

1702



MEERENDAL

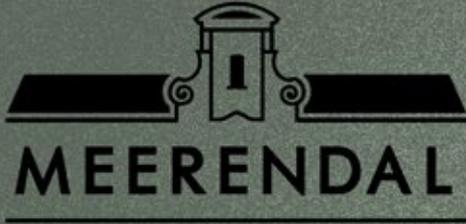
WINE ESTATE

A PRACTICAL GUIDE TO
WINE MAKING

BY LIZA GOODWIN
WINEMAKER & CELLAR MASTER



1702

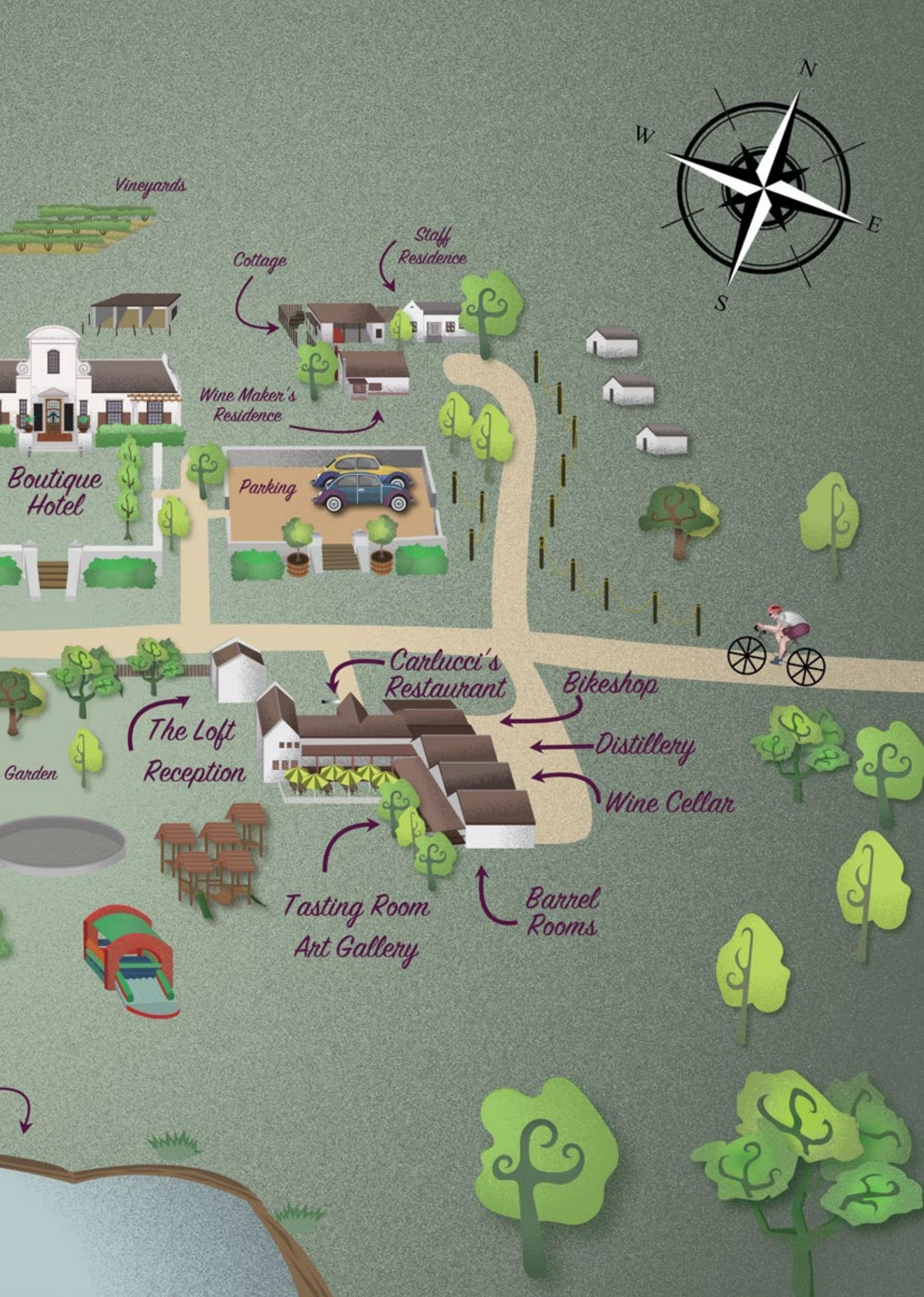


MEERENDAL

WINE ESTATE

Vissershok Road





Vineyards

Cottage

Staff Residence

Wine Maker's Residence

Parking

Boutique Hotel

Carlucci's Restaurant

Bikeshop

The Loft Reception

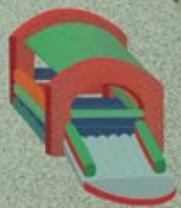
Distillery

Wine Cellar

Garden

Tasting Room
Art Gallery

Barrel Rooms





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FOREWORD

In “a practical Guide to Wine Making”, cellar master and winemaker, Liza Goodwin, walks us through the processes involved in making Meerendal’s iconic wines. She explains different aspects of her daily business from the vineyard to the cellar on the beautiful winery nestled on the foot of Dorsberg Mountain in Cape Town, South Africa. Liza Goodwin has over twenty years of experience and does her best to work with Mother Nature to create the finest wines from Meerendal’s vineyards.

In this guide she describes a typical year of wine making at Meerendal Wine Estate:

Winter: (June - August)

During the winter months, a lot of work happens in the vineyards and the cellar. As soon as leaf fall (when the vines lose their leaves) is finished, teams of pruners start to prune the vineyards. Cane Pruning is used on the old Heritage block, while spur pruning is used on the rest of the trellised vineyards. This process takes up to two months. During this period, green fertilization is also practiced, where nitrogen rich oats are sowed in each row. These oats are then mulched into the soil to help with fertilization as well as aeration to the roots and to prevent moisture loss. In the cellar, red wines are removed from the barrel and prepared for bottling. The empty barrels are filled with the latest vintage to mature for 12-24 months.

