



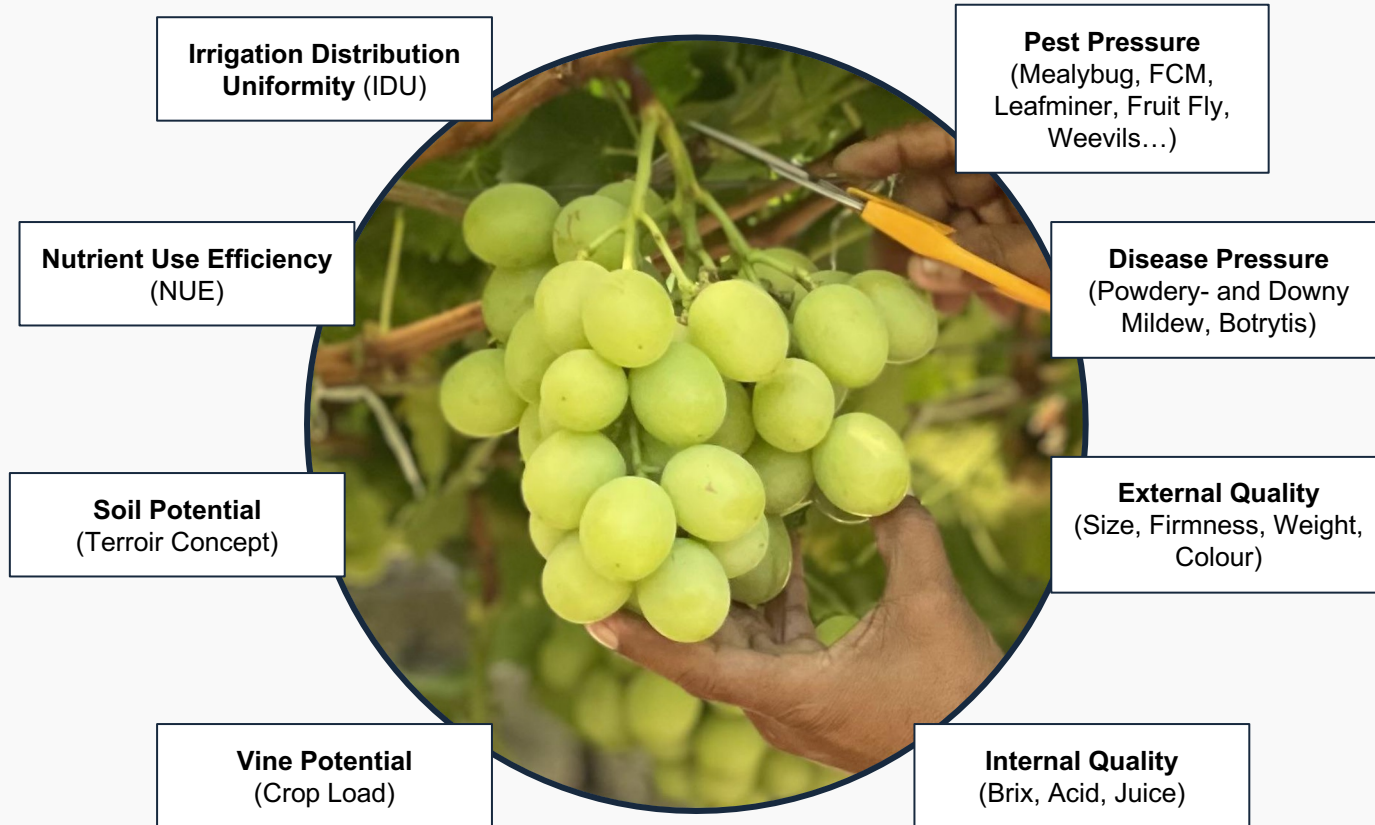
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Breakthrough in table grape technology: Using artificial intelligence to optimise table grape production





