *RMI 400 PXT* X-Ray inspection system was installed at the Saint-Cuthbert plant this past summer and, according to Giannone, has already proven to be an indispensable part of the new boneless chicken production line.

“The new X-Ray system has been resulted in a dramatic reduction of bones in our boneless products,” Giannone extols, “basically down to zero.”

“By purchasing a dual-lane system, we were able to double our output, or do different products at the same time,” Giannone notes, “and we have had great customer feedback since the installation.”

Says Giannone: “We always update our facility on a yearly basis, and one of the most important investments in machinery and equipment we have made this year was purchasing this new X-Ray machine from PLAN Automation.”

“Giannone Poultry prides itself on providing quality poultry product with 100-percent service level,” he says, “and adding this equipment to our production process is definitely helping us maintain the Giannone name in the market as a high-quality poultry processor.”

For PLAN Automation’s vice-president and chief operating officer Mat Bédard, such customer feedback provides perfect validation for his long-term faith in the technological superiority of X-Ray inspection technologies developed by Eagle.

“This radically enhanced detector technology features smaller diodes with a smaller pitch, combined with a revolutionary dual-energy TDI detector to collect more detailed data about the product being inspected,” Bédard says.

“When analyzed with advanced image analysis software, this provides images with much higher resolution,” he adds.

“The breakthrough PXT allows poultry processors to find the smallest bone fragments, down to 1.0-mm, with high repeatability, low false rejects and less rework,” Bédard states.

“Moreover, the PXT can be deployed to suit a wide range of applications at any product control point, including chicken and turkey, intended for retail packs,” he says, “as well as incoming raw material bound for further processing and finished products like sausages, patties, nuggets, and even breaded fish fillets.”

“This versatile technology is successful in detecting poultry bone and foreign contaminants in both fresh and frozen products, and it can handle thick products like turkey breasts or thinner products such as chicken tenderloins,” Bédard explains.

“The system can also effectively detect poultry bone fragments in all types of cuts such as breast, thighs and trim meat,



(Top)
Close-up of the Leeson SST motor from Regal Beloit used to power the takeaway conveyor transporting chicken pieces from the Eagle X-Ray inspection system down the line for packing.



(Bottom)
Air-chilled birds being lined up and prepared for a run on the Giannone plant’s new automatic deboning machine.

as well as finished and cooked products in their final retail package.”

“From an operational standpoint,” Bédard points out, “processors can use X-Ray devices equipped with PXT in both single- and multi-lane set-ups either as stand-alone critical control points, or networked to other systems to enable full process optimization and efficiency analysis.”

Says Bédard: “Using an automatic deboning machine like they have at Giannone will always result in creation of smaller loose bone fragments that can go undetected at the rework table, where operators can only use visual detection.”

“But with its ability to detect and pinpoint bones as small as 1.0-mm or even smaller, this new system really sets the gold standard for bone and contaminant detection that has never been seen before.”

“I have personally seen this machine catch bones as small as 0.6-mm at the Giannone plant,” he says, “so there is no question in my mind that having this system in place will help Giannone remain one of the industry leaders, by applying state-of-the-art X-Ray technology to ensure they have the best-quality product available on the market.”

ity product available on the market.”

As Giannone reciprocates, “All I can say about PLAN Automation is that they have been a great partner for us to work with.”

“They have a great team that provided full support from the purchase, delivery and installation of the new X-Ray machine,” Giannone states, “and they approach their business very much the way we do, providing the highest possible quality and safety to the end-use customer.”

“We have some further new exciting projects planned for our facility in 2021,” Giannone concludes, “and PLAN Automation is definitely included in those plans.”

SUPPLIERS

PLAN Automation
Eagle Product Inspection
Reiser Canada Ltd.
Regal Beloit Corporation



Please see the Eagle RMI 400 PXT X-Ray product inspection system in action at the Giannone Poultry processing plant on Canadian Packaging TV at www.canadianpackaging.com