Genetic origin of the Chardonnay clone Gingin in Australia

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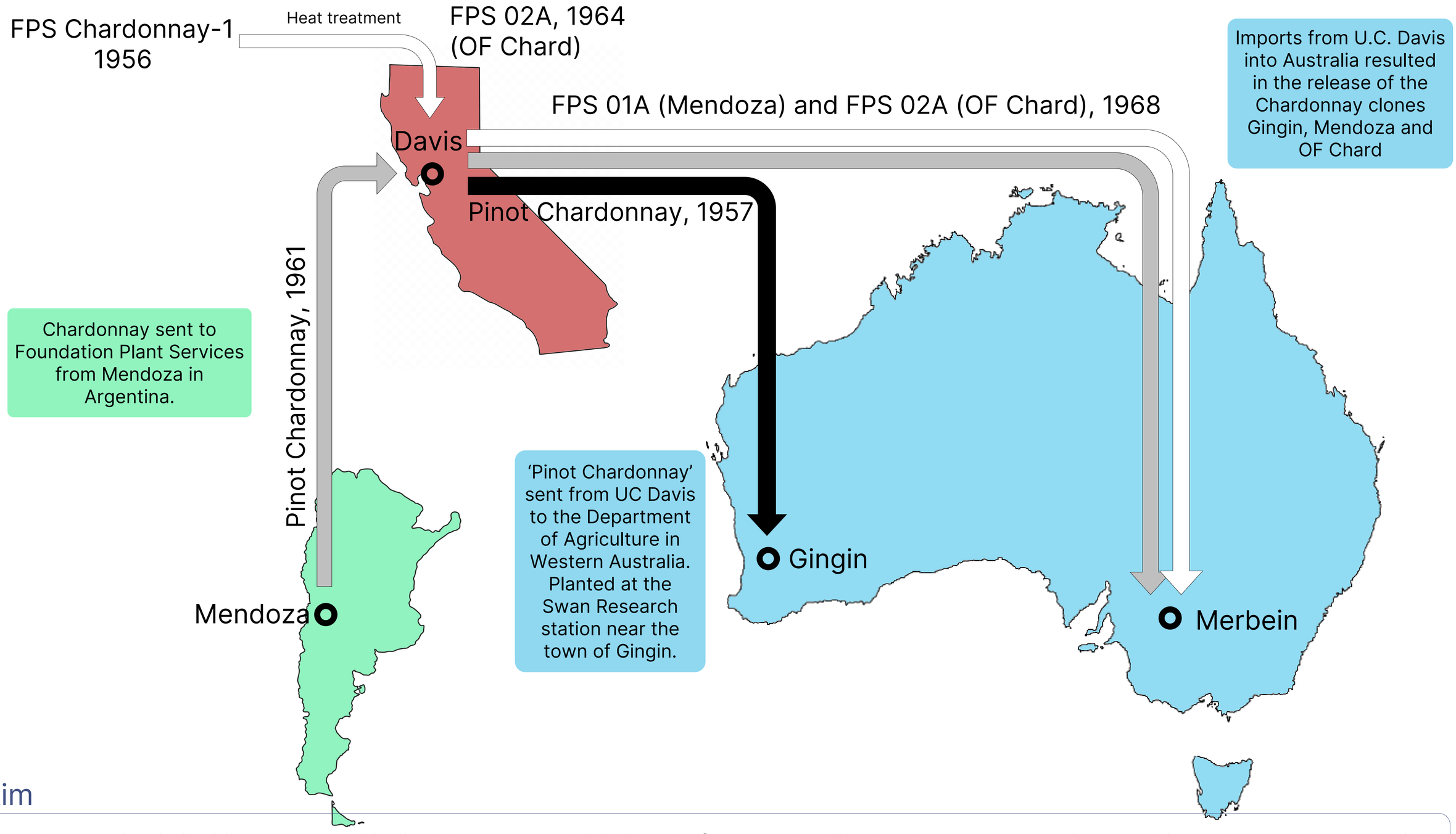
A timeline of Gingin, OF Chard and Mendoza clone imports to Australia



Aim

The phenotypic similarities between Gingin, Mendoza and OF Chard often resulted in the clonal names being used interchangeably, especially with Gingin and Mendoza. This study aimed to clarify the relationships between these three Chardonnay clones by comparing patterns of genetic variation that defined each clone.

