

- **Nature**

- Local business located in Ebenezer, near Windsor in Sydney.
- Owned by the Auld family since 1969
- The business provides:
 - Viticulture and winemaking facilities
 - A bed and breakfast - 2 rooms at \$320 a night (high end)
 - A function centre for corporate functions and weddings
 - An olive plantation producing both table olives and olive oil - 750 trees
 - Consultancy services for other vineyards - site and variety selection and bottling
- Tizzana has 5 acres of vines and produces red wine such as Aleatico, Petit Verdot and Shiraz
- Tizzana has 7 acres of olive trees where both olives and oil are sold through cellar door
- Wine is sold at the cellar door and at local restaurants
- The vineyard also produces wine for surrounding vineyards - economies of scale

- ***Life cycle***

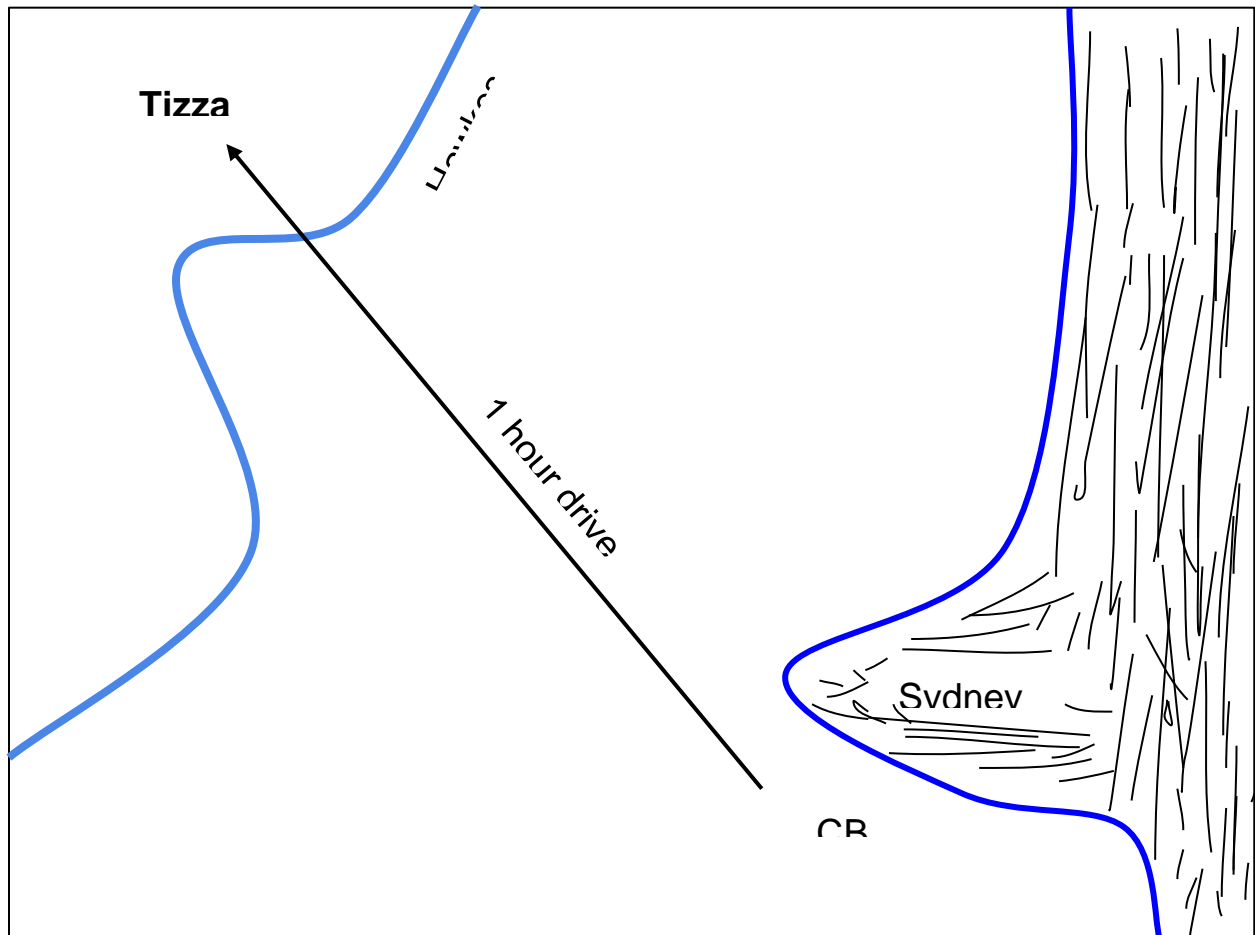
1. Vines drop leaves at the beginning of winter - pruning takes place
2. Buds swell in the warmer spring weather and then rapidly grow into fruits
3. By around Christmas the buds begin to ripen as acids change to sugars
4. Tizzana grapes usually contain around 12 - 12.5% sugar content