Optimised Production vs. Unavoidable Challenges





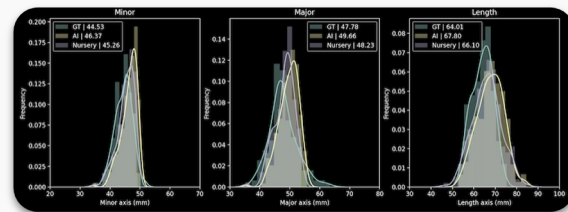
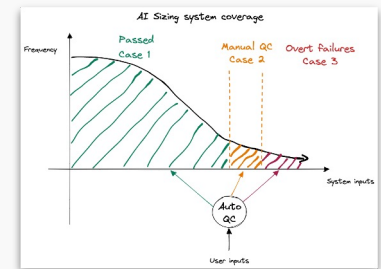
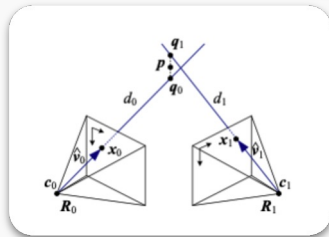
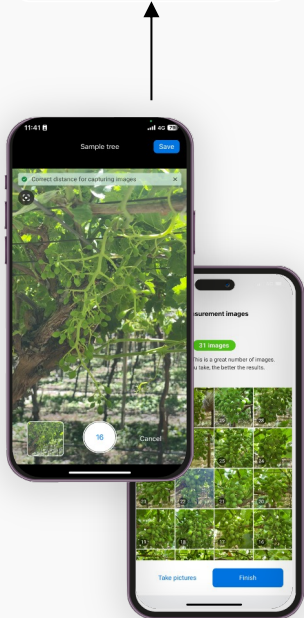
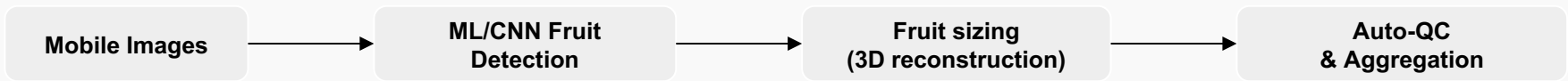
AI Fruit Sizing: The need to measure

- Table grape production has showed a steady increase over the past ten years.
- With a rising supply of high quality grapes in most markets, the overall consumer demand has been at an all-time high.
- Table grape quality and the constant production thereof is one of the biggest production driver challenges growers are facing every season.
- Apart from berry weight, **size and the accurate tracking** thereof is one of the biggest factors when it comes to good quality table grape production.
- Growers have been challenged with inaccurate and inconsistent grape size and count data.
- The key to understanding grape yields starts and ends with:
 - Knowing **where** to measure
 - Knowing **what** to measure



World table grape production is forecast to increase by 1.1 million tons to 27.3 million for a fourth consecutive season, according to a report by USDA.

