

Student 3: Low Merit

NZQA Intended for teacher use only

The purpose of my report is to assess the effectiveness of different measures taken to sustain or improve the monoculture production system at an estate. This winery is located in the Awatere Valley, Marlborough. The vineyard has 1000 Ha of grapes, which is the biggest amount in New Zealand.

The winery is world renowned for its intense sauvignon blanc's and its rich pinot noir. They have won multiple sustainability awards including 'Greatest Contribution to a Sustainable New Zealand' in 2014 along with multiple other awards. This shows their commitment to try and make the winery a very self-sustaining business.

The winery is a massive monoculture of vitis vinifera but they have tried to put as much biodiversity back into the land as possible. As you can see they have planted over 75,000 native plants and trees along their pathways and edges of wetlands to try and encourage Tui and native bird life which definitely has worked to their advantage.



1

With the winery being in seaview their annual rainfall is extremely low - below 600mm a year which means they have to rely on irrigation. Each vine needs at least 7 L of water a day to survive. They have A,B and C water rights.

Seaview soil is made up of silt loam and sandy silt loam. This mean that the soil is very free draining and doesn't hold a lot of water. It is not fertile so makes growing grape quite difficult. The winery creates their own mulch to put on the grapes. This is made from grape/muscle/lime waste and gets mixed together then put on the grapes after harvest. The white shells reflect the light into the vines which creates more photosynthesis. This is a sustainable use of the grape waste as well as using the muscle waste and also lime. The mulch also helps to keep moisture in the soil and reducing the need to irrigate as much as well as compressing the weeds so that there is no competition between them and the grapes.

2

The winery cuts down on their use of lawn mowers by using a range of animals to graze throughout the vineyard. They are improving their sustainable future by not using as much fuel, but one of their largest carbon emissions come from their tractors. They have switched some of their vineyard machinery to using biodiesel which is made from recycled cooking fat.

3

The winery has covered 660 square meters of their roof with 390 separate solar panels which creates 99kw hours and are looking at doubling the quantity of that. This is used as an energy source for the winery as well as using wind turbines. They also burn their bailing of vine prunings to reduce water heating costs. This saves about 60kg in LPG to heat their water. This supports the reduction of carbon in terms of greenhouse gases.

4

The winery estate has shown they are extremely sustainable and are really thinking about a sustainable future. They are doing so many things to many themselves self-sustaining and by doing so they save money. One thing that stands out for me is the fact that they turn their grapes into energy. They collect their vine pruning from the vineyard and bale them to be burned for energy. To do this the winery has installed special pellet burners in the winery. Each bale weighs around 200kg. When they are burned it provides the equivalent heat of approximately 60kg of LPG. Both burner can produce 500kw of energy. The winery only use 10% of their grape prunings then they are seasoned for up to 6 months to make sure they burn cleanly. By doing this the winery eliminates over 180 tonnes of greenhouse gas emissions. This is their most effective measure for a sustainable future because of the importance of reducing greenhouse gas emissions and the impact this could have on the rate of global warming.

5

6

Will the winery be the same in 50 years? Probably not but by then I'm sure they will be completely self-sustaining. The winery has the potential to show other vineyards the way to a better future and hopefully they will take notice.