

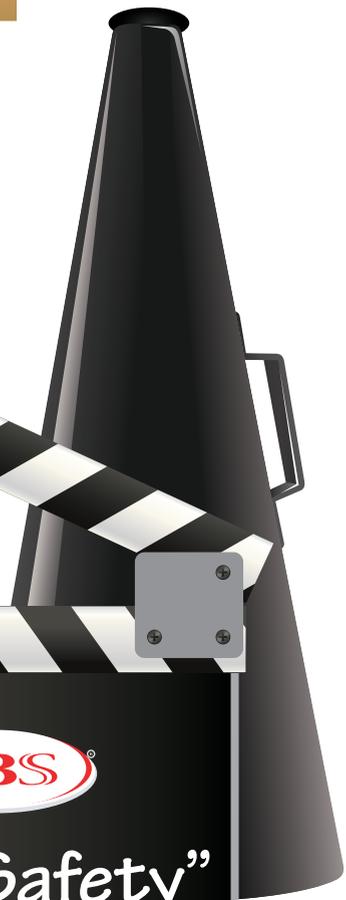
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ACTION!



JBS plays a leading
role in food safety
with remote
video auditing



"Food Safety"

DATE

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Action!

JBS plays a leading role in advancing food safety with third-party remote video auditing

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“We installed 16 cameras, split between animal handling areas and key food safety-related positions along the hide removal line on the dressing floor.”

Dec. 2 announcement from its US subsidiary, JBS USA, that it would implement third-party, remote-video auditing (RVA) to improve the food-safety performance of line workers at its eight US beef plants, not only made headlines but also made the heads of many in the industry turn. The company hopes this bold move

serves as a positive tipping point for the entire industry.

Top executives at the JBS USA headquarters in Greeley, Colo. were enticed by what they heard during a meeting with Adam Aronson, CEO of Arrowsight Inc. in early 2010. The JBS team quickly realized how third-party monitoring and auditing using strategically placed cameras could advance the food-safety performance of workers at JBS-owned slaughtering plants and saw how the same technology could also improve the performance of livestock handlers at the facilities. Mt. Kisco, NY-based Arrowsight is a developer of software programs designed to provide remote video monitoring and auditing of food safety and animal handling practices at meat processing operations throughout the US. Detailed footage of knife-wielding line workers can be randomly recorded and observed by trained auditors around-the-clock, using a system of cameras and recording devices installed pri-

marily by ADT Security Services, Arrowsight's hardware and advanced integration security partner based in Boca Raton, Fla. Officials with JBS USA's beef division, led by Dr. John Ruby, head of technical services, and Leonard Huskey, head of animal welfare, saw how their company's adoption of RVA on a systemwide scale could not only improve its own food safety performance, but also raise the



Huskey

bar for the rest of the industry. The concept of video cameras isn't new to the industry. JBS plants have had them in place to varying degrees for years, although officials say they were not typically used as an auditing tool, and therefore, not realizing their potential.

After the Arrowsight meeting, JBS agreed to test drive the tech-



nology as a food safety tool using its Souderton, Pa.-based beef facility as a pilot plant. Monitoring and auditing of its animal welfare practices were also part of the trial, which was one of the first initiatives approved by the company's Food Safety and Quality Advisory Team, formed in March, 2010.

"This was our pilot plant, with the idea being to prove the concept," says Ruby. "We installed 16 cameras, split between animal handling areas and key, food-safety related positions along the hide removal line on the dressing floor."

The random audits, conducted remotely from Arrowsight's Huntsville, Ala. monitoring center using criteria developed by JBS, are designed to verify process controls are being achieved throughout its plants, in both animal handling and on the processing floor. The immediacy of the feedback available from the videos, coupled with regular reports on overall plant productivity, provide

managers with valuable training tools to enhance food safety. "For the dressing floor, it is important to be able to view sanitizing steps for equipment and gloves, work process

"We learned about successful applications in our industry and in others, in which process improvement was quickly achieved."

steps and a hide-off carcass view which allows us to evaluate the carcass for workmanship defects that could potentially cause contamination," says Ruby.

One reason the Souderton plant was selected as a pilot was because it processes both fed cattle and older dairy cows. Cull dairy cows, which inherently have less fat under the

Cameras were installed in key, food-safety related positions along the hide removal line on the dressing floor.

hide and can present challenges with regards to carcass defects, are processed along with the fed cattle and were audited using the same criteria. "Good carcass dressing performance can significantly help to prevent potential contamination," Ruby says. "This step gives us the opportunity to obtain a completely open and unbiased view of the processes, complementing what we were doing in person using our [in-house] trained auditors."

Follow the leader

Some meat processors currently use video cameras in their plants to ensure animal welfare policies are being followed. Several others use the technology to achieve goals related to process optimization, improving yields, providing biosecurity or ensuring food safety. "We learned about successful applications in our



Third-party auditors began providing feedback after first randomly monitoring workers' performance at the JBS Souderton facility.

industry and in others, in which process improvement was quickly achieved," Ruby says. "Being able to remotely video audit, identify an area of improvement, and then train the employees using a video of themselves is a great program."



