AUSTRALIAN TREE CROP

Mobile cherry sizing app delivers early size data

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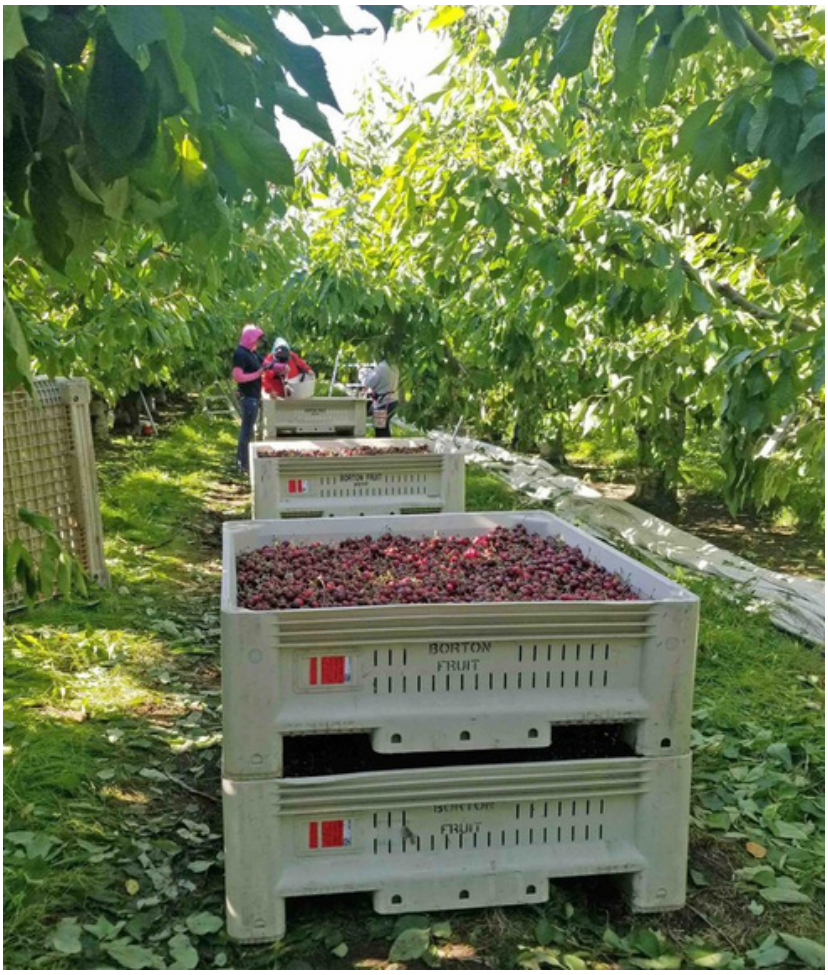

Traditional cherry size sampling processes are getting a makeover.

Agritech startup, Hectre is about to release Spectre for Cherries, a new mobile cherry sizing app that delivers massive size samples as soon as the first bin or bucket of cherries has been picked. And the only equipment required is a simple iPad.

The problem with traditional size sampling processes

Hectre CEO and co-founder Matty Blomfield said lack of reliable early size data has been a key problem for growers and packers for years.

“Traditional manual size sampling methods using sizing rings, is time consuming, error prone, and produces extremely small samples,” he said. “Due to small samples, the information gained through this painstaking process is often inaccurate and unreliable.”

Cherry size feeds into many decisions and all of them impact the bottom line, such as:

- What market will these cherries go to?
- Can we confidently secure sales?
- What pack line set up and packaging do we need?
- Do we need to adjust our shipping?

Mr Blomfield said companies who get any of the above decisions wrong, risk brand damage, labour wastage and unnecessary costs.

Hectre initially built the Spectre mobile fruit sizing technology to address similar problems faced by the apple industry. The apple sizing app is now being used by leading fruit growers in the US, Canada and NZ.

After hearing about Hectre’s Spectre for Apples tool, Cherri Global, one of NZ’s leading cherry producers, was quick to request a similar solution for cherries.

Cherri Global founder Phil Alison said having this type of technology meant no more guessing. “We need to know the actual size, and with Spectre for Cherries, we’ll be able to get it.

“Early size information will enable us to firm up our sales programs earlier than ever before and inform all our planning, ensuring we’ve got the right pack set up and the right packaging,” he said. “It will help us with logistics too.”

How the technology works

Hectre's Spectre for Cherries fruit sizing app uses computer vision AI to detect and size cherries in the bucket or bin, delivering size results within seconds of a photo being taken on an iPad.

QC staff take a photo of a full cherry bin or bucket on their iPad using Spectre for Cherries. The post-harvest app detects cherries from the top layer, sizes each of those cherries, and provides a fruit size estimation graph within seconds.

Computer vision AI explained

Mr Blomfield said computer vision is the field of computer science that focuses on replicating parts of the complex human vision system.

"Put simply, computer vision is about training a computer to see the world, and things, how we see them. And then with the help of other AI (artificial intelligence) such as machine learning, computer models and algorithms can be used to detect, count and size objects incredibly quickly and accurately – faster than humans could ever do.

"Cherries posed an additional challenge for the Hectre team due to their stems. Extensive computer modelling work was required to teach the computer to ignore stems."

Washington pilot

Mr Blomfield said opposing Northern and Southern Hemispheres provide advantages.

“The Hectre R&D team were able to conduct initial development of the Spectre for Cherries model during NZ’s cherry seasons. This year, Hectre took the tech to Washington where a final pilot involving five of Washington’s leading cherry grower-packers, has just completed.

“Ease of use and massive sample size increases were highlighted in the pilot feedback. In one example, QC crews using Spectre for Cherries sized nearly 13,000 cherries from 15 bins, with sizing results received in a matter of seconds. Those results were then shared with sales and packing teams via CSV reports.

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