# GUARDIAN VINEYARDS

# HARVEST MANUAL

2021


**PREPARED BY**

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# WHO ARE WE?

Guardian Vineyards, Franschhoek, South Africa

Guardian Vineyards is a boutique size winery located in the beautiful Franschhoek Valley of South Africa. The farm is steeped in rich heritage dating back to the arrival of the French Huegenots in 1688. Established initially as a fruit farm, current family ownership began planting vineyards in the early 1980's. Today the farm is still owned by the Squires family who are presently in their 4th generation of ownership. The vineyard itself comprises 15 hectares of wine grape cultivars planted to Chardonnay, Semillon, Pinotage and Cabernet Franc.

Until recently, Guardian Vineyards has had reasonable success in both the domestic and international market for wine with a distribution split of 50/50. The style of the wines produced by Guardian Vineyards can be described as full, robust and rustic characterised by higher alcohol levels. There is a desire by the Squires family to rethink their methods of production and begin to produce wines that are more relevant in today's market. In addition, it is important to the family that they retain their unique style on certain of the wines, while exploring new alternatives.

# THE HARVEST MANUAL

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# PROTOCOL FOR THE VINIFICATION OF SEMILLON

Guardian Vineyards, Franschhoek, South Africa

Franschhoek Semillon has gained a reputation among discerning wine consumers as a textured, low acidity wine that is mostly wooded. The aromas when very young are neutral and almost secondary in nature. Secondary aromas are referred to as and derived by the various practices of winemaking. When the aromas are derived from the inherent aromatic profile of the fruit, this is referred to as primary notes. As the wine ages in bottle, they begin to develop their tertiary aromas which in Semillon is described as lanolin (sheeps wool), bees wax and confected fruit. Guardian Vineyards "The Crusade" Semillon has always been produced in this style. For the 2021 vintage, they woud like to explore a fresher style or component of Semillon that allows them to discern themselves from the remaining examples in the Franschhoek Valley, but also not lost sight of the heritage of this particular cultivar.

## 1. GRAPE HANDLING

- Semillon is a large, fleshy white cultivar that tends to ripen slowly with a high juice:skin ratio. As a result, both sugar and acid development will appear diluted due to the high juice content.
- Care must be taken when monitoring ripeness that sugar accumulation is not the preferred parameter when determining harvesting dates. The Franschhoek clone GD1 is notorious for low acid levels.
- When determining ripeness, do not allow grapes to hang excessively on the vine in order to reach higher units of Balling. Instead, assess the available total acidity and pH levels.
- Under good growing conditions, the following ripeness levels can be attained:

| pH | TA (g/L) | Balling |
|---|---|---|
| 3.1 - 3.3 | 5.75 - 6.5 | 20 - 21.5 |

- Grapes will be harvested in 18 kg crates so as to preserve the structural integrity of the fruit.
- Grapes will be harvested during the early morning commencing at 05:00 am up to a maximum of 11:00 am.
- Care must be taken during harvesting and transport of grapes to avoid any superficial damage to the bunches prior to delivery to the winery for processing. As far as possible, in vineyard sorting must take place to avoid leaves or any other unwanted bunches arriving at the winery.
- Guardian Vineyards has a cold storage facility where all future harvested grapes will be cold stored at 3 - 5 degrees Celsius overnight. Grapes that are pressed at excessively warm temperatures are prone to leach unwanted phenolic compounds into the juice during pressing. Wines made in this manner will require additional treatment in the winery to remove.
- A total of 20 tons of Semillon will be harvested from 3 individual blocks.

## 2. VINEYARD BLOCKS

| | | | PRESS EXTRACTION | |
|---|---|---|---|---|
| **BLOCK** | **CLONE** | **TONNAGE** | **WHOLEBUNCH** | **CRUSH** |
| Galahad | GD 1 | 10 | X | Yes |
| Gaheris | GD 1 | 5 | Yes | X |
| | **TOTAL** | **15** | **JUICE YIELD** | **7.5 HL** |

**Table 3: Vineyard block allocation for Semillon**

# 3. DE-STEMMING AND PRESSING

## 3.1 COLD MACERATION SKIN CONTACT - SAIGNEE

- Standard processing practice for Guardian Vineyards was to harvest Semillon over ripe, crush and separate fractions between French oak and stainless steel. For 2021, we will be modifying the treatments of each block so that each resulting wine acts as a contributing component towards the final blend.
- As per table 3 above, we know which vineyards will be crushed versus whole bunch pressed.
- **Galahad** vineyard has been selected as the vineyard to undergo a short cold skin maceration period. This is due to the vineyards natural chemical analysis that shows remarkable lower pH and higher acidity. Cold maceration skin contact periods have a tendency to increase pH of the juice and in certain cases reduce the total acidity. Selecting vineyards with a high natural buffering capacity will allow excellent expression of fruit aromatics, while ensuring the oxidative and microbial balance remains intact.
- The 18 kg harvesting crates will be fed directly into the crusher via a electric incline conveyor. Grapes will be lightly crushed and de-stemmed before passing through a temperature controlled mash cooler set to 10 degrees Celsius.
- Ensure the cooling to T 345 has been activated and set to 10 degrees Celsius. This is to ensure the must remains cold and prevents any unwanted phenolic dropout.

- The following additions and dose rates are required at this stage:

| ADDITIVE | PRODUCT | DOSE RATE | STAGE |
|---|---|---|---|
| Sulphur | 18% bisulphite | 30 ppm | crusher |
| Enzyme | skin contact | 10 g/100kg | T 345 |
| Dry ice | pellets | 40 kg | T 345 |

**Table 4: Product dose rates required for Galahad grape crushing**

- The purpose of the cold maceration skin contact is to allow aromatic and flavour precursors to leach from the skins of the grapes into the juice. This process depending on the quality of the fruit can last up to 24 hours.
- After 12 hours, the juice can be drained as the free run fraction from the bottom racking valve of T 345. If working reductively, ensure the movement of the wine is accompanied by dosing Carbon Dioxide through a sparger.
- The fraction drained from the skins is referred to as the free run and is your highest quality fraction.
- Ensure that the settling tank where the free-run juice is collected has the cooling set to the required settling temperature. Ideally, this will depend on the settling enzyme required and temperatures can range from 4 to 8 degrees Celsius.
- It is important to capture the yield of free-run juice so that the required pressing fraction can be calculated. If the drainage of the tank was sufficient, up to 600 L / ton can be collected.
- The remaining grapes can be collected and gently transferred to the press for a quick and gently pressing cycle. This component will require additional treatment as it tend to be phenolic due to the higher ratio of skin:juice.
- Up to 150 L / ton can be collected and should be transferred to a separate settling tank.
- During pressing, a further 30 ppm of liquid sulphur should be dosed at the juice tray to ensure further oxidative stability.

## 3.1 WHOLE BUNCH PRESSING

- It is not traditional practice to whole bunch press Semillon. This is due to its fleshy nature which makes it difficult to press.
- The beauty of whole bunch pressing cycles is that they are typically long and when applied properly, can extract the necessary volume required.
- As opposed to crushing, the desired juice yield is 600 L / ton as the lees or sediment percentage loss is only 1 - 1.5%
- Please check Annexure E: Programming press cycles for the appropriate whole bunch pressing program.
- As per table 3, vineyard **Gaheris** has been specifically selected due to the gentle nature of the whole bunch pressing program. The program retains good natural acidity.

- As the juice originating from the pressing cycle is high quality, there will be no need to separate the fractions for the production of this wine.
- All juice that flows into the juice tray must be automatically transferred to a settling tank.
- The temperature of the settling tank must be set to 10 degrees Celsius as this fraction will be destined for oak fermentation and maturation.
- No additives are required during the pressing phase. The **Gaheris** component will be made oxidatively in comparison to the reductive component of **Galahad**

## 4. SETTLING AND FERMENTATION

- At the completion of the pressing cycles, there will be three separate fractions of juice as per table 5 below. The various settling treatments of each tank is also documented therein.
- On the first day of settling, the following analysis can be performed on the juice:
  **pH, TA, FSO2 (asp), TSO2 (asp), YAN, Glucose : Fructose**

| BLOCK | FRACTION | TANK | SULPHUR | SETTLING ENZYME | POLYMUST |
|---|---|---|---|---|---|
| Galahad | free-run | T 33 | if required | 1.5 g/HL | 25 g/HL |
| Galahad | press | T 65 | if required | 1.5 g/HL | 60 g/HL |
| Gaheris | cuvee | T 34 | 40 ppm | 1.5 g/HL | X |

**Table 5: Settling procedure for Semillon pressing fractions**

- Traditional cold settling practices is utilized and take place from 24 to 48 hours. Grapes that were crushed and pressed will always possess a higher percentage of grape pectins and will require longer settling.
- The juice from **Galahad** should ideally be settled for 48 hours to a NTU of 25
- The juice from **Gaheris** will settle efficiently in 24 hours due to the lower pectin content.
- After the desired settling period, the fermentation vessels can be prepared to receive the racked, settled juice.
- The desired fermentation temperature set point must be set on each respective tank.

- Due to the demand in stylistic changes, the fermentation strategy for the "Crusade Semillon 2021" will be as follows as per table 6:

| BLOCK | FRACTION | VESSEL | NTU | YEAST | TEMPERATURE |
|---|---|---|---|---|---|
| Galahad | free-run | T 45 | >100 | VIN 13 | 13 - 15 |
| Galahad | press | T 64 | >100 | Alba Fria | 13 - 15 |
| Gaheris | cuvee | 15 X 225L | 250 - 300 | natural | 17 - 19 |

**Table 6: Fermentation strategy for the "Crusade Semillon 2021"**

- Throughout fermentation and dependent on the YAN (Yeast Assimilable Nitrogen) , yeast nutrition will be required in the form of organic and inorganic Nitrogen.
- Fermcontrol has been selected as the preferred choice of yeast nutrition. For a detailed description on the product, refer to Pg 11 as well as **Annexure B: Yeast nutrition addition charts**
- It is entirely dependent on the winery, but it is advisable to maintain a fermentation record regardless of whether it is hand or digitally recorded.
- It is essential to monitor the rate of fermentation each day by checking and recording both the fermentation temperature and the rate of sugar depletion.
- The fermentation must always remain healthy and active. With Semillon, there is a tendency for reductive notes to develop. Aromatically, this is described as a lack of fruit aromas and in severe cases, the smell of Hydrogen Sulphide or rotten egg.
- When reduction occurs, additional nutrition can be supplemented to the fermentation or the fermenting must can be gently aerated with a pump over.
- In severe cases, the the wine should be racked from the lees and replaced with fresher lees from an alternate source.
- On the completion of fermentation, all vessels including the oak barrels must be topped up and allowed to rest prior to racking off the fermentation lees.

# HISTORICAL RIPENING CHARTS 2020

Guardian Vineyards, Franschhoek, South Africa

## GALAHAD SEMILLON VINEYARD