

Improving Grape Vine Quality Using Biology

Audrey Wilkinson Vineyard – Pokolbin NSW

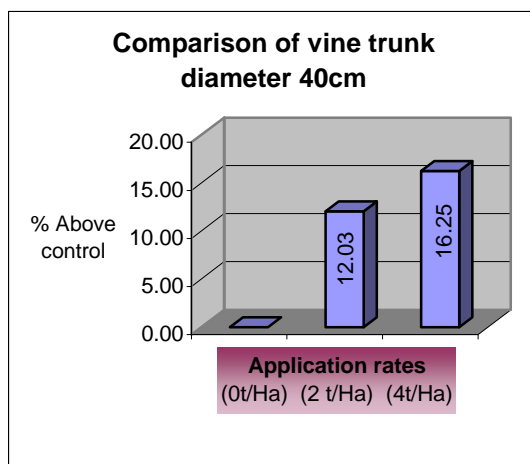
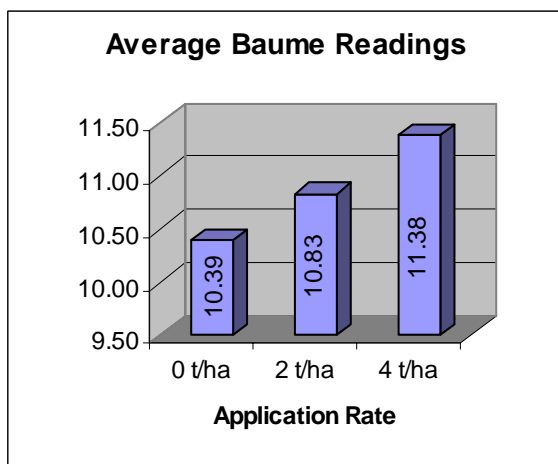
OziVerm was introduced during annual inter-row cultivation, which at Audrey Wilkinson is performed on alternate rows each season. The blocks which run down a gentle slope were divided into three, and applications were made across each block at varying rates. Higher rates (4 tonnes per hectare) were applied at the top of each block, nil on the mid slope and a 2 tonne treatment at the bottom.

OziVerm was applied using a fertilizer spreader and gently cultivated into the soil. The various blocks included both young stock and fruit bearing vines and a number of varieties including Shiraz, Semillon, Zinfandel, Traminer, Chardonnay and Merlot. All other management within each block and variety was identical, including water and fertilizer management.

Observations

During the 2001 harvest, baume measurements were taken from the fruit bearing vines and results demonstrated an increase in juice quality from the treated areas compared to the controls. The data presented in the tables below represent the average of samples taken across 4 varieties and 52 samples. Interestingly being applied at the top of each block did not disadvantage the higher volume treatments.

In the Spring of 2002 growth data were also collected on the younger vines by measuring the trunk diameter of vines at 40cm above the soil surface. A general increase in trunk diameter relative to application rate was clearly evident. The data below represents average trunk diameter across 8 blocks, 4 varieties and some 1200 individual trunk diameter measurements.



Soilsmart products and technical services are specifically designed to help manage one of the most complex and diverse eco-systems on earth - the interface between the soil and the plants we grow.

Soilsmart products will help you to build a strong and balanced biological soil eco-system, maintain aerobic soil conditions and develop a disease suppressive environment in the root zone.

Biological Diversity

The plants we rely on to grow quality crops, turf surfaces and landscapes all evolved in the presence of, and rely on, a strong and symbiotic relationship with beneficial soil organisms which play a significant role in regulating the health of the entire plant/soil eco-system.

The key to success however is diversity - nature is built on it — consequently we have developed a range of products and programs that have a broad bio-diversity and offer long term benefit. They are also based around indigenous Australian biological species which are suited to our climatic and soil conditions.

Even small changes to your existing programs can improve biology and quickly translate into improved aerobic soil conditions and healthier and more resilient plants. These advances also result in more extensive and vigorous root systems and an increase in water use efficiency. Maintaining bio-diversity and balance also encourages the conversion and retention of minerals, increasing fertilizer efficiency and minimising the need for repeated applications.

Soilsmart products and programs allow you to stay ahead of pests and disease and offer a truly preventative approach to soil and plant health by:

- Building Organic Carbon reserves in your soil.
- Establishing a natural defensive network against disease and pests.
- Strengthening plant health and stress tolerance.
- Increasing fertilizer efficiency.
- Sustaining soil Oxygen levels.
- Reducing costs and improving risk management.

The science that enables us to measure and manipulate the soils' biological properties has advanced rapidly in the past decade, bringing about a much better understanding of how we can influence this very complex bio-system to our advantage. Soilsmart have maintained an association with and are accreditation with organisations like The Soil Foodweb Institute USA, who are at the forefront of research and technology development in this important area of environmental management.