Spring: (September - October)

Bud burst announces the start of a new vintage and usually commences in September. As soon as the new shoots reach a length of 5cm the spraying program against fungal diseases commences to protect new growth. Flowering starts at about 20-30 cm shoot length and lasts for a very short period. A small amount of canopy trimming and trailing is done during this time, because shoots are still too short to reach the first wires of the trellis system.

Summer: (November - March)

During summer the vineyards are growing at a vigorous rate and selective canopy management, especially around the newly formed bunches, is done. Throughout the growing season the canes are trimmed and the remaining foliage raised and attached to the trellis wires, allowing the maximum sunlight to reach the leaves and grapes. From mid-January, sugar levels are monitored on a regular basis. As soon as optimum ripeness is reached the grapes are handpicked and taken to the cellar.

Grapes are weighed, then transferred to the destemmer, where berries are separated from the stems. The berries are then taken to the sorting table where berry selection takes place. After berry selection, the grapes are crushed and transferred to fermentation tanks. The grapes are inoculated with selected yeast to start the fermentation process. After fermentation, the juices are transferred to holding tanks or barrels for ageing.

Autumn: (April - May)

This is the time when maintenance is done in the vineyard. Broken poles are replaced and snapped wires are fixed. The soils in the rows are also prepared for sowing of green fertilizer. In the cellar the newly made white wines are prepped for bottling at the end of May. Red wines are racked after completion of secondary fermentation and sulphur adjustments are made.

This completes the annual cycle at Meerendal.

“WELCOME TO THE MAGICAL WORLD
OF MEERENDAL WINE. ”



LIZA GOODWIN

Organising harvests, creating the perfect blend, vineyard management and public relations are only a few of the daily tasks of a winemaker at Meerendal! After arriving on the Estate in 1998, Liza used her intuitive and visionary approach to cultivate and mature the high quality wine that Meerendal is known to produce.

Liza studied at Elsenburg Agricultural College in the Western Cape. She received her diploma in Viticulture, Oenology and Livestock in 1993 and continued her studies to major in Viticulture and Oenology in 1994.

In order to broaden her experience, she attended harvests in France (Sancerre), Italy (Verona) and Spain (Ribera del Duero).





INTRODUCTION

MEERENDAL – FROM PAST TO PRESENT

The history of Meerendal is closely connected to the history of the South African Wine Industry. It goes back to the planting of the first grapes by the governor of the Cape in 1655. When the first wine was made on 2nd February 1659, the future of wine in South Africa was established, making South Africa also the oldest “New World” wine country outside Europe and the Middle East.

Founder, Jan Meerland, was one of many Dutch East India Company employees to be declared a free citizen and granted farming land in the Cape. Jan worked in the stores with timber and building materials when he took the opportunity to become a farmer with his wife Christina Stans. He was granted 50 hectares on the slopes of the fertile Tygerberg hills that would become Durbanville. Meerendal's official title deed was registered on 6 February 1702.

Agriculture was made difficult by the lack of summer water, but the rich soils and proximity to Cape Town encouraged the development of mixed farming at Meerendal in the early years. The ships arriving in Table Bay, could be reached by ox wagon in one day supplying meat, fruits, vegetables and of course wine! It is estimated that there were about 1,000 farmers, workers, officials and locals in the Cape around the year 1700, with more than 6,000 people visiting every year en route to the East! Even then, a great export market.

Jan Meerland called his farm Meerendal, but did not see the fruits of his labour as he died on a ship back to Holland in 1709 while carrying a letter to the authorities on the misconduct of Governor W A van der Stel. His wife Christina stayed at Meerendal and 7 years later she had already planted about 60,000 vines, or 25 hectares in extent.

Another chapter of Meerendal as a wine farm of fame started when William Starke bought Meerendal in 1929. By this time the farm has incorporated other small farms, growing to 420 hectares in size, with 28 hectares under vines. William was a keen grape grower with lots of experience. He grew up close to Stellenbosch and was the farm manager at the Elsenburg Agriculture College.

He eagerly extended the vineyards knowing the potential of this cool climate region, only 12 kilometres from the cold Atlantic Ocean. The first block of Shiraz wines were planted in 1932, and that vineyard became the “mother block” supplying vine cuttings to nurseries who supplied the farmers. The next step came in 1953 when the Starke’s planted the first Pinotage vineyard in Durbanville, co-insiding with other commercial plantings of Pinotage in South Africa. Two more vineyards were added in the following years. Today the 5 hectares of the 1955 vineyard is still producing exceptional grapes. It is one of the three oldest remaining Pinotage vineyards in South Africa and the oldest vineyard in Durbanville.

The quality of wine made on Meerendal was soon recognised and the Co-operative Winemakers Union’ of South Africa (KWV) bought wine from the Meerendal cellar for blending purposes. Dr Charles Niehaus, wine expert at the KWV revised the blend of the well-known KWV Roodeberg in the late 1940’s and made Meerendal Shiraz the base of the new blend. Meerendal continued to supply wine to the KWV until 1974 when a new agreement was made with the Bergkelder in Stellenbosch.

William’s son Kosie, took over from his father in 1952. Meerendal was well known for its red wine and port but Steen (or Chenin Blanc) was also grown on the estate. Kosie was one of the early advocates of the concept of Estate wines and convinced the KWV to bottle a small portion of the Meerendal Pinotage and Shiraz from the 1969 vintage. Meerendal spearheaded this new concept in the late 1960’s and was joined by a small group of Estate farmers like Groot Contantia, Rustenberg, Alto, Simonsig, Spier and Delheim. For 30 years, only two wines were sold under the Meerendal label locally and internationally, namely Pinotage and Shiraz.

The Coertze family, current owners of the Estate, became involved in Meerendal in 2004 when a new era started for this grand dame of the wine industry. The vision was to develop Meerendal into one of the top Wine Estates in South Africa. A new label was developed and introduced to the local and

international markets in late 2004. That paved the way for the recognition of Meerendal as a global player producing high quality Estate wines. The cellar was upgraded and has continued to produce award winning wines. New Sauvignon Blanc, Chardonnay and Pinot Noir vineyards were planted and the buildings on the farm were renovated.

