Tech Update

New tech is delivering size data for citrus growers and packers from the very first pick

A Problem To Solve

Vertically integrated growers and packers were facing a problem – a lack of early size data. Low levels of size information they were receiving from traditional manual processes, and the poor accuracy that came with it, meant they were lacking reliable data to inform critical decisions around storage, packing and sales.

Traditional early sizing methods involved QC staff "randomly" sizing an extremely small sample size (often only about 25 pieces of fruit).

Judgements were being made about storage, packing and sales for an entire submission of 100,000+ pieces of fruit, based on these tiny sample sizes. This led to ill informed decisions, costly errors, sales orders requiring renegotiation and important sales opportunities being missed.

In response, award winning NZ agritech startup Hectre, developed a mobile computer vision AI early fruit sizing solution called Spectre. The app was initially developed for the apple industry and is now being used by fruit leaders such as Washington Fruit & Produce, Rockit Global and Sage Fruit.

Spectre for Citrus followed, providing the citrus industry with a mobile citrus sizing solution that could size citrus straight from a photo on an iPad, within seconds of the fruit being picked.

How This Technology Works

Users simply stand in front of a full bin of fruit, in the field or in the packhouse, and using an iPad, take a photo of the top of the bin.

Spectre uses computer vision AI to detect more than 100 pieces of fruit from the top of the bin, sizes those fruits, and then delivers a size distribution estimation, highlighting the different size bands. And all within seconds, off a simple iPad.

The more we know about the size profile of a particular growers crop, in advance of it being brought into the packhouse, the better we can plan our sales programs," noted Ian Albers from First Fresh NZ when asked about the benefits they were gaining from Spectre for Citrus. Reflecting their innovation leadership, First Fresh NZ were the first company worldwide to implement Spectre for Citrus.

It's also a great tool for growers. They can scan bins in real time to ensure adherence to size picking requirements, leaving smaller fruit for a later pick when it'll have greater value," adds Albers.

Multiple bin photos can be uploaded at one time, meaning a large sample for a block or grower can be obtained in a matter of seconds, and data can be shared easily.

This new technology is now being developed for the cherry industry, with pilots underway this NZ winter with six leading US cherry growers/packers.