Moshier

Other prominent companies already utilizing RVA include: Cargill, OSI, American Beef Packers, Central Valley Meat, FPL Food, Excel and Dakota Provisions. Souderton represents the 22nd US facility to utilize RVA and seven more JBS plants will be online by April 1. By the end of 2011, Arrowsight's technology is expected to be in nearly 50 percent of large-scale slaughtering plants, thanks in large part to JBS taking the plunge. As president of Arrowsight's global

manufacturing and network centers Mark Moshier works directly with these processors and manages the day-to-day process of auditing their plants. Having worked in meat processing facilities for many years earlier in his career, Moshier is no stranger to the industry. Serving on the executive board with both the National Meat Association and the American Meat Institute, he stays engaged with the industry he has served for decades.

According to Steve Kay, publisher of Petaluma, Calif.-based *Cattle Buyer's Weekly*, the meat industry tends to follow the leader when it comes to adopting new technology and often, once a new technology is adopted by a high profile processor, others are more likely to fall in line. "When companies the size of JBS and Cargill adopt a technology like this systemwide, it often behooves the rest of the industry to consider it more seriously," says Kay. He affirms the JBS announcement in December was significant and a positive

move for the industry. "Any advance in food safety assurance is a positive development for all processors."

Arrowsight's Aronson was struck by the JBS team's laser focus on food safety, animal welfare and quality issues. "You can tell a big difference between people in companies who just talk about food safety being important vs. those who actually do something about it," he says. "From the start I could tell that JBS took it very seriously and their actions speak louder than words."

Reality check

As long as a human element exists in the operations of slaughtering and processing facilities, there will be room for food safety improvement. Short of assigning a clipboard-carrying supervisor to hover over the shoulder of every knife handler 24-7, the only practical assurance available to processors to date has been to relentlessly train workers to focus on avoiding the most common root causes of cross contamination



At the Souderton plant, cameras are positioned at various points in the hide removal process.

monitoring workers' performance. Using the feedback from the auditors, improvement was seen in days instead of months and compliance rates now consistently exceed the 99 percent mark.

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position and various other stations throughout the hide removal process. Within 30 seconds of an identified violation by one of the auditors, plant officials are notified of the station or a specific worker who is not meeting the food safety standards required by the company. Daily food safety reports provide the plant operators with feedback about performance at critical control areas for each station and for each plant. The reports can provide a holistic view of the company's plants as well as a micro view of each position within the plants for any given shift or time frame. Over time, auditors also generate performance-based trending data reports per plant and by position.

As part of the reports delivered to JBS officials, auditors can also be checked to ensure they are identifying and properly assessing what is occurring on the stations they are observing. This provides two-way transparency that allows the processor to audit the auditors, and ensure they are doing their jobs correctly.

Among the "root causes" auditors of the video footage are watching for are scores to the carcass fascia that can be caused by improperly used air knives during the hide removal pro-

and subsequent recalls. Historically, in-person audits result in workers performing better during the audit than they do during a typical shift and can produce misleading results.

"It is human nature that performance is likely to be better, knowing that someone is there performing an audit," Ruby says. "Remote video audits, when audit awareness has been created, provide an unbiased view of the process and the opportunity for insightful and immediate feedback to the employee."

One "root cause" of cross contamination that is monitored by auditors stems from the fecal matter that clings to the hides and can be transferred to the carcass when a knife cuts through the hide and into the meat. Prior to adopting RVA, JBS officials had every reason to believe worker compliance with knife- and hand-cleaning practices at this

part of the process, was exceptionally high, based on in-house, in-person audits. The reality, as it turns out, was that although plant operators believed there was exceptional compliance for all workers, they discovered that there was mediocre compliance for a small number of workers. Officials claim there was a "meaningful" difference in the overall perceived performance and the reality that the third-party auditors discovered during random surveillance (with limited feedback provided) of the workers early on in the pilot project. In some individual cases, the variance in compliance rates was night and day between what company officials believed was occurring and reality. Once the RVA system was in place and baseline compliance was established through observations only, third-party auditors began providing feedback after randomly

Examples of footage taken at the pilot plant now depict meticulous knife cleaning between each major cut on individual carcasses.

cess. When the white sheet of fascia is torn or cut, a pathogen hot spot is created and can be a vector for bacteria. Unmonitored, this type of error can be common and go on for hours by workers who are innocently unaware of any problem. Auditors are trained to monitor for this type of error and provide management with real-time alerts so the worker in question can be notified of the mistake before a problem develops.

The result was almost-immediate and sustained compliance with the practices required to prevent repetitive scoring of the fascia and many other manufacturing practices has occurred. After hide removal, cameras positioned down the line snap still photos of each carcass to detect any defects caused by workers, which can then be traced back to the appropriate line worker based on the location of the defect.

Auditors are trained to provide

“It is extremely important to note that the improvement has been sustained.”

written details about food safety violations in their reports, which include links to video clips of the incidents. Ruby says, “We now have software allowing us to systematically view both saved and live video. We have created a viewing room in each plant where audits are done by designated plant QA personnel and these results are compared to the third party audit benchmark results.”

Work stations are audited to ensure knives are not only being cleaned between each carcass on the rail, but in certain stations, workers are consistently cleaning their knives and their gloved hands to prevent cross contamination between carcasses. Examples of footage taken at the pilot plant now depict metic-



ulous knife cleaning between each major cut on individual carcasses when cuts are made from the hide into the carcass itself.

Lessons learned

The Souderton trial lasted about six months, a bit longer than planned, but a successful pilot operation nonetheless. A significant part of that success was due to the acceptance and willingness of workers to be involved with what was an experiment on behalf of the entire JBS operation. Bob Russell, general manager of the JBS Souderton facility, says there was no resistance among the Souderton workers when they were told of the plans to install cameras in their facility. “When we began using the technology to provide feedback and training to employees, it was very well received. Some employees were surprised, but all were clearly able to see areas where they could improve and responded in a positive manner,” he says. Managers too, were able to realize the potential of the technology as they saw almost immediate results of providing feedback to employees.

Officials are optimistic about achieving similar process controls at the company’s other seven beef plants while sustaining the improvements at Souderton. Historically, once improvements are established at a plant where RVA is utilized as a solution, performance does not backslide over time. Any indications of ebbing compliance are immediately pointed out by auditors before they become a significant trend. “It is extremely important to note that the improvement has been sustained,” says Ruby. “Audit summaries allow us to look at same day results compared to seven and 30-day trailing averages and the consistency has been remarkable.”

Ruby points out however, that some lessons were learned at Souderton that will be implemented at the remaining plants. “Since the pilot, we have decided to add some cameras that go even further into dressing floor operations and, as a result, the number of cameras in a large facility will be at least twice the number utilized in the pilot,” he says. And look for the additional plants to come online



soon. “Our timeline for the other plants is very aggressive as we want to be totally implemented by April,” he says, adding that managers of the company’s pork plants and its Pilgrim’s Pride facilities are also weighing the benefits of RVA.

RVA adopters stand to benefit in the future as hardware technology evolves. “New and improved camera technology (IP/Megapixel) is now being implemented,” Ruby says, “putting image quality on a par with 1080 MP, which is similar to the quality available on high-definition TVs in our homes. We are rapidly moving to a consistent strategy across all the plants,” says Ruby and the company looks forward to showing off the technology to customers visiting its plants or headquarters. As for its processing plants outside the US, Ruby says, “while we do not have implementation plans outlined as yet for these facilities, we believe the same potential is there to achieve improvement.”

In line with the recent actions of Cargill, which implemented RVA focused on animal welfare at all of its North American beef plants in

early 2010, JBS also uses the technology to address animal welfare at its beef facilities. Huskey, head of animal welfare programs at JBS, points out that similar to the food

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safety application, feedback proved to be valuable during the pilot project. The RVA data specific to animal handling resulted in rapid improvement, “beginning with unloading and continuing all the way through stunning. Technique is very important in working with livestock and we have been able to improve employee understanding of how best to move cattle along in the process and minimize stress,” he says.

“The technology has also been reviewed by Dr. Temple Grandin, who is in agreement that, when properly used, this can be a very useful tool

JBS has a designated viewing room in each plant where in-house audits are routinely conducted by QA personnel.

to improve animal welfare.”

Grandin has endorsed RVA technology for years and says the animal welfare improvements at the Souderton plant have been significant. “They’ve really seen some fantastic results at the Souderton plant- like 99 percent compliance. It’s just huge,” she says, pointing out that the facility was formerly the Moyer Packing plant, and the site of one of her first animal handling system installations.

Taking a leadership role in food safety is applauded by industry leaders like Barry Carpenter, CEO of the National Meat Association, who is hopeful others will follow the leaders. “Utilizing Remote Video Auditing technology to audit for knife, hand and cutter sanitizing, as well as ensuring that carcasses are dressed properly with minimal defects, will reduce the risk of cross contamination between carcasses and improve the safety of beef products. I applaud both JBS and Arrowsight for their leadership and continued commitment to food safety.”

Once the system of cameras, software and auditors are in place at JBS, Ruby says there are “other possible applications Arrowsight has proposed that may create yield improvement,” and provide a return on the company’s investment. “We will evaluate those on their own merit.” Without divulging the cost of implementing the technology at JBS, Ruby says “It is a very wise investment for continuous improvement in animal welfare and food safety related practices. We want to be an industry leader in these areas and this is the driver for our investment in the technology.” ■



Grandin

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