Improving Foreign Objects & Contamination Detection

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Poultry processors strive to provide a finished product that is 100 percent free of bone fragments and foreign objects. Traditional methods of finding foreign objects rely on human inspection and tools such as metal detectors. But detecting certain objects like soft bone fragments and very small metal particles remain big challenges. Left undetected, they can degrade the quality of the finished product, affect product pricing adversely, and hurt brand reputation.

The most serious cases can bring about costly product recalls, resulting in significant monetary fines plus damage to a company's reputation that may take years to reverse.

Flawless Information — Instantly

The volume of product output by the typical poultry processing plant necessitates speed as well as accuracy in the detection of foreign objects. Ideally, processors would like to be able to capture flawless information instantly. The more equipment and systems can help processors achieve that outcome, the better it is for product quality and bottom-line financial performance.

The Technology is Here… but what about Practical Applications?

There is a significant degree of research going on to find better and faster ways to test and safeguard processed poultry products. Fortunately, a good deal of this "pure" research has been transferred into commercial applications that are as

effective as they are affordable.

For example, newer “dual energy” x-ray detection systems such as those manufactured by Anritsu can analyze two different x-ray energy signals, allowing them to distinguish between the product and the contaminants. This capability results in a higher detection rate of certain types of bones and bone fragments such as wishbones, fan bones, scapula bones and other thin, low-density bones.

Newer detection equipment is also more adept at inspecting overlapping and randomly oriented poultry products without negative side effects like false positives or a missed detection.

Pipeline Inspection Systems

There have also been new improvements in the speed and accuracy of pipeline x-ray inspection systems for pumpable products such as poultry trim and first-grind chicken or turkey meat. Not only are these pipeline systems highly accurate and effective in detecting small bone fragments, metal and other foreign material, they’re capable of processing as much as eight tons of product per hour.

With preset memory capabilities able to handle 100 or more separate recipes, today’s pipeline systems are highly versatile and flexible for poultry plants that process a variety of products.

Case Inspection Systems

Detection systems have also been commercialized for end-of-line inspection activities. These systems provide the assurance of confirming quality after products have been packaged. It’s not unheard for foreign objects to end up in a packaged product even after all of its contents have gone through prior detection screening, so this step provides an added measure of assurance for processors.

Consider the Big Picture

In our dealings with poultry processors, sometimes we find that detection systems and equipment have been installed at different times and in different places along the processing line. Often, this piecemeal approach has ended up causing operational inefficiencies — or worse, dangerous “holes” in the system.

That’s why it’s important for a processor to work with specialists who can view an entire process line and offer recommendations that will achieve all quality objectives in the most cost-efficient and labor-saving manner. It’s even better if that specialist can deliver a full system or equipment solutions, saving the processor time, effort and added costs in an attempt to devise a solution using multiple suppliers.

Gainco, Inc. is a Gainesville, Ga.-based manufacturer and supplier of yield management and food safety, plus weighing, sizing and distribution systems. Gainco is the exclusive authorized distributor of Anritsu detection systems to the

U.S. poultry processing industry. Contact Joe Cowman at (770) 534-0703 or JoeCowman@gainco.com [2].

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