Liza Goodwin, the first woman winemaker in Durbanville, follows in the footsteps of Christina Stans and continues to make exceptional wines on the Estate. The unique location and terroir of Meerendal, in one of the coolest wine regions in the Western Cape, is ideal for the variety of noble cultivars that have been planted on the Estate, namely: Shiraz, Pinotage, Merlot, Sauvignon Blanc and Pinot Noir.

The beautifully restored Cape Dutch homestead now operates as a luxury boutique hotel, and several suites have been built to enhance the accommodation on the farm. Two restaurants offer visitors a choice of trendy and stylish food.

The Estate welcomes day visitors and families to the tasting rooms, art studio and gallery and, with its extensive network of trails, provides the ideal location for mountain biking, trail running, walking and other recreational activities.



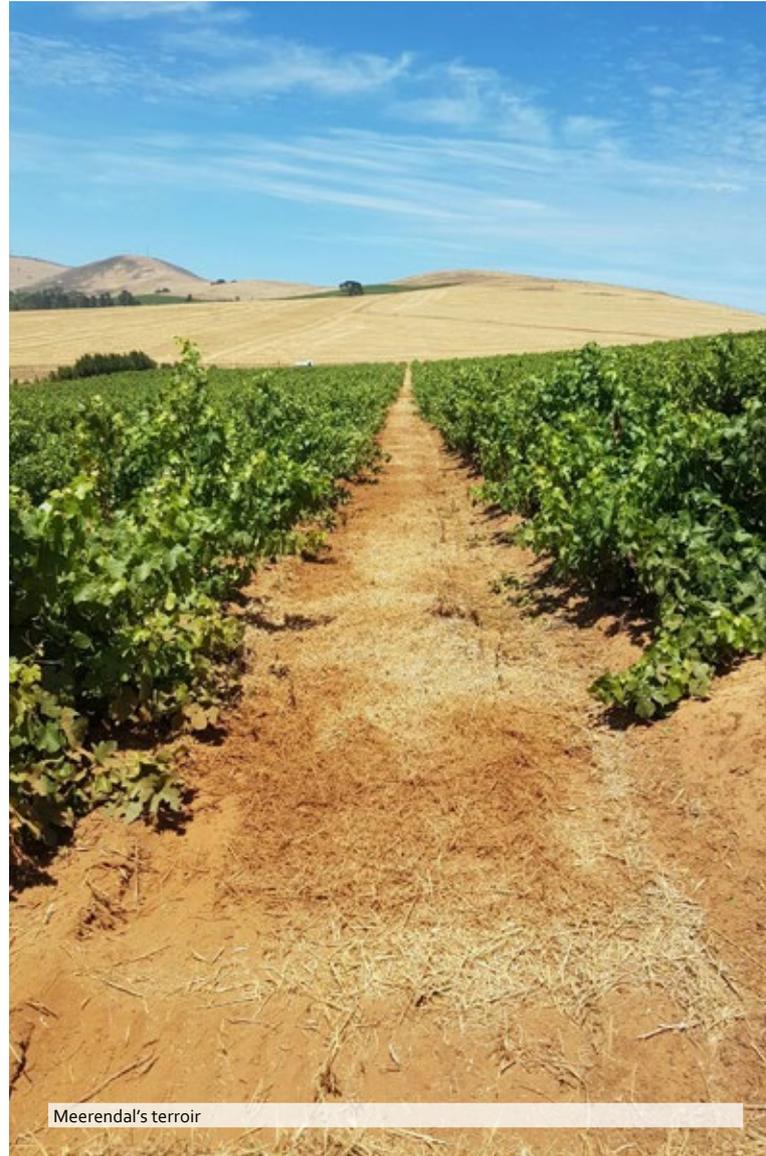
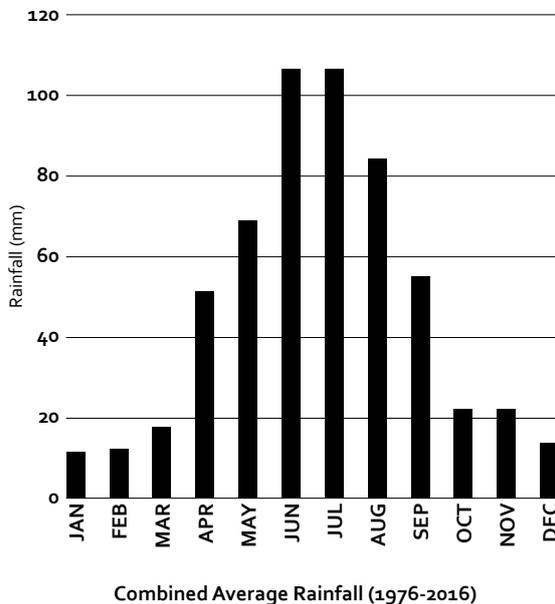




