

Eagle™ Pack 1000 PRO

Mid-Isle Farms



Case Study



Mid-Isle Farms has proudly grown, packed and shipped the highest quality Prince Edward Island potatoes for over 30 years. Owned by local farm families, the company supplies yellow, red, round, and russet potato varieties for both retail/grocery store and the food service/restaurant trades. They work passionately with their suppliers and customers to achieve common goals of supplying fresh, great tasting food.

X-ray Technology Combats Crop Sabotage by Detecting Contaminants

In October 2014, sewing needles were discovered inside potatoes by workers in a plant in New Annan on Prince Edward Island. Additional needles were discovered later in bags purchased by consumers throughout the Atlantic provinces. This triggered a massive recall of over 800,000 pounds of potatoes. In response to this crop sabotage, Mid-Isle Farms set out to find technology that would combat this problem so they could guarantee the safety of their product to consumers.

After an exhaustive search, Mid-Isle Farms heard PLAN Automation, an Eagle Product Inspection partner, speak at a Food Safety Symposium, addressing the issue of food terrorism and their

solutions to identifying and rejecting contaminated potatoes. "The company's expertise and depth of knowledge of the food industry gave us the confidence to know that we can provide a safe product to our consumer," said CEO, Rick Burt. "We especially value PLAN Automation's unbeatable local service and parts support."

Eagle Pack 1000 PRO is the Solution

Mid-Isle Farms' potatoes are flumed from on-site storage to the production line with every potato passing through their new Eagle Pack 1000 PRO x-ray machine. The company chose to inspect in bulk before the potato is packaged because their product varies in size and a single layer provides the best inspection capabilities since it allows for hollow heart detection.

Designed for x-ray inspection of large boxes/bags of multiple products or bulk inspection at high throughput, Eagle's Pack 1000 PRO provides superior detection and automatic rejection of a wide range of physical contaminants including glass, stone, metal, golf balls, plastic, rubber, and bone. The system can also easily detect foreign bodies that have been purposefully inserted into the product such as needles, glass, etc.

The x-ray machine provides 1,000 mm (39.3") of detection coverage at the belt and is capable of high-speed imaging up to 76 meters per minute (250 FPM). For bulk potatoes, the system is capable of handling 80,000 lbs per hour. With multiple inspection capabilities, it can help manufacturers maximize overall line efficiency by simultaneously performing the following inline product integrity checks: mass measurement, contaminant detection and hollow heart detection.

"We tested our potatoes in PLAN Automation's demo room and were astounded at the Pack 1000 PRO's capabilities," said Rick Burt. "We were able to easily see needles and nails being automatically detected on the screen. That's one of the reasons we chose Eagle, because their x-ray systems provide superior detection capabilities and consistent, reliable detection results."

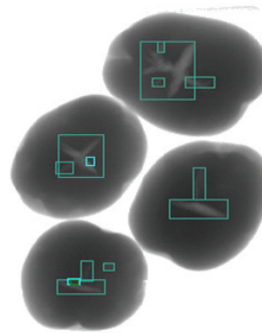


"The company's expertise and depth of knowledge of the food industry gave us the confidence to know that we can provide a safe product to our consumer."

Rick Burt, CEO, Mid-Isle Farms



Untagged Image



Tagged Image

Eagle Pack 1000 PRO's superior x-ray inspection technology is able to detect damaged or punctured potatoes, as well as voids or hollow hearts within it.

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MDX Technology Takes Contamination Detection to the Next Level

To ensure Mid-Isle Farms acquired the most technologically advanced system available, they opted to enhance their machine with Eagle's Material Discrimination X-ray (MDX). This dual-energy technology identifies contaminants that have traditionally been almost impossible to detect. It uses Easy MAT™ software, which allows for faster installation and simplified set-up by auto-learning the material composition of the product. Contaminants with different compositions to that of the product are more easily identified than ever before. Its enhanced human machine interface (HMI) has an intuitive pre-programmed operational interface that effectively removes the need for third party set-up and maintenance.

Because the Mid-Isle Farms plant is capable of processing 80,000 lbs of varied-size potatoes every

hour, they needed an advanced system to handle rejected product in order to minimize waste and costly rework. The company opted for a four paddle reject system. This allows the potatoes to travel on a conveyor through the x-ray beam and based on the contamination detection result and location, one to four paddles will lower to guide them to the appropriate next stage of production. Contaminated potatoes will drop into a reject bin while good potatoes continue back into the stream of good product.

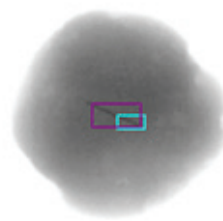
By enabling food contaminants to be removed before reaching the customer or supermarket shelves, MDX technology helps Mid-Isle Farms to avoid product recalls, as well as play a key role in protecting their brand and the welfare of consumers.



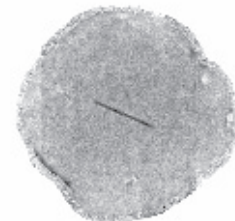
Figure 1: Eagle™ Pack 1000 PRO is designed for bulk inspection at high throughput.

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Rick Burt, CEO, Mid-Isle Farms



Standard Image



Eagle MDX Image

MDX Technology easily detects hard to find contaminants. See the difference in the example image above which contains a carbon steel sewing needle measuring 0.55mm in width by 32.7mm in length that was found in the center of a potato.

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