- ***Choice of grape varieties***

- Tizzana varieties are unusual due to the uncommon climate for grape growing
- They have found a niche market due to an increased interest in Italian grape varieties such as Aleatico
- Petit Verdot → from the Bordeaux region, is used as a blending variety
- High humidity is a problem for Tizzana
 - Grapes are sprayed up to 12 times during the growing season to prevent diseases
 - Mildew problems arise with the high levels of rainfall
 - Tizzana has to therefore harvest grapes earlier to avoid rainfall
 - Tizzana must go through an accreditation process before legally allowed to spray vines
 - They also rotate sprays used to avoid chemical resistance from the vines

- **Locational Factors**

Tizzana is located at 33°31'S, 150°52'E



- **Historic**

Why was Ebenezer originally chosen for Tizzana?

- Ebenezer was Australia's first wine region with vines brought over on the first fleet
- It has a very close proximity to Hawkesbury and Nepean River
- Access to water and irrigation is aplenty
- Close proximity to Sydney markets via river

More recently

- General proximity to Sydney - closer than most regions in NSW like the Hunter Valley and Orange
- Access to skilled labour - viticulture courses at University of Western Sydney

- ***Biophysical***

- Climate
 - Tizzana Vineyards is located in the Hawkesbury/Nepean wine region, 60km west of Sydney. The climate of this region is warm to hot with an average summer temp of 23°. It is defined as a moderately continental, moderately sunny, humid wine region.
 - Tizzana Vineyards receives an average of 810mm of rainfall annually, higher than the Hunter average of 750mm. This has resulted in lower production costs as there is less of a need to use irrigation
- Soils
 - The soil at Tizzana is an alluvial sandy loam soil. This type of soil comprises of sand, silt and clay. Sandy loam soils have a greater proportion of sand relative to silt and clay, allowing better infiltration and drainage
 - This type of soil retains nutrients well whilst still allowing infiltration - ideal for grape growing
- Topography
 - Tizzana Vineyards is located on the floodplains of the Nepean River at an elevation of 140m to 240m.
 - The vineyards are located on the well-drained and moderately fertile sandy loam soils.
 - The Nepean river supplies the vineyard with a reliable water source
 - Flooding is not a major problem due to the elevation, aspect and drainage of the soil.

- ***Sociocultural***

- Proximity to Sydney
 - 1 hour drive from Sydney CBD, therefore high amounts of day visitors from Sydney.
 - Sydney's growth/urban sprawl is having a positive effect on Tizzana as they experience growth in cellar door sales and bed and breakfast occupants due to the increase in wine tourism and the planned infrastructure growth in the NW growth zone.
- Functions - corporate and weddings
 - Growth in corporate functions and weddings who choose vineyards as their venue. To capitalise on this growth, Tizzana has developed the function aspect of the vineyards
 - Close to Sydney's large business hub, reducing time and cost for businesses to hold functions at a winery
 - Also a favourable location for Sydney couples wishing to get married at a winery but not willing to travel to the Hunter Valley.