— 01 —
VINEYARD

TERROIR

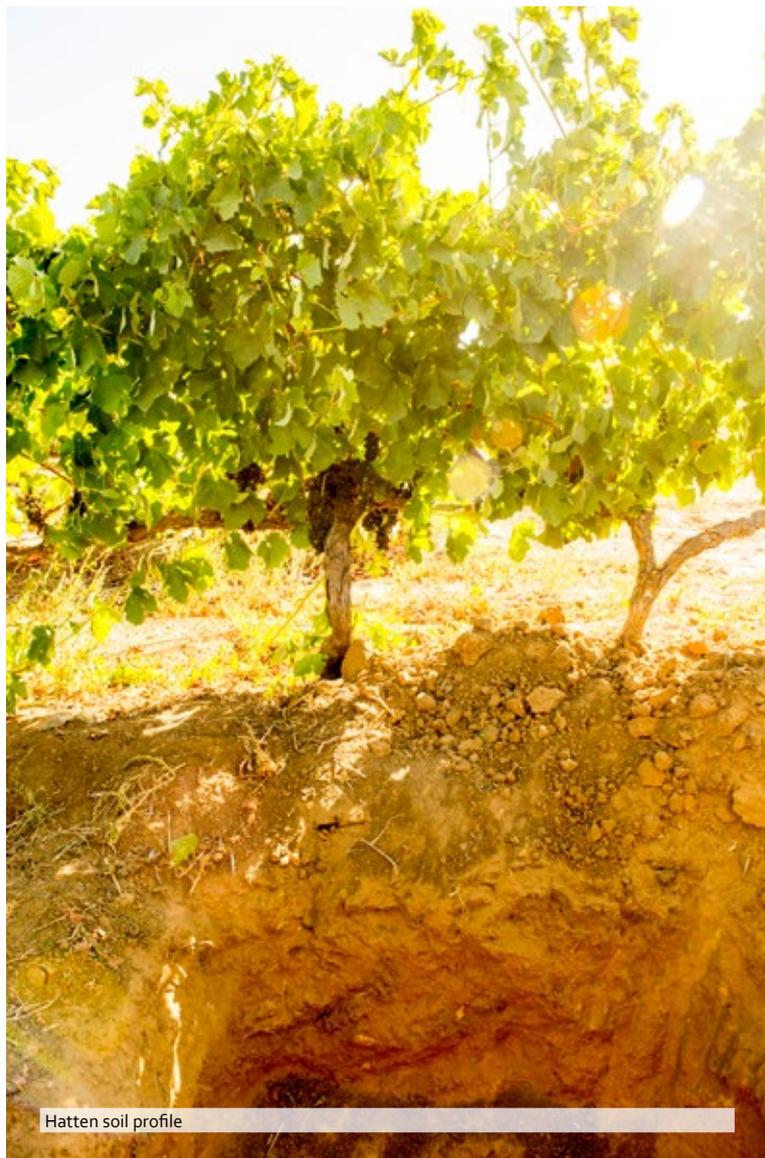
CLIMATE & SOIL



The hills of Meerendal rise above the flat surrounding landscape virtually at sea level. In the early mornings, they are often shrouded in fog. Together these hills and valley provide an almost endless variety of slopes, soil types and microclimates that make it possible to grow a range of classic cultivars with equal success. The Durbanville area is amongst the coolest wine growing areas in the Cape Winelands, even though it receives little rain during the summer months. The cool character has not so much to do with the height of the vineyards above sea level as with the southeaster wind. During the summer months and then mostly in the late afternoon, it blows from False Bay over the vineyards of Meerendal. Even on the hottest days it can be surprisingly cold as the cool moist air flows over the contours of the landscape. This slows the ripening of the fruit and concentrates flavour in

the berries. When the southeaster is not blowing, a westerly wind comes off the cold Atlantic to do the same. Summer is from October to March and the average day temperature ranges between 24-33 °C, dropping to 15 °C at night. In the winter the prevailing northwester blows off the Atlantic Ocean from exactly the opposite direction as the reigning summer wind. Rainfall is relatively low, ranging from 450-550 mm per year. The average temperature in the winter months ranges between 10-16 °C during the day and can drop to 0 °C at night.

The dominant soil type found on Meerendal is deep structured red Hutton soils. With its high clay content, it is able to 'hold' water for long periods. This is a great advantage for the vines with no irrigation in the dry summer months. Although a



Hatten soil profile



Vine roots at a depth of 100cm



Broken down Koffieklip in soil

high clay content, it drains well, and air moves freely between the soil particles down to the roots of the vine. This also contributes to healthy development of new roots, enabling them to reach water and plant food. No irrigation, good water retention in the soil and the correct choice of rootstock are the deciding factors.

There are also pockets of ferricrete high in iron and minerals on the Estate and they have a direct influence on the grapes and ultimately on the wine. In South Africa, this ferricrete is known as 'Koffieklip' or directly translated to English as Coffee Stone, referring to the colour of the stone.



Meerendal's terroir

CULTIVARS

GRAPES

PINOTAGE
PINOT NOIR
SHIRAZ
MERLOT
SAUVIGNON BLANC

Meerendal boasts a variety of noble cultivars, but is known for its Pinotage and Shiraz. One of the oldest Pinotage vineyards in South Africa is found on the Estate and was planted in 1955. The other varieties planted on Meerendal include Pinot Noir, Merlot and Sauvignon Blanc.



Young shoots

OLIVES

LECCINO
FRANTOIO
CORATINA

The olive industry in South Africa is relatively young, compared to Mediterranean countries, where olives have been cultivated for centuries. The first cultivated olive trees were planted by Jan Van Riebeeck on his farm, Boschenheuvcl, in 1661. Today there are over 300 olive producers in South Africa. The Western Cape is one of the most popular areas for the cultivation of olives because of the climate similarities between the Cape and the Mediterranean.