AI Fruit Sizing Pipeline



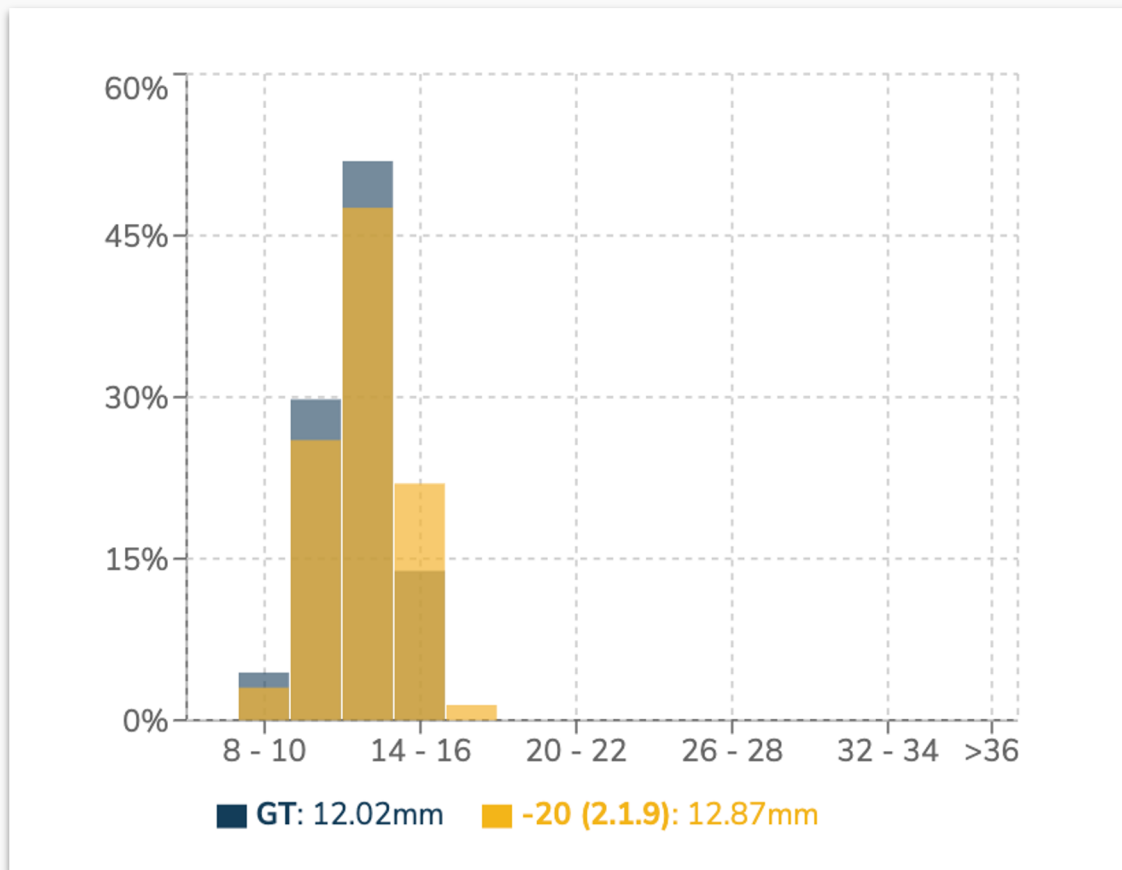


AI Fruit Sizing vs. Manual Hand Caliper Method

Conclusion	Results
Accurate as current method	✓
Reduced time to measure	✓
Less resource intensive	✓
Less prone to human error	✓
Less weather-dependant	✓
Less cost (time efficiency)	✓

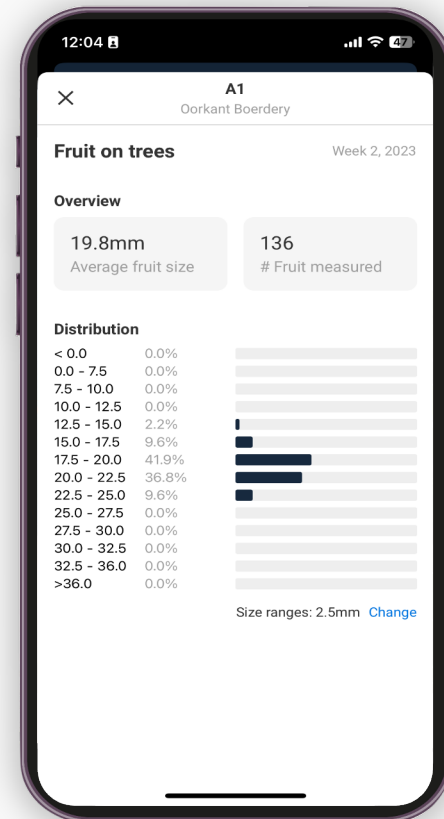
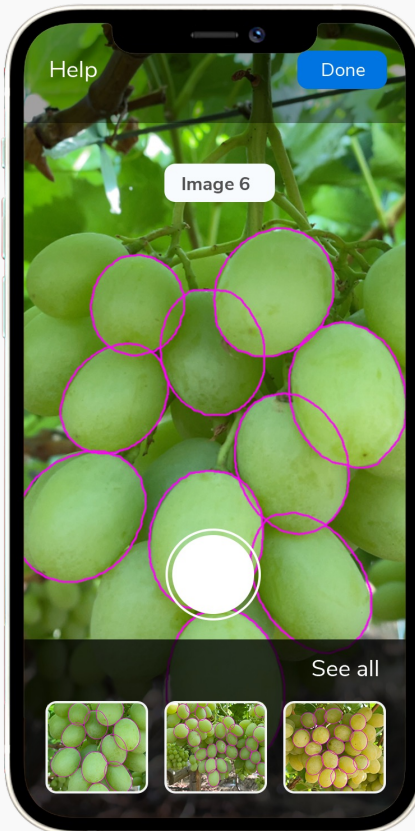
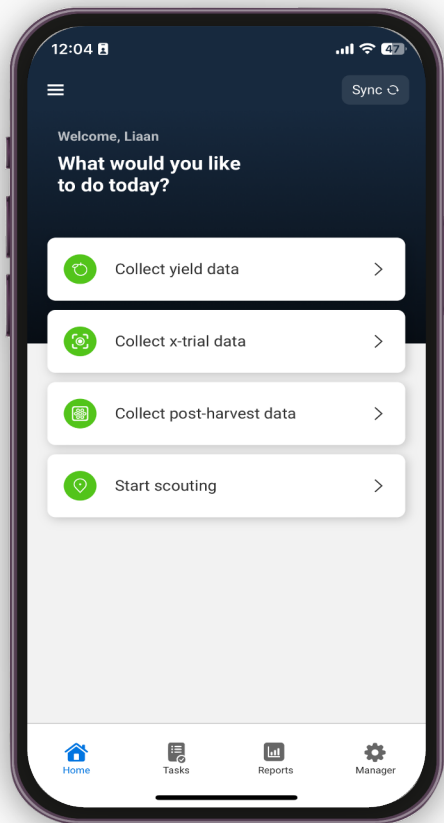
Time to Measure	
Time efficiency	-67.04%
Measured fruit	+50%

