



T H Clements Feeds Growth with **VERYX[®] Digital Sorter**

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T H Clements, a top vegetable processor in the UK, embodies their company motto, “growing with confidence.” Now a third-generation family company, they’ve earned double-digit growth over the past few years and expanded their production with the most cutting-edge technology. In 2017, they turned to Key Technology for a digital sorting system on their new Brussels sprouts grading line and selected one high-volume state-of-the-art VERYX® to replace three old sorters. VERYX has improved production efficiency at T H Clements while maintaining the highest product quality.

“Brussels sprouts are difficult for most sorters – they cast shadows with their deep shape and open leaves when illuminated. VERYX, with its all-sided surface inspection, gives us a 360-degree view of each Brussels sprout,” said Graham Neal, Factory Manager at T H Clements. “Our new sorter has doubled our throughput without increasing our labor at the same time we’re exceeding our high expectations for defect removal accuracy.”



Customized for their challenging product and specific production goals, the belt-fed VERYX B175 sorter at T H Clements inspects up to 12.5 metric tons (27,500 lbs) of Brussels sprouts per hour. To eliminate blind spots, Brussels sprouts are launched off the end of the belt, illuminated by LED lights and inspected entirely in-air with top- and bottom-mounted cameras positioned in a ‘tilted-x’ configuration. Next-generation 4-channel cameras combine visible color and infrared inspection at twice the resolution of previous generation cameras. These sophisticated sensors detect extremely subtle color differences and sub-millimeter characteristics to identify a wide range of product defects, foreign material (FM) and extraneous vegetative matter (EVM).

Mechanical graders at T H Clements remove Brussels sprouts that are smaller than 20 mm and larger than 40 mm as well as some FM and EVM prior to digital sorting. At VERYX’s infeed, a Key Iso-Flo® vibratory conveyor with a customized bar screen removes more FM and EVM, as well as loose leaves and small pieces. It also singulates and spreads product for optimal presentation to the sorter’s inspection zone, so compatibility between the infeed and the sorter is essential to maximizing sorting performance.



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“About 90 percent of all FM and EVM is removed before the digital sorting system, and then the vibratory infeed shaker that’s integrated with our VERYX removes even more. That means about 98 percent of the product going into the sorter is sprouts, which helps maximize its capacity and yield,” explained Neal. “Since most FM and EVM is removed with mechanical processes upstream, we’ve programmed our VERYX to focus on rejecting sprouts with disease and rot as well as pest damage, yellow leaf and other defects, although it’s capable of finding and ejecting much more.”

Designed from the ground up to maximize automation and ease use, VERYX features auto-learning, self-adjusting algorithms, predictive system diagnostics and smart alarms. This enables it to adapt to normal fluctuations in the product and environment without manual intervention. Recipe-driven operation enables settings to be stored in memory to speed product changeovers and ensure consistent sorting results.



“VERYX is so simple to use, one operator is able to run the entire processing line. The intuitive user interface presents different views to users of various levels, depending on their needs, and it’s password protected. The engineering manager, the main operator and I are the only ones who have a deep level of access, which prevents inadvertent changes by unqualified personnel,” said Neal. “If we need any support, Key’s engineers can access the sorter remotely to take control and make changes to resolve an issue very quickly. Every point of contact we’ve had with Key has been excellent, starting with our trials in Belgium through to installation, start-up and beyond.”

T H Clements currently runs 20 varieties of whole Brussels sprouts, which are cleaned, sorted, size graded and bulk packed in cold storage during their August-to-March harvest. To fill orders, Brussels sprouts are pulled from cold storage and either loose packed into 14-kilo bulk trays for foodservice and wholesale customers or sent to vertical-form-fill-seal machines to produce retail packs that are 200, 300, 400 or 500 grams in size.

“We manufacture mostly private-label products, so customer satisfaction is incredibly important to us. We invest in innovative technology from leading suppliers to achieve consistently high product quality and ensure speed-to-shelf,” said Richard Mowbray, Commercial Director at T H Clements. “VERYX has helped us achieve our objectives and grow our business, even with the tightening labor market. This sorter makes a strong impression on everyone who sees it.”

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