

Scanner spots diseased potatoes

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By Eloise Gibson

A New Zealand company is helping United States potato growers save millions of dollars by spotting diseased potatoes before they are turned into chips.

A disease known as zebra chip is causing big problems for potato growers, who face having entire loads of potatoes devalued or rejected by chip-makers if the defect is found.

But Auckland company Taste Technologies has developed a sorting method that can find out if potatoes have the disease before they are sent to manufacturers.

NIR (or neo-infrared) technology works by shining a light on the potato as it travels through the sorter. Part of the light will be either absorbed or reflected by the potato. By measuring the ratio of absorption to reflection, growers can tell if there is soluble sugar in the potato, a sign of zebra chip.

CSS Farms, which provides potatoes to potato chip giant FritoLay, has been using the technology to spot zebra chip at its Texas base for a year. Taste Technologies general manager Bob Shaw said he was getting good feedback about the product.

"They're into their second season now, and the communication coming back all the time is that it's working very well. It's reducing or eliminating returns and maximising the value of what goes to the processor."

Zebra chip might sound like a trendy snack, but the effect is anything but appetising.

The disease, which is believed to be spread by insects, converts part of the starch in a potato to soluble sugar. When the potato is cooked, the starch burns and goes black, causing zebra-like stripes and breaking up the chip.

A study by Texas A&M University estimated losses from Zebra chip could reach \$132 million in lost business in Texas and cost almost 1000 jobs if nothing was done.

The disease is thought to have spread to Texas from South America, and more northern parts of the US are unaffected.

Shaw said the disease could affect growers' reputations.

"When you're supplying the bulk of your product to one processor and you're starting to get product turned back, it becomes a concern."

He said Taste Technologies and sister company Compac Sorting Equipment, of which he is also general manager, had sold about 200 sorters with NIR technology, mostly to US growers. Most were used for spotting defects in fruit. About 18 sorters had been sold to test for zebra chip.

Six months ago, Taste Technologies launched NIR technology to spot defects in apples and remove them before they go to retail. About 30 of the new apple sorters are already used in Washington State, while in New Zealand, NIR sorters are used to test the sweetness of kiwifruit before it goes to market.

Together, Compac and Taste Technologies employ about 120 staff in New Zealand.