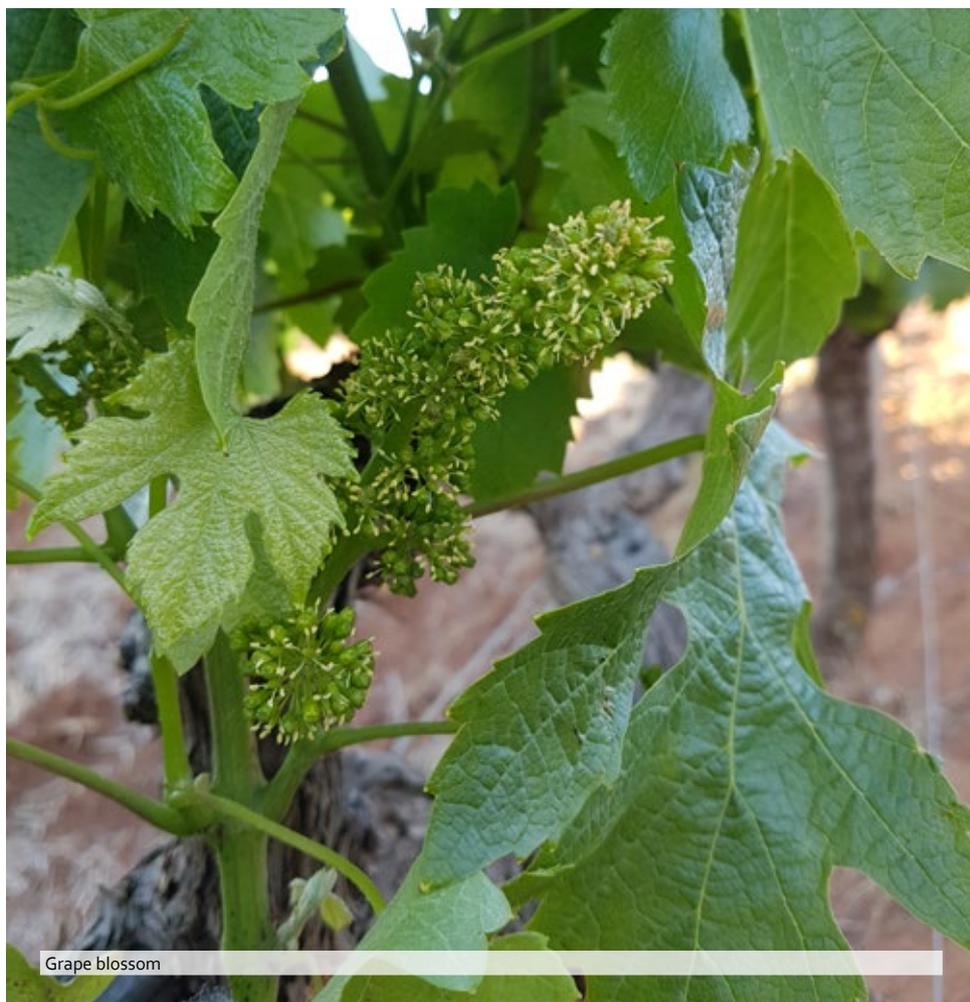
Meerendal also boasts some plantings of olive trees, overlooking the famous Heritage Block vineyard. It was decided to concentrate on small scale olive oil production. Three cultivars were chosen, namely Leccino, Frantoio and Coratina, and planted for their delicateness and flavour.



Bud burst



Budding vines



Grape blossom

PINOTAGE

Pinotage is a red grape and is a South African signature variety. It was developed in 1925 as a cross between Pinot Noir and Hermitage (Cinsaut) by Prof. A. I. Perold. It produces deep red wines with smoky, bramble and earthy flavours. It is not a hybrid, but a cross between two varieties of *Vitis Vinifera*. The Bunches are small, compact and cylindrical with a shoulder. The berries are small with a thick skin that protects them from fungal diseases.

There are 3 blocks of Pinotage on Meerendal planted in 1955, 1997 and 2009 respectively. The oldest block is called 'The Heritage Block' and consist of bush vines. The average tonnage produced by this block is 3 Ton/Ha. The Heritage block is the first black grapes to ripen and are usually harvested in the first two weeks of February. The other two Pinotage blocks are trellised and deliver an average tonnage of 10-12 Ton/Ha. The blocks are harvested in the last two weeks of February.

PINOT NOIR

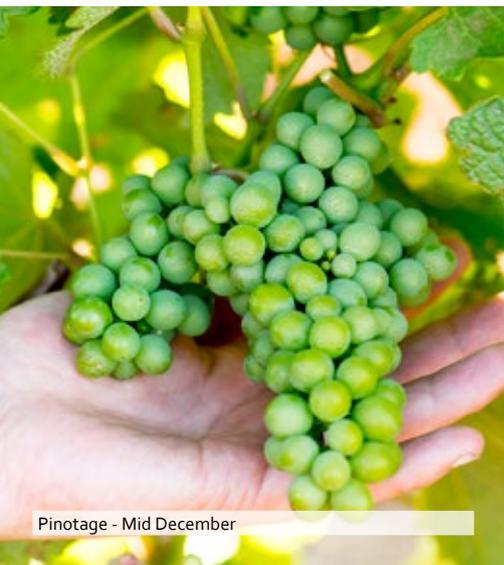
Pinot Noir is a red wine grape variety. The name is derived from the French words for pine and black, the pine alluding to the grape variety having tightly clustered, pine shaped bunches of fruit. Pinot Noir is grown mostly in cooler regions around the world. The skin of the Pinot Noir is thin and is susceptible to rot due to the tightly packed clusters. This requires diligent canopy management. Pinot Noir produces lightly coloured, medium bodied low tannin wines. This wine tends to have red fruit aromas of cherries, raspberries and strawberries.

One block of Pinot Noir, with 3 different clones, was planted on Meerendal in 2008 to pronounce colour, acidity and aromas in the final product. Pinot Noir ripens short on the heels of the Heritage Block during the middle of February.

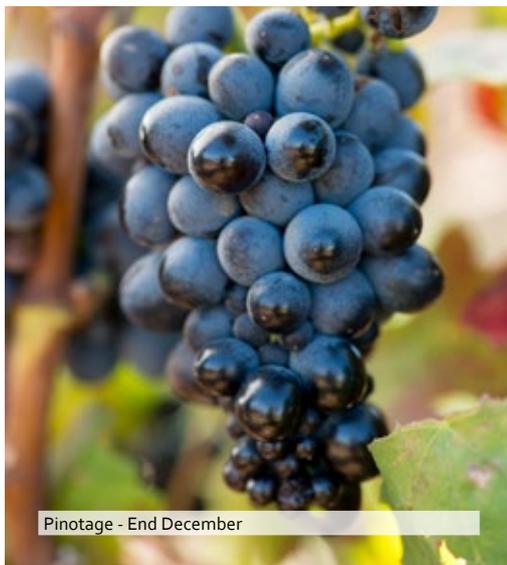
SHIRAZ

Shiraz or Syrah is a dark skinned grape variety grown all over the world. Shiraz is the offspring of two obscure grapes from south-eastern France, the Dureza and Mondeuse Blanche. The style and flavour profile of Shiraz is influenced by the climate in which the grapes are grown. Moderate temperatures produce medium to full bodied wines with medium to high levels of tannins imbued with flavours of blackberry, mint and black pepper notes. In hot climates Shiraz is more full bodied with softer tannin, jammier fruit and spicy notes of liquorice, anise and earthy leather.