Method

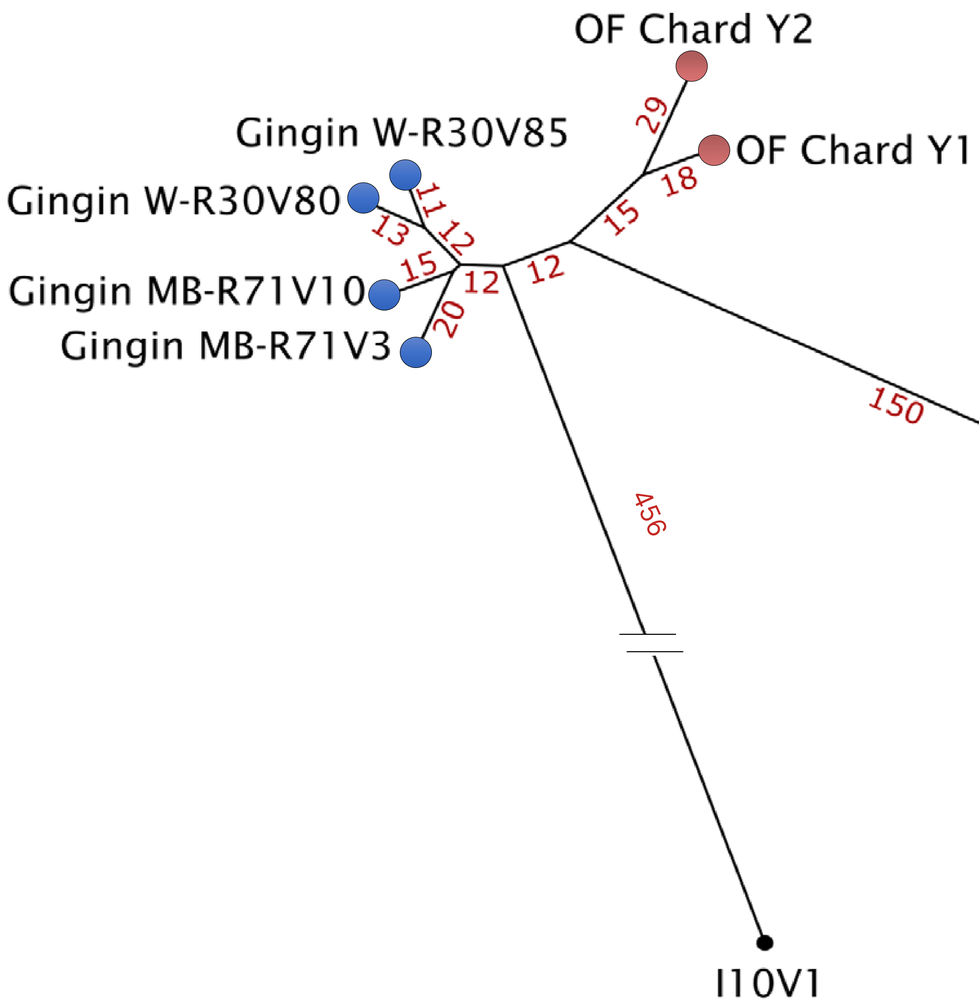
Samples of Gingin, Mendoza and OF Chard were analysed using a genetic marker framework that the AWRI has developed to study other commercial grapevine clones (see Poster 35).

The framework produces a 'family tree' for the samples. The distance between nodes on the tree is an indicator of genetic relatedness.

Sample name	Clone name	Australian accession	Clone origin	Sample obtained
Mendoza	C2V16	IC688025	FPS	[1]
Gingin • MB-R71V3 • MB-R71V10	Gingin	IW576002	UC Davis	[2]
Gingin • W-R30V85 • W-R30V80				[3]
OF Chard • Y1 • Y2	F1V3	IC688026	FPS	[4]

Sample sources

[1] Nuriootpa Research Centre (formerly Nuriootpa Viticulture Experiment Station), Nuriootpa, SA, Australia
[2] Moondah Brook vineyard, WA, Australia
[3] Harvey Agricultural College (formerly Wokalup Research Station), WA, Australia
[4] Yalumba Nursery, SA, Australia.



Results

- Gingin, Mendoza and OF Chard are derived from a common source clone (likely Chardonnay-1)
- However, Mendoza is not Gingin.
- Mendoza contains a far greater number of unique genetic features than either Gingin or OF Chard.
- The precise origin of the Mendoza clone and its path to UC Davis in 1961 is still unclear.

Conclusions

This work demonstrates the potential of clonal genetic markers for identifying grapevine clones while shedding light on a 60-year-old mystery and opening the door for authenticity testing of grapevine.

Wine Australia

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Publication