



Overview of the New Zealand Hazelnut Industry – opportunities for collaboration



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- Industry challenges
- Research opportunities



Introduction to the NZ industry



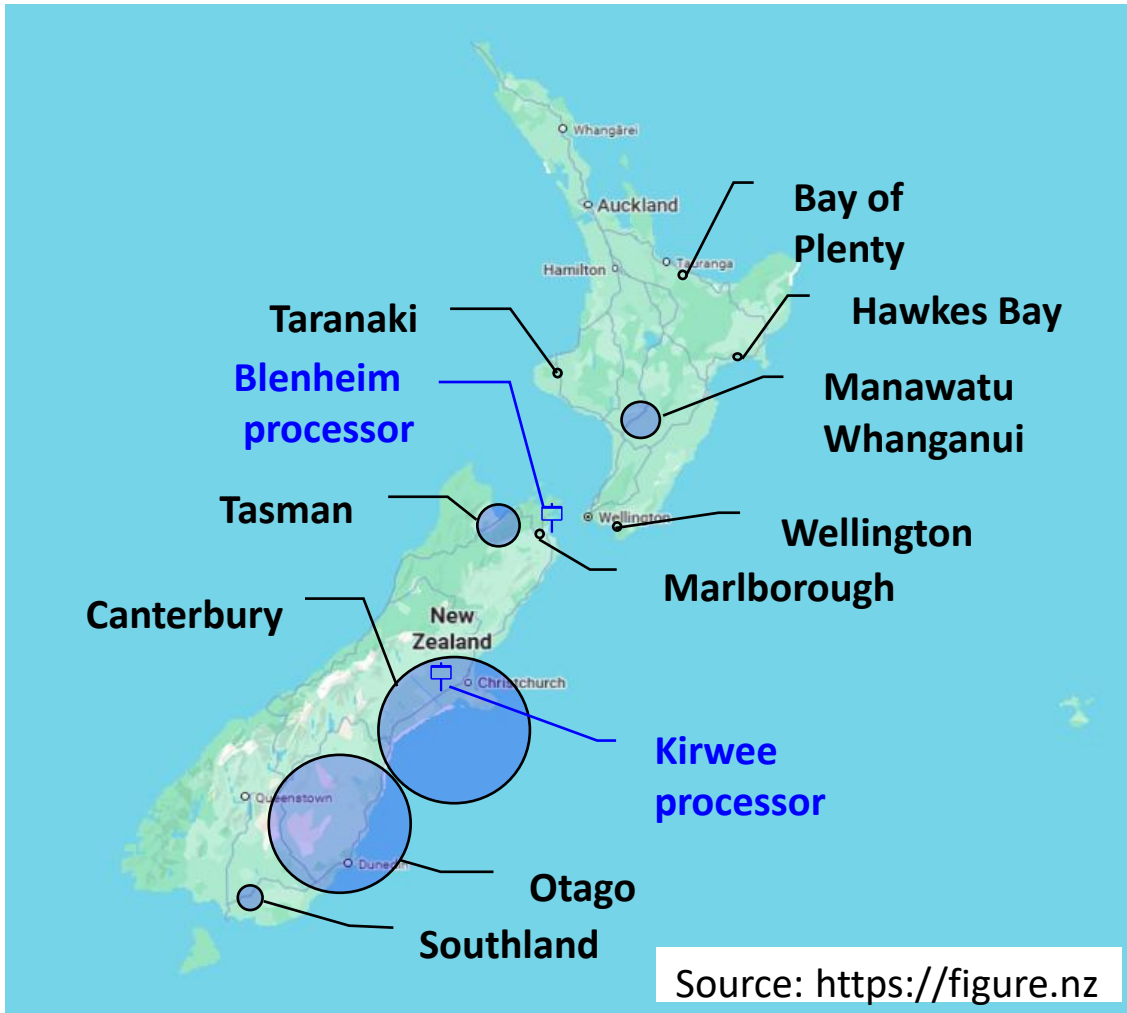
5 year old Whiteheart trees



- Hazelnuts first grown commercially in the 1980s
- Research led to the identification of a NZ selection, Whiteheart, as being well suited to the blanched kernel market
- This cultivar was recommended for commercial plantings



Principal growing areas



- Most plantings are in Canterbury and Otago
- Tasman, Manawatu, Whanganui, Southland also have significant plantings
- The 2 independent processors of are located in Blenheim and Kirwee



The New Zealand hazelnut market

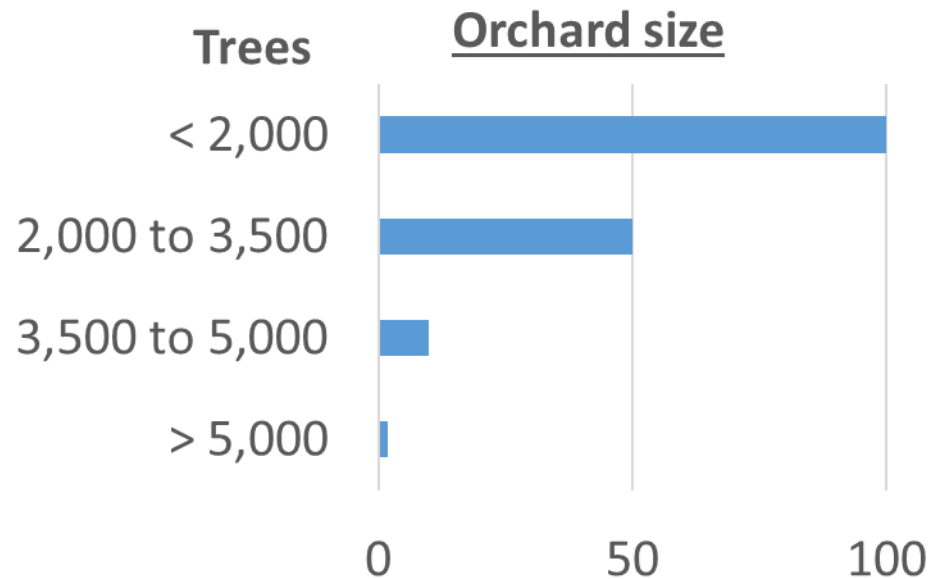


- The 2024 total market is estimated at 560 tonnes
 - NZ processors 150 tonnes
 - NZ orchard sales 150 tonnes
 - Imports 260 tonnes
- Imports are from:
 - Turkey 220 tonnes
 - USA 30 tonnes
 - Australia 10 tonnes

2024 <https://comtrade.un.org/data/>



A typical NZ orchard



- Most NZ orchards contain fewer than 2,000 trees with many as small as 1,000 trees
- There are about 10 orchards with between 3,500 and 5,000 trees
- There are only 2 orchards with greater than 5,000 trees
- Total NZ area planted ~ 200 ha



Orchard practices - Harvesting

- Larger orchards use suction or mechanical harvesters



- Smaller orchards are harvesting manually





Orchard practices - Cleaning



- Many larger orchards use a mechanical cleaner to remove trash from as-harvested nuts
- Smaller orchards are cleaning manually

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Orchard practices - Drying



- Many larger orchards use a diesel powered, silo dryer to dry nuts to below 6% moisture
- Smaller orchards usually dry their hazelnuts on drying trays, sometimes with assistance from a domestic dehydrator
- Product is often dried and delivered in 10 and 20 kg onion bags



Orchard practices - Pests



- Big bud mite is present on many orchards and can be controlled with sulphur spray with smaller orchards simply picking off affected buds
- When stressed (wind, lack of water), young trees can suffer from bacterial blight but this is not considered a major problem in NZ orchards



Orchard practices - Pests



- Aphids can be a minor pest, but infestations are usually followed by an explosion in predators
- Fortunately, Sulphur Crested Cockatoos are highly unlikely to be seen in NZ orchards
- Possums can be a minor nuisance but in NZ we have a solution for these pests that most Australians might not appreciate



Priority industry challenge – Low economic return

Solutions:

- Improve tree productivity with Whiteheart currently 1.5 to 2.5 kg/tree (1.5 to 2.5 tonnes/ha)

Objective:

- Yield of at least 4 kg/tree (4.0 tonnes/ha)



Research priorities

1. Canopy management – phenology of Whiteheart, light interception, effect of pruning practices
2. New cultivars
3. Plant nutrition
4. Polleniser efficiency
5. Sucker control





Phenology of Whiteheart leading to research on canopy management

Whiteheart is a New Zealand hybrid and has not been studied in detail. Proposed research project with Lincoln University:

- Understanding Whiteheart phenology to design a pruning strategy for mature trees with the objectives of:
 - Improving productivity (light access, bud differentiation), and
 - Maintaining access for tree maintenance and harvesting



Introduction of new cultivars

- Whiteheart is not a vigorous grower, is slow to crop and has a relatively low production per tree
- The cultivar Jefferson has been established in New Zealand and so far is showing promise
- A trial will commence during 2025 in grafting Jefferson to Whiteheart as a means of rapidly converting Whiteheart orchards established in the period 2004 to 2008





Pruning practices



- A trial has commenced using mechanical pruning in a 20 year old orchard as a means of maintaining light access between rows and maintenance along the row strip
- The pruner attaches to a front end loader frame and costs about \$12,000



Pruning practices



Lincoln University



Lincoln hazelnut grove

- A Lincoln University PhD research study focused on phenology and pruning strategies for mature trees has been costed at \$250,000, well outside HGANZ's ability to fund even with research grants
- HGANZ has a membership of only 53 and therefore lacks funds for research



Potential for industry growth



- Canterbury in NZ has a very similar climate, access to irrigation, landform and soils to the Willamette Valley in Oregon which supports a \$US120M hazelnut industry annually on 40,000 ha
- 40,000 ha equates to 1% of the area of Canterbury
- The dairy industry occupies about 200,000 ha of Canterbury with its adverse effect on nitrates in ground water



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