WITH THE WORLD'S SIMPLEST ORCHARD TECHNOLOGIES

Getting Ahead On Size

Brought to you by

Hectre

EMPOWERING FRUIT GROWERS AND ENTERPRISE

These Businesses Are Getting Ahead On Size

















SPECTRE

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BRIDGING THE DATA GAP WITH CLEVER SIMPLICITY

The world's simplest to use, fastest, most accurate and practical Computer Vision AI Fruit Sizing Solution to be delivered straight from an iPad/iPhone.



CLEVER SIMPLICITY

SPECTRE STEP ONE: Take a photo

Take a photo of the top of your bin of fruit just using your iPhone/iPad - in the orchard, in the packhouse, wherever you want (you can load up 30 photos at once if you're doing a batch)

SPECTRE STEP TWO: View your Spectre results

Within seconds you receive a Spectre distribution chart outlining the sizing of a large sample of fruit from the bin.

Spectre applies computer vision AI technology to detect a large sample of fruit from the top of the bin, sizes it and displays it for you in an easy to view chart.

- Export results via CSV to excel analyse and share
- Bilingual functionality is also included to assist users English + Spanish









Apples

The Hectre team worked with some fantastic apple growers and packhouses in NZ to test design and user friendliness and to gain apple imagery which was used to optimize the Spectre model.

During the 2020 US harvest, more than nine million Spectre for Apples images were captured, creating a wealth of data and enabling Hectre to optimize Spectre further. Now leading apple growers, apple packhouses and sales desks in both NZ and the US are using Spectre for Apples.

One of the key advantages for Spectre customers is that the Spectre user process is so incredibly simple and the app is bilingual providing both English and Spanish language options.

Citrus

As news of Spectre spread, other fruit types were requesting Spectre sizing.

By late 2020, NZ citrus leader, First Fresh NZ had signed and the Hectre team were busy optimizing Spectre for Citrus.

Now, Spectre for Citrus is being used in both NZ and South Africa with California expected to be the next region to identify with the benefits of Spectre for Citrus.

SPECTRE FOR CITRUS



Hectre

0.00%

36

48

56

Spectre results (bottom) get compared to a multi-million dollar grader (top), achieving extremely high accuracy levels.



Grader - 19 bins - Lucy Rose - B432



88 100 113 125 138 150 163 175 198 216

72

64

80

Apple Accuracy

The fact that such simple to use technology also provides such high levels of accuracy, instils great confidence in decision-making.

We regularly undertake accuracy tests by comparing Spectre results, with those of the multi-million dollar grader machine.

Even with the naked eye, you can see how closely Spectre tracks the grader result, particularly the critical sizes and average accuracy rates are 95% or higher.

It's important to note that Spectre does not seek to compete with grading machines. This is not the use case Spectre replaces. Spectre replaces the early inaccurate sampling methods carried out by people - not million dollar machines. Comparing Spectre which requires only a standard iPad/iPhone, is fully portable, takes no time to set up, and delivers results within 4 seconds against a commercial grader machine which uses complicated proprietary hardware, is a massive piece of fixed machinery, and costs millions of dollars, is rather unfair. .. But we do it anyway!





Citrus Accuracy

The first release of Spectre for Citrus saw navel oranges as the priority, and grader comparisons undertaken saw high accuracy comparison rates of 95%. Here's one of the raw data sizing comparisons below.

Lemons dominate NZ's citrus exports, with five times more lemons being exported than any other NZ citrus type, so lemons quickly followed. Limes and grapefruit are on their way.

Raw size data showing the average size detected by Spectre (left) when compared to the multi-million dollar grader machine. 97%+ accuracy.



Spectre for Citrus Grader Comparison - Navel Oranges

	Spectre Size Avg (mm)	True Size Avg (mm) from grader machine	Avg
Navel Oranges	79.29	77.32	

g Piece Size Diff (mm)

3.9



Running concurrently with new fruit type optimization, has been the development of Spectre for Color.

As many fruit selling decisions include both size and color considerations, and which market you sell into, determines the requirements for each, having access to early color data provides critical information for decision making, so selling opportunities can be maximized.

The Hectre team created a color calibration system to enable users to calibrate for the different environments they use Spectre in. This accommodates different light settings such as bright lighting in a packhouse, a cloudy day outside, a sunny day outside etc.

Users have the ability to set up their own customized environments and calibrate Spectre for Color for those environments.



With the same click of an iPad/iPhone that captures the bin image for sizing, Spectre for Color can also run colour estimations on apples



Hectre has brought together a talented and diverse team of collaborative professionals, to deliver leading edge solutions for the fruit industry.

We're committed to providing clever simplicity, making it easy for workers to adopt new technologies and for value to be realized.

> Originating in New Zealand, where innovation, farming and horticulture thrives, we now support growers (small & large) and enterprise, around the world

Co-Founders Nico Gabarra and Matty Blomfield now lead a team of 21 with Hectre team members based in Auckland, Washington, New York, California and Vietnam.





I'm Ready Now

If you're ready to take action now and find out more about gaining the benefits of accurate early fruit size data for your buisness, the team at Hectre are ready to help.

Simply complete the quick contact form and our team will be in touch to talk through your needs, advise pricing, and if you're ready, get you sorted!