Two blocks of Shiraz grapes were planted on Meerendal in the years 2000 and 2001 respectively, one growing on a higher slope. Each of these blocks give a different character to the wine, purely because of the elevation and row direction. The two blocks of Shiraz ripen about 7-10 days apart resulting in two different styles of wine, one fruity and sweet, the other spicy and earthy. Shiraz is very weather dependent and can be ready for harvesting between mid-February to mid-March.



Pinotage - Mid December



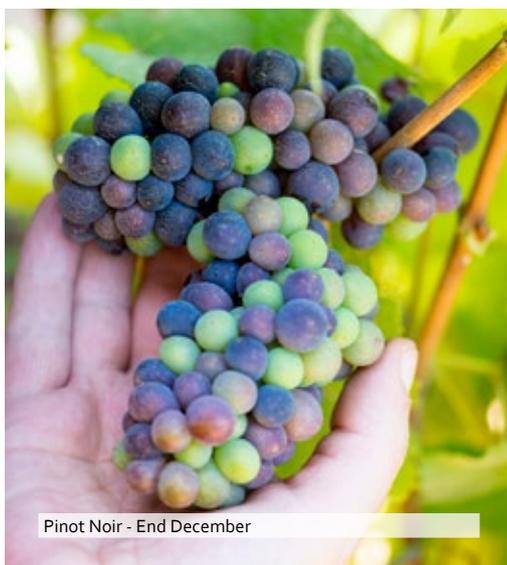
Pinotage - End December



Pinotage - Mid January



Pinot Noir - Mid December



Pinot Noir - End December



Pinot Noir - Mid January



Shiraz - Mid December



Shiraz - End December



Shiraz - Mid January

MERLOT

Merlot is a dark blue coloured grape variety used both as a blending grape and for varietal wines. Merlot is one of the primary grapes used in Bordeaux style wines and is widely planted in the French region of Bordeaux. Due to its popularity Merlot is the 3rd most grown grape variety worldwide.

Two main Merlot variety styles are found, namely International and Bordeaux.

International style - harvested late to produce inky, purple, full bodied wines with a high alcohol and lush velvety tannins with intense plum and blackberry fruit.

Bordeaux style – harvested earlier to maintain acidity, producing medium bodied wines with moderate alcohol and fresh, red fruit flavours.

Only one block of International style Merlot grapes was planted on Meerendal in 2001, next to the Heritage Block. Merlot grapes are picked at the higher sugar level with most of this wine bottled as a single varietal. Merlot grapes at Meerendal are ready for harvesting from mid-February.

SAUVIGNON BLANC

Sauvignon Blanc is a green skinned grape variety that originates from the Bordeaux region of France. Planted worldwide, these grapes provide a crisp, dry and refreshing white wine. Depending on the climate the flavour can range from grassy to tropical. In cooler regions, the acidity is higher with grassy tones and some tropical Passion fruit. In warmer climates, it develops more tropical fruity notes.

Four blocks of Sauvignon Blanc, all with different clones, were planted at Meerendal in 1994, 2005 and 2007 respectively. They produce elegant aromas, mouthfeel and acidity. All ripen in February, but are kept in separate tanks. The tanks are then blended after fermentation is finished and left on the lees for two more months before bottling them in late May every year.

OLIVES

Meerendal planted olive trees, overlooking the famous Heritage Block vineyard.

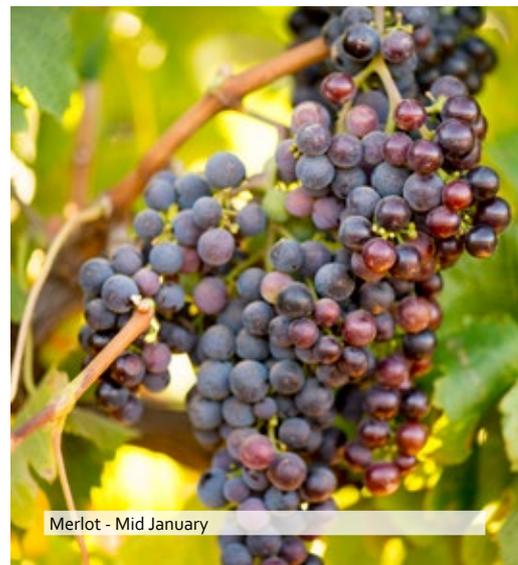
The olives are harvested at the beginning of April when about 50% of the olives are ripe. This makes the best quality cold pressed olive juice. Cold pressing produces olive oil with low acidity and ensures consistency, colour, flavour and aroma.



Merlot - Mid December



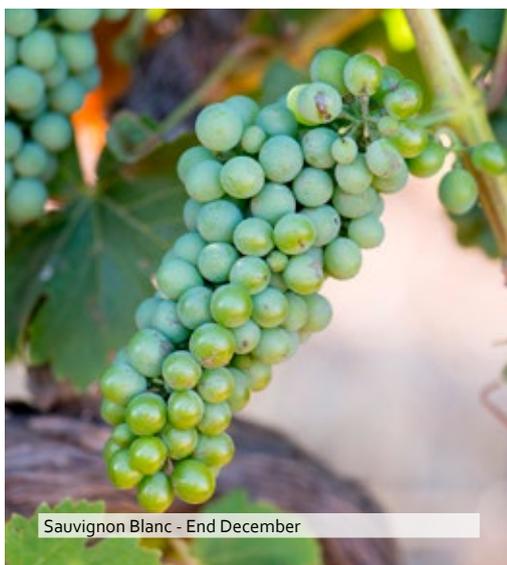
Merlot - End December



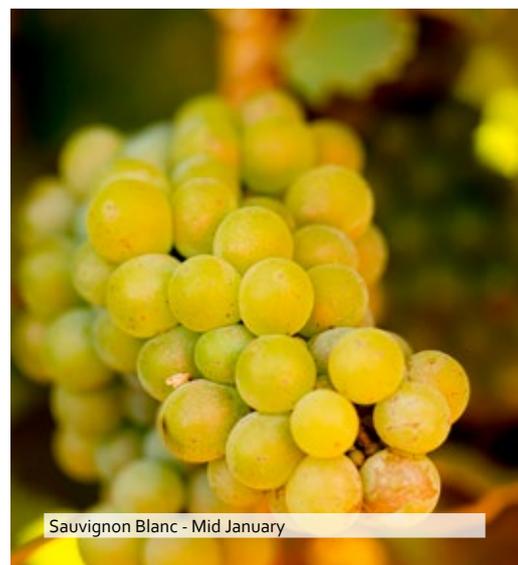
Merlot - Mid January



Sauvignon Blanc - Mid December



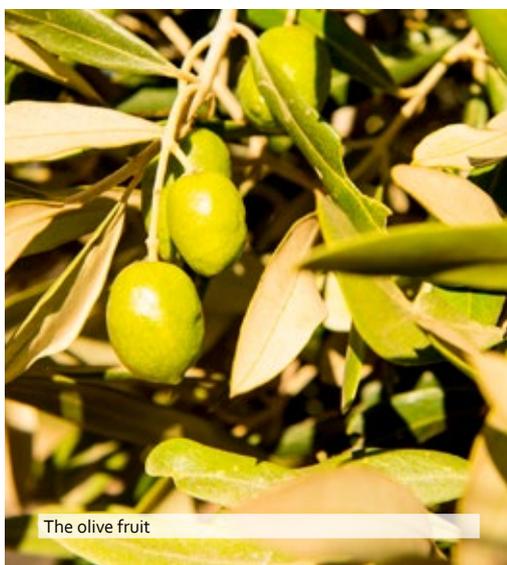
Sauvignon Blanc - End December



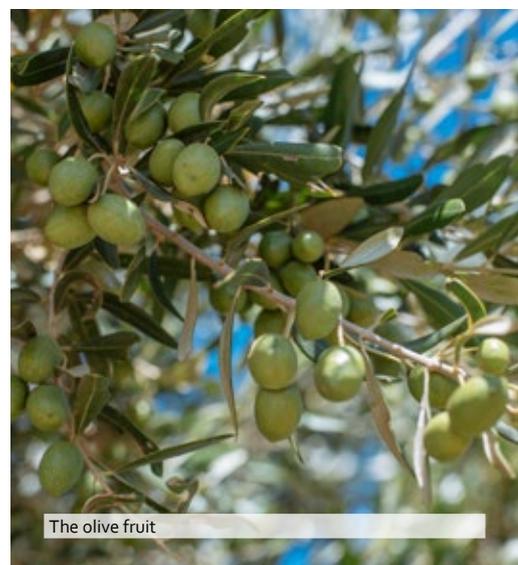
Sauvignon Blanc - Mid January



Olives and Grapes growing in harmony



The olive fruit



The olive fruit

HARVESTING

Harvesting commences at Meerendal Wine Estate during the first week of February every year. Occasionally the Pinotage Heritage Block and Pinot Noir are harvested in the last week of January based on climate conditions of the previous year. It is very typical to get a few heat waves during February, which can be devastating on the vineyards. It can cause sunburn on the white grapes or stop photosynthesizing of the leaves. Too much heat causes the stomata in the leaves to close. This in turn causes the leaves to stop producing sugars developing in the grapes. As a result, the grapes don't ripen properly and can't develop to full maturity.

Sampling of grapes to test the development of sugars already start in mid-January. Samples of each block are taken on a weekly basis to monitor the rising of sugar levels and dropping of acidity levels. This gives the winemaker an indication of when the grapes will be ready to harvest and what to expect from the grapes coming into the cellar.

As soon as the grapes have reached maturity a harvest date is set within the next 1-2 days. Picking is done early morning in small 20kg lug boxes by hand, while the grapes are still cool. This prevents oxidation of juice which is especially applicable to white grapes.

After the grapes are harvested they are brought to the cellar where they are weighed and processed. Weighing helps to determine the correct amount of additives (yeast, enzymes and sulphur) to be added and to measure the performance of the vineyard blocks. Harvesting at Meerendal is an exciting time, from hearing the tractor start in the morning, picking grapes in the vineyards and receiving them in the cellar, brings joy to the people of Meerendal. The wonderful smells of juice fermenting forms the highlight of the harvest.



PRUNING, TRELLISING & CANOPY MANAGEMENT

Pruning commences directly after leaf fall in July when the vines go into dormancy and it finishes towards the end of August. Pinotage is first, followed by Merlot, Pinot Noir, Sauvignon Blanc and Shiraz. Two types of pruning are practiced at Meerendal. Spur pruning on the Heritage Block Bushvine and Cane pruning on the vines that are trellised. Pruning plays a very important role when working with dryland vineyards.

Due to the age of the Heritage Block the tonnage is kept to a maximum of 4 Ton/Ha. This helps the vines to fully mature the grapes.

The trellised vineyards are pruned back to carry an average of 10-12 Ton/Ha. In extremely dry and hot years, a few tons will be green harvested (dropping grapes to the ground before they are fully matured) to help the vines in ripening the remaining bunches. Vineyards start budding beginning of September and flowering commences in August. A spraying program is in place to prevent the developing of downy mildew or oidium. The program stops one month before harvesting commences.

Rigid canopy management is practiced at Meerendal. By removing excess leaves around the bunches before veraison (colour change in berries) the exposure to sunlight improves wine quality. Shaded canopies produce fruit of increased Potassium (K), pH, malic acid and Botrytis rot as well as reduced sugars, tartaric acid, phenol and anthocyanin (flavour) levels. All potentially impacting negatively on the end product.

“ A GOOD WINE IS MADE IN THE VINEYARD, IT CAN ONLY BE COAXED TO PERFECTION IN THE CELLAR ”

The canopy management program usually begins around November and is stopped as soon as veraison has started, allowing only a little bit extra leaf grow afterwards and protecting the developing bunches from excessive sunburn.



PESTS, DISEASES & MOTHER NATURE

The most common pests found at Meerendal are birds. Fortunately, they feast only on table grapes found around the cellar and the Manor House. A bunch of grapes can be ruined completely in a short time by birds. Fortunately, wine grapes have thick skins, so birds prefer targeting the softer table grapes.

Other common diseases that develop in vineyards in the Western Cape is Downy Mildew and Oidium, both fungal diseases. For these fungi to grow they need water, heat and no wind. With hardly any rain during the ripening season and lots of south easterly wind (thus no humidity), Meerendal has the perfect conditions to deter the growth of any fungus. The spraying program starting in September curbs the development of fungus on the leaves and grapes.

Both Downy Mildew and Oidium can attack the leaves and later the grapes. When the leaves are compromised photosynthesis will stop and the grapes won't develop. Rotting occurs when Downy Mildew attacks the grapes. When Oidium spreads, the grapes will burst open and dry out.

Mother nature can also have a negative effect in the vineyards, especially during the flowering season. Too much rain or continuous windy conditions will damage the flowers, resulting in uneven bunches. This causes small and irregular size berries during the development of the bunches. The effect of wind on vines during flowering is called millerandage.



Example of bird damage



Example of wind damage (millerandage) on grapes



Example of wind damage



Image to grapes



Example of Oidium on grapes



Image (millerandage) on grapes



02

WINERY

Meerendal's 'official' Winery was built by A. M. Kannemeyr in 1943. Originally, the winery was built for red wine production only. The fermentation area consisted of 20 open cement tanks, each holding 5 ton of grapes. These open fermenters are still in use today. There were 25 cement tanks built to store the finished wine, ranging in size from 11,000 to 21,400 litres, all still in use today. In the late 70s additional glass fibre tanks were installed, 16 in total, each holding 11,000 litres. Later in the 1990's an extra area was built for white wine production, containing only Stainless Steel Tanks.

In 2004 the farm changed ownership and under the guidance of Herman Coertze, the whole wine cellar was transformed into what it is today. All the old cement tanks were fitted with cooling and new port holes to ease the wine making process. A proper cooling system was installed in the Cellar providing more control over the whole wine making process. The Cellar is continuously modernised to ensure optimum winemaking at Meerendal Wine Estate.



Harvesting grapes for white wine

MAKING WHITE WINE

Making white wine in Meerendal's winery is a big affair. Monitoring of sugar levels start mid-January and are done on a weekly basis. Closer to harvest time the grapes are also monitored for pH, acidity and flavour profile. As soon as a harvest date is set, picking crates are packed out in the vineyard the night before. Picking of grapes are monitored closely at all times. No green or rotten bunches are allowed to be picked.

Picking starts just after sunrise and commences until 11am. This ensures that cool grapes are brought into the cellar, preserving flavours and preventing oxidation of any juices. The grapes are destemmed and slightly crushed to help release juices quickly. Sulphurs and enzymes are added to aid in the preservation and releasing of juices. Dry ice is also used to cool the grapes further down and to prevent oxidation. Depending on the acidity of the juice, grape skin contact is given for 4-6 hours. This helps increase varietal character and also to manipulate Tartaric Acid (TA) in the juice. If the TA is too high, natural enzymes in the skin break down some of the TA, giving a more balanced juice.

After skin contact the juice is drained from the skins to settling tanks. The skins are taken to the press where the rest of the juice is extracted. The juice is then left to settle for two days and then removed from the settling lees into another tank. Juice is inoculated with a selected yeast to start the onset of fermentation. White juice is fermented cold, between 12-14°C for at least 10-14 days. After alcoholic fermentation is completed the wine is kept on its fermentation lees for one month. The fermentation lees are stirred weekly to extract more flavours that are still captured in the dead yeast cells. After a month, the wine is racked from the thick fermentation lees into another tank. The wine is then sulphured up according to its pH and left in the tank until it is ready for bottling. Constant monitoring of the sulphur and volatile acidity is done to make sure the wine stays healthy.

Before bottling, the wine has to go through a few processes. It first needs to be made protein stable, cold stable and then filtered. This is to make sure the wine is clear and does not form any tartrate crystals in the bottle. After the wine is stabilized, sulphur levels are adjusted for bottling. Bottling of white wine in the Meerendal Cellar always occurs between May and June in the year of production.





Punch down of red grapes

MAKING RED WINE

Harvesting of red grapes initially go through the same processes as the white grapes, except that:

- Fermentation include the skins
- Fermentation happens at a higher temperature, usually between 24-30°C, and only lasts 5-7 days
- Punch downs or pump overs are done 3-6 times a day to extract colour from the skins
- After fermentation, red wines go through a second fermentation process called malolactic fermentation or MLF (softening of the wine). In this process, malic acid is converted to lactic acids, making the wine less astringent
- Red wines are aged in oak barrels for up to 2 years before bottling

Fortunately, after 12 to 24 months, most of Meerendal's red wine are protein and cold stable through natural processes during the time in oak. Only a slight filtration is needed to clear the wine.





TANNINS

Tannins are a naturally occurring polyphenol found in the skins, pips and stems of the grape. It can either be good, by giving complexity to the wine, or bad, by adding bitterness and astringency. Decisions in the cellar have a direct impact on how the natural, or added tannins will influence the final product. In red wines the concentration of tannins are higher than in white wines, because the extended contact of skins to the juice gives the tannin time to dissolve in the alcohol and water of the wine. Tannin levels in different grape varieties are indicated below:

High Tannin Levels

- Nebbiolo
- Cabernet Sauvignon
- Tempranillo
- Montepulciano
- Petit Verdot
- Petite Sirah

Low Tannin Levels

- Barbera
- Zinfandel
- Pinot Noir
- