BRAGATO RESEARCH INSTITUTE
RANGAHAU KAREPE, WĀINA O AOTEAROA

New Zealand Wine
Altogether Unique.

Ministry for Primary Industries
Manatū Ahu Matua

SAUVIGNON BLANC 2.0

Public Summary - March 2025

Summary of progress during this quarter

The first phase of the Sauvignon Blanc 2.0 research vineyard has now been fully established with 6,000 healthy Sauvignon Blanc vines growing well for the duration of the summer. Among these, certain vines are already showing interesting physiological differences, and DNA has been collected from each vine to enable genetic differences within the collection to be characterised.

Significant progress was made towards establishing selection processes aimed at identifying vines with novel traits. Cultures of endemic powdery mildews were collected from local vineyards and a robotic imaging platform was installed to digitise images of mildew growth on inoculated vine leaf disks. Under the guidance of overseas technical experts, a pilot trial was implemented to assess plants for drought resilience, with the aim of developing biomarkers for wider population screening.

The Programme was fortunate to host in-person visits from key industry stakeholders, two current New Zealand government ministers, and a leading US-based grapevine breeder. Visitors were particularly encouraged by the healthy establishment of the somaclone population and visible trait variations among the vines.

Key highlights and achievements

- **Robust plantlet growth:** New vines growing in the selection vineyard have adapted well and showed good vegetative growth throughout the season.
- **Callus induction and clone production progressing well:** Anther-derived callus cultures are progressing at both BRI and PFR, supporting the goal of completing the Programme's target of 10,000 new vines before the end of 2025.
- **DNA database prepared:** Purified DNA was prepared from leaf samples of every vine in the collection, establishing a database that can be screened for specific genetic changes over the winter.
- **Mildew tolerance screening automated:** the Blackbird imaging platform, developed by USDA and Cornell University, has been implemented locally to score differences in each vine's susceptibility to local mildew strains.
- **Drought resilience screening initiated**: A pilot trial is testing physiological and biochemical responses to drought, with input from international experts to guide trait selection for vineyard-scale screening.

- **Research vineyard attracting strong industry interest:** BRI hosted visits from key wine companies, nurseries, Government Ministers Dr Shane Reti and Nicola Grigg, and grapevine breeder Dr Peter Cousins (E&J Gallo), all of whom expressed enthusiasm about the progress and visible trait variation in the SB2.0 vines.

Upcoming Focus Areas

- **Progress knowledge transfer regarding gene technologies** at the June Grape Days events in Marlborough, Hawke's Bay, and Central Otago.
- **Digitise results of mildew tolerance screening** by training image-scoring machine learning algorithms.
- **Advance targeted gene sequencing trials,** refining probe-based strategies to screen for gene changes related to priority traits across the SB2.0 population.
- **Continue somaclone production**, with a focus on stress treatments and embryo germination to complete the production of 10,000 vines.
- **Complete and evaluate drought resilience glasshouse trial** to identify biomarkers of drought stress suitable for vineyard-scale screening in Year 5.
- **Evaluate the potential of targeted genetic changes,** including the efficiency of regenerating plantlets from grapevine cells lacking cell walls.

Investment

Investment period	Industry cash	Industry in-kind	MPI cash	Total investment
During this quarter	$ 198,300	$ 14,999	$ 142,200	$ 355,499
Programme to date	$ 3,597,592	$ 235,109	$ 2,555,133	$ 6,387,834