- **Ecological Dimensions**

- ***Environmental constraints***

- Climate - warm, moist summer and cool, drier winter (opposite to mediterranean climate)
 - Tizzana is constrained by the high temperatures as it causes humidity and influences grape variety.
 - Heavy summer rainfall can cause the fruits to become too full, reducing the intense flavours. It can also lead to high humidity levels
 - High humidity leads to Powdery Mildew, preventing photosynthesis and killing grape vines.
 - Tizzana also faces bird attacks on vines, leading to the loss of 30-70% of crop when not dealt with effectively
- To combat these environmental constraints, Tizzana uses a double trellis set-out in order to increase airflow and reduce contact between fruits, they also spray vines to prevent Powdery Mildew.
 - Tizzana chooses grape varieties that can handle heat and the rising impacts of climate change
 - They also throw netting over crop to prevent bird attack damage

- ***Human impacts on the environment***

- Chemical use and subsequent runoff (agricultural chemicals)
 - Pesticides, herbicides and fertilisers are used throughout the vineyard
 - This can lead to increased nutrient runoff into the nearby Hawkesbury with the high amounts of rainfall, leading to eutrophication of nearby catchments and the prevention of photosynthesis.
- Sprays used to combat Powdery Mildew can lead to environmental harm
- Vines also develop chemical resistance to sprays, meaning they must be rotated

- **Internal and External Linkages**

- **Internal**

- ***Employment***

Tizzana is family run and employs 3 people full-time and 2 people part-time with a catering business, bed and breakfast and winemaking to accommodate for. During harvesting times, family members are invited over three weekends to help pick the grapes - a lunch is supplied with last year's vintages. Each tonne of grapes harvested yields an average 60% of wine.

- ***Flow of goods***

Grapes are grown on property and winemaking occurs at Tizzana. The wines are sold at the cellar door and they also grow and sell Table Olives and Olive Oil through their cellar door. Peter Auld also produces wine for other vineyards in the region where they transport their grapes to Peter to then he creates their wine.

- ***Advertising***

Tizzana has its own advertising through the development and maintenance of its website which is run by the son. They also advertise through the local tourist association "Hawkesbury Wine Trail".

- **External**

- ***Technology***

Tizzana cuts costs and increases technology through technological advances. Technology is used in temperature controlled stainless steel wine vats, new mechanical crushing machines and fully automated bottling machines.

- ***Trade***

Tizzana sells its wine through local restaurants, providing income and a form of advertising. Tizzana also conducts winemaking for other local/smaller wineries who do not have the necessary skills or facilities. Tizzana also provides a bed and breakfast and consultancy services for wineries in the region.

- ***Inputs***

Labels are produced in Sydney and transported by road. Oak barrels are imported from the USA and France, used for 3-4 years and then replaced. Bottles are bought from ACI in Sydney and the caps from Victoria.

- ***Government and non-government organisations***

Tizzana must abide by regulations controlling the levels of agrichemical residues due to its proximity to the Hawkesbury River, and wine production and taxation regulations. Tizzana is a member of the "Hawkesbury Wine Trail" and also offers advice on wine production and sales.

- **Effects of Global Changes in the Economic Activity**

- ***Climate change***

With the increase in global temperatures, Tizzana may be soon forced to reevaluate their grape varieties to grapes that can withstand higher temperatures. However, because the current varieties are already considered 'warm weather' grape varieties, significant temperature increases could lead to the prevention of grape growing all together or the need to harvest grapes earlier. This change also brings heavier, more frequent rainfall, reducing sugar content levels within grapes, and increases the problem of humidity.

- ***Increasing concentration of wine sales***

As Coles and Woolworths gain more market share in liquor outlets, they are able to push prices down. However, as Tizzana only sells through their cellar door and local restaurants, this impact is minimised. Tizzana wines are also a niche product, therefore they are able to differentiate themselves from the big sellers.

- ***Exchange rates***

A low Australian dollar relative to the US dollar means Australia is able to export more wines, however import prices become greater. This is a negative for Tizzana as Oak barrels from the USA become more expensive, leading to an increase in their cellar door prices. However, due to high import prices, Tizzana does not have to compete with foreign wines in their restaurant sales.

- ***Consumer demand***

As Australia is in an economic downturn, Tizzana may suffer from a decline in Bed and Breakfast occupants and also wine tourism as a whole. This could lead to a necessary increase in cellar door prices to maintain profitability and ensure the continued success of the winery.

- ***Technological changes***

As wine harvesting and bottling machinery becomes cheaper and more reliable, Tizzana will be able to continue to reduce production costs and obtain efficiency gains, making the final price of wines cheaper and possibly attracting more cellar door sales.