

Gimblett Gravels – better quality without environmental compromise

WORK PLAN 04 05

Milestone	Description	Date Expected (month/year)	Date Complete (month/year)	Comments
1	Hold a workshop with GGTG to present data from year one and plan programme for year two of the project. This workshop will help define the monitoring programme and decide the scope of treatment effects that can be investigated and modifications required for year two.	Aug 04	Aug 04	
2	Finalise Nitrogen fertiliser and mulch trials following a single irrigation regime for 2004/05 (based on the outcome from the previous TBG project).	Oct 04	Oct 04	
3	Install drainage meters (DM) at a depth of 1.0 m to monitor the drainage of water and leaching losses of nitrate beneath the root zone. Soil samples will be collected at the same time to determine the hydraulic properties and the C:N ratio of the GG soils. HortResearch to coordinate installation of DMs and sampling of soil.	Nov /Dec 04	Dec 04	
4	Begin tactical application of nitrogen fertilizer (9 treatments planned) as agreed by participants at the initial workshop. Frequent monitoring of leaf and shoot development, in relation to vine water status, and occasional sampling of leaf-N content, will help to define water and nitrogen requirements of the vines. Responsibility of GGTG	Oct 04 -Mar 05	Mar 05	
5	Craggy range will make regular (once per week) measurements of soil moisture on the mulch and control site. Mid-day leaf water potential will be used to determine when irrigation should begin. HortResearch will install sap flow sensors into the trunks of target vines to measure exactly the transpiration losses from the vines, and thus how much irrigation is needed.	Nov-harvest 05	Mar 05	
6	<p>Collect data on berry development and changes in grape juice attributes (YAN, Brix, pH, SS, TA, colour) to better determine the impact of irrigation and fertilizer management on grape quality.</p> <p>Monitor the impact of irrigation and fertigation use on leaching losses of water and nutrients below the root-zone depth and impact on aquifer.</p> <p>Monitor seasonal patterns of soil nitrogen use on the control, fertigation, and compost treatments</p>	Feb 05	Feb 05	
7	Small sample and batch analysis of final grape harvests.	Vintage	Mar 05	

8	<p>Year 2 trial to test/recalibrate Marlborough water use model for Merlot on GG soils; complete data collection: soil water, vineyard management details (canopy size, fertilisers, etc.), crop yield, juice analysis, met data; nitrate leaching measurements.</p> <p>Characterise the interactions between water management and nitrogen supply on the YAN and other juice quality measures, making use of the grape calculator model.</p> <p>Evaluate outcomes from year two and confirm/modify trials for year three</p>	May 05	June 05	
9	<p>Micro-vinification to assess treatment effects on wine quality. The main reason is to identify chemically the deficient nitrogen based compounds and measure the effects of the treatments.</p>	Sept 05	Nov 05	
10	<p>Data analysis, evaluation of Marlborough model (criteria?); use soil water or stress point results to predict juice pH and TA with the Grape Calculator DSS (Chardonnay or Cabernet Sauvignon version);</p> <p>Model growth and nutrient uptake</p> <p>Sensory evaluation of microvin by GG wine makers team</p> <p>Written report prepared for growers and Focus project</p>	Sept 05	Sept 05	