Results showed a **significant increase** in the sample size measured for the same duration of time.





Yield Insights: Practical “Data to Knowledge”

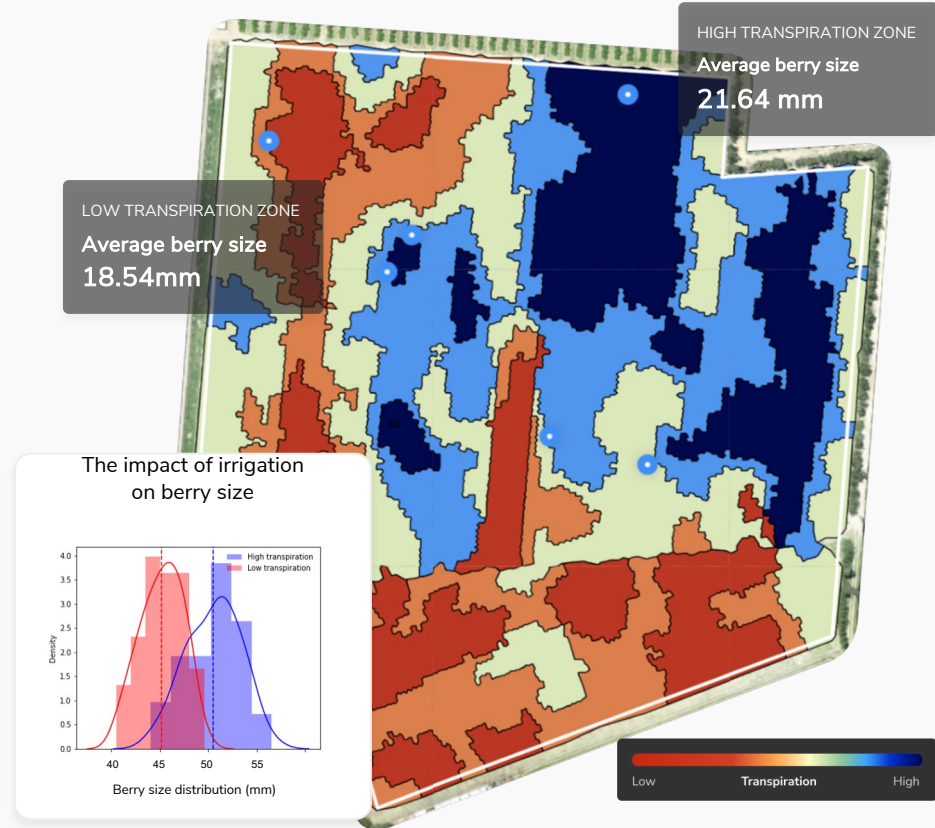


In Knowledge lies Power



Application of AI sizing:

- Grape growth curves
- Nutritional and irrigation effect on berry size and weight (X-Trials)
- Effect of berry manipulation decisions on berry size and weight
- Correlation between berry size and weight





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