Natures Way Foods Invests in New Technology to Ensure High Product Quality and Food Safety

Natures Way Foods (NWF), one of the largest fresh cut processors in the UK, attributes much of its success to providing customers with high quality product, superior service and tremendous value. To assure that the company's quality standards are consistently met, NWF recently installed an optical inspection system from Key Technology that uses a combination of color cameras and laser technology. Optyx® with FluoRaptor™ is a fluorescence-sensing laser/camera sorter that maximizes the detection and removal of defects, extraneous vegetable matter (EVM) and foreign material (FM) based on differing levels of chlorophyll as well as color, size and shape.

In October 2008, NWF installed their first Optyx with FluoRaptor on a line that processes baby leaf products such as spinach, rocket and red chard. For this line, NWF selected Key's Optyx 3376 with FluoRaptor, which features one top-mounted Vis/IR (visible infrared) camera and one top-mounted FluoRaptor laser inspecting product within a 610 mm wide scan area. This narrow-belt 3000 series system sorts up to 1000 kg of leafy greens per hour.

"Prior to installing Optyx, we relied purely on manual inspection. However, this was not as effective as we would have liked so we decided to add an automated sorter to the line to remove defects and foreign bodies. The sorter eliminates insects, stones, and anything else that could come into the factory and get into a bag of salad or create a negative consumer experience," explains Richard Bonn, Purchasing Manager at NWF.

Richard Bonn believes that NWF's emphasis on sourcing high quality raw materials and using state-of-the-art processing technology to produce superior product have contributed greatly to the company's success. Through supplying washed and ready-to-eat bagged salad to two of the biggest UK retailers, and a number of well-known foodservice companies as well as many other customers, NWF has experienced a growth rate of 5 to 10 percent year on year. He also believes that constantly improving product quality will help to drive continued growth in the market.

The Optyx with FluoRaptor combines laser technology with proprietary cameras to detect and remove the widest variety of defects and foreign material. With its cameras, the sorter analyzes size and shape as well as millions of subtle color differences. With its FluoRaptor laser, the sorter reliably detects defects and foreign material based on differences in the fluorescent properties of the objects. The sorter removes insects, as well as sticks, rocks, cardboard, plastic, metal, and glass, even if they are the same color as the good product.

To ease use, an icon-based graphical user interface (GUI) integrates FluoRaptor laser scanner information in a way that allows the operator to see what the

laser is "seeing." This patented feature delivers intuitive machine feedback, enabling the operator to make more accurate adjustments of accept/reject thresholds. Additionally, images and product settings can be stored on the G6 computer hard drive, remotely or on a USB key for quick retrieval for fast and accurate product changeovers. The baby leaf production line at NWF operates 24 hours a day, seven days a week, year round and is regularly changed over to produce product that perfectly matches each customer's specifications. "In addition to removing defects and foreign bodies from the product, we use the sorter as a control point. When we find foreign bodies in the product, we take them out, but we also track the incidents and trace them back to the suppliers. We send the supplier either the actual foreign bodies or pictures of them from the sorter and we challenge the supplier to take steps to improve the quality of the product they send to us," continues Bonn. "Before we installed the sorter, it was much more time consuming to identify where problematic product came from. Now, it's very easy to monitor which suppliers are performing badly or well, based on the statistics the sorter collects."

Photos: Key Technology

"In this way, the sorter has succeeded in delivering what we needed; it has allowed us to improve our quality standards, enhancing both food quality and food safety, whilst being able to monitor our raw material and suppliers more effectively. The Key sorter addresses both quality and safety.

Optyx with Raptor can be configured to sort a wide variety of products from fresh cut to frozen vegetables and potato products. The first Optyx installed at NWF was designed specifically for baby leaf products with unique product handling and sanitation features that keep the system free of product build-up during operation. This helps maximize defect and foreign material removal while simultaneously minimizing yield loss and easing sanitation.

"Our Optyx offers very gentle handling," concludes Bonn. "In fact, it causes no more damage than a simple length of conveyor. This new technology will help us continue to offer the highest standard products to our customers."

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