

Six steps towards more sustainable wine making

A state-of-the-art Marlborough winery is putting environmental management at the top of its plan

Yealands Estate, which launched in August 2008, is a \$45 million winery that was built from the ground up to set new standards in sustainability.

"I don't see the sense in doing anything half right, particularly where the environment's at stake," says founder Peter Yealands.

He should know. Peter pioneered the use of land considered unsuitable for viticulture when he terraced the slopes of the Seaview Vineyard in Marlborough. Now, with the massive investment in the Yealands Estate vineyard and 7,100 square-metre winery, he has added numerous environmental initiatives. Here are six important themes.



1 Certified green

Yealands is the first Kiwi winery to comply with the draft Green Star NZ Industrial rating requirements. It is targeting a Green Star rating of six under the new certification code, which will signify "world leadership" status in green building design and operation.

The vineyard is accredited under the Sustainable Winegrowing New Zealand programme. All aspects of environmental stewardship—from the use of agrochemicals and soil health to water availability and quality—are continually monitored.

The winery is currently undergoing carbon-neutral certification with CarboNZero.

2 Low impact agriculture

Organic materials are applied wherever possible; spraying is minimised by using integrated pest and disease management; and sheep graze the rows between vines to manage pest plants and weeds. Peter's latest green experiment is trialling guinea pigs to keep the grass—and exhaust emissions—down. (Their stature means they can't eat the vines!) Low-emission tractors and GPS-monitoring devices increase efficiencies in tractor work.

3 Wetlands development

Throughout the estate more than 20 wetland areas have been developed to preserve the indigenous native species, including a wetland within the winery's stormwater disposal area.

4 Energy saving

Yealands Estate has invested in advanced technology for efficient use of electricity. The result: energy savings in the first year are estimated at 949,000 kWh. To put that into perspective, the average New Zealand home uses about 8,000 kWh each year. Key components behind this saving are:

- **High-tech insulation.** A kilometre of pipe work, and all the fermentation tanks, are insulated. The winery itself is clad with material designed for maximum solar reflectivity while providing an energy efficient envelope.
- **Refrigeration plant.** A heat exchanger redirects heat into the hot-water system and an Economiser and Evaporative Condenser maximise savings on cooling.
- **Smaller compressors and efficient motors.** Reduce electricity needs.
- **Temperature monitoring probes.** These automatically manage ambient temperature of the entire complex.
- **Vin Wizard.** This Kiwi-made system remotely controls all aspects of the winemaking process from any location via one interface. By using this real-time data, the winemaker can optimise the operational inputs and reduce energy consumption. For example, the refrigeration plant uses a floating temperature set point controlled automatically by VinWizard to efficiently maintain the optimum temperature to meet processing requirements. Sexy!