

SAUVIGNON BLANC 2.0

Public Summary - July 2023

Summary of progress during this quarter

After the success of completing production of the project's first 6,000 new vines ahead of schedule, we were notified of a failure by plant production subcontractor Plant & Food Research (PFR), who had mistakenly produced and delivered vines that were of the wrong grapevine variety. This will result in a time delay in the delivery of the programme outcomes of 12-18 months while the plants are replaced. We are in discussions with PFR, and BRI's expectation is that PFR will bear all additional costs resulting from the disruption and delays due to their error. Fortunately, the setback only relates to work delivered by one of the four projects and production capacity was immediately scaled up to ensure that all of the plants can be replaced in the coming season. All other work is progressing on or ahead of schedule, including plant selection work, DNA sequencing, the generation of a Sauvignon Blanc reference genome, database setup, rootstock trials and pilot-scale winemaking experiments.

Key highlights and achievements

- Legal expertise shows that the programme's use of stress and tissue culture is a valid way to produce a diverse collection of vines that won't be restricted by any registered IP.
- Together with programme delivery partners, we've learned to manage the production of new vines from immature sterile plantlets to mature vines from which we can collect and test fruit for winemaking. This is now being and upscaled for Sauvignon Blanc vine production.
- A new software tool has been developed to build varietal checking into the genetic testing of new vines.
- DNA purification and nanopore sequencing has been optimised to deliver high yields and quality plant DNA sequence data that are unprecedented in NZ. This will improve the project's ability to screen thousands of new vines for trait changes and will benefit other projects using this technology.

- Methylation calling has been included in the DNA analysis pipeline, which reveals useful information about whether genes are switched on or off (i.e., epigenetic variation).
- The draft assembly of New Zealand's Sauvignon Blanc genome has been completed and is of excellent quality. Five commercial clones have also been sequenced. Their genomes are being studied and compared.

Upcoming

- New Sauvignon Blanc vines will be produced to replace those delivered in the first two seasons.
- The reference Sauvignon Blanc genome will be annotated with known genes, so that new genetic changes can be linked to functional traits.
- Software pipelines and databases for identifying differences among Sauvignon Blanc plants by DNA sequencing will continue, using current commercial clones.
- Physical plant trials will be designed to identify vines showing improved traits such as Powdery Mildew resistance at an early developmental stage.

Investment

Investment period	Industry cash	Industry in-kind	MPI cash	Total investment
During this quarter	\$ 447,456	\$ 25,974	\$ 315,620	\$ 789,050
Programme to date	\$ 1,483,138	\$ 121,947	\$ 1,070,056	\$ 2,675,141