

**BEFORE THE HEARING COMMISSIONERS
DUNEDIN**

IN THE MATTER of the Resource Management Act 1991
(**RMA** or **the Act**)

AND

IN THE MATTER of Proposed Otago Regional Policy
Statement 2021 (Freshwater Planning
Instruments)

**STATEMENT OF EVIDENCE OF KRIS ROBB ON BEHALF OF
HORTICULTURE NEW ZEALAND**

28 JUNE 2023



ATKINS | HOLM | MAJUREY

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INTRODUCTION

1. My name is Kristen Gene Robb.
2. I have a Bachelor of Commerce, a Diploma in Horticulture and a Post Grad Certificate in Management.
3. I am the General Manager of Clyde Orchards 1990 Ltd (**Clyde Orchards**).
4. I have also undertake the Kellogg Rural Leadership Program.
5. I am currently the Chair of the Central Otago Fruitgrowers Association.

CLYDE ORCHARDS

6. Clyde Orchards has 65ha of land in production, growing cherries and flatto peaches. This produce supplies the New Zealand domestic market and has international customers in Asia, Australia, North America and the UAE.
7. In 2018, Clyde Orchards constructed the first Cravo shed in New Zealand and the second in the world to be built for growing cherries in. The shed covers 2.8 hectares and combines the best growing conditions from both indoor and outdoor environments.
8. The retractable roof and walls are controlled by a weather station that constantly monitors external and internal atmospheric conditions, maintaining optimum growing conditions and crop protection from adverse weather events 24 hours a day. This can challenge the traditional view of what an orchard should look like; however, it has significant environmental, economic and water efficiencies.
9. Tree spacing is condensed with 3.2m rows and 1.85m inter row spacing. This gives an overall plant density of 1670 trees per hectare.
10. The Cravo system helps enable greater efficiency in water consumption and use, reduced agrichemical use, improved yields, and greater efficiency for staff working on orchard during harvest.

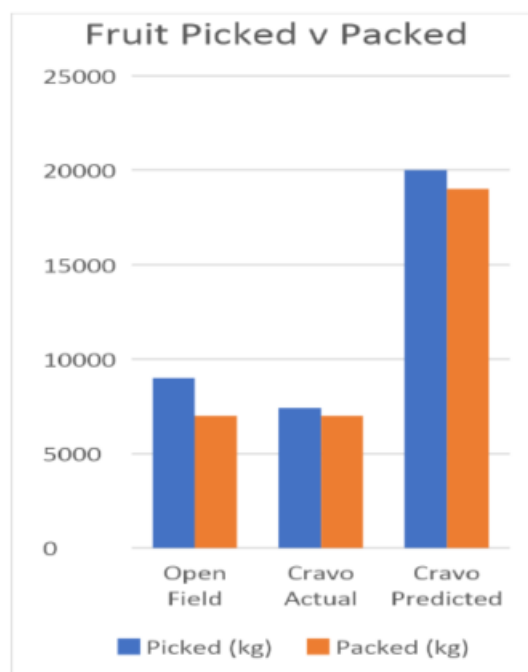
EFFICIENCIES OF THE CRAVO SYSTEM OPERATION

11. Agrichemicals can be applied at optimum timing because conditions within the shed can be controlled to avoid being

affected by rain and wind. The smaller canopy means that more targeted application methods can be implemented, which gives better spray coverage and less agrichemical waste.

12. Fertiliser is applied through a fertigation system. This system injects specific amounts of nutrients as the trees are being watered. The benefit of this system is that the nutrients are in solution which is easily taken up by the plant. It also means that small amounts can be applied more often so there is less chance of runoff or leaching.
13. Water is only used for irrigation and over watering from rain events is prevented by using the roof. Water from rain events is recycled into the irrigation system to be stored and used at optimum application times. No additional water is required for frost fighting due to the retractable roofing. This halves a typical orchards water consumption.
14. Trees are small and compact. Fruit numbers and size are good. Visual defects are minimal. This means that the picking is relatively easy, daily targets are met and exceeded and bonuses are received. This improves health and safety as there is no requirement for harvesters to work with ladders.
15. Through manipulation of growing conditions within the shed, start days can be guaranteed and work is not affected by the rain.
16. In comparison, in an open field cherry growing system, the tree canopy is relatively large with the trees being up to 4m high. Large step ladders are required to harvest the fruit on these trees. In addition, there may be variable fruit set due to pollination and frost, and cosmetic quality issues due to rain. These factors can combine to greatly affect the volume of fruit harvested by individual staff members and therefore reduce the amounts of incentive payments received.
17. The best way to reduce waste is not have any to start with. The better level of environmental control the Cravo system gives us means we are able to have a greater percentage of fruit that makes it to market. More fruit is produced at a consistent size and quality.
18. The projected volume of fruit picked and packed from a Cravo system is far greater than that of a traditional open field system. The average industry volume of fruit packed is just over 3000kg per hectare. Clyde Orchards' average packed fruit

volume in the 2021 season was 7000kg per hectare. This was 77% of the total fruit harvested. This compares to a 94% packout in the Cravo system. Projected yields at full production from the Cravo system is projected to be up to 15,000kg per hectare. The below figure compares open field production with Cravo production in year three, and the anticipated full production of the Cravo system.¹



19. The water take of any given property is a regulated activity, with most properties having shares in a water scheme that issues a weekly allocation. The water scheme is issued a consent to take water from a source by the Otago Regional Council. I think having greater demonstrable efficiencies in water use should mean innovative growing systems are prioritised and rewarded with longer or more reliable access to water. This is because these efficiencies support better environmental and economic outcomes for our community.

KEY CONCERNS WITH THE PROPOSED OTAGO REGIONAL POLICY STATEMENT

20. It is important that growers are able to have access to reliable and secure supplies of water.

¹ Kellogg's Report: What Goes In Must Come Out, Figure 7: <https://ruralleaders.co.nz/what-goes-in-must-come-out/>

21. Low environmental impacts and high economic contribution should be factors considered and prioritised when allocating freshwater through consents.
22. How an orchard looks, or its visual impact should be a secondary consideration if there is demonstrable improvements and efficiencies gained by newer non-traditional growing methodologies.
23. I participated in our local community consultation processes run by ORC at the end of 2022. As did many of the growers in the Otago Fruit Growers Association, of which I am Chair. The community and myself were keen to see food production as a value recognised in our local FMU and believe the community developed vision and values for our FMU and rohe should be retained.

Kris Robb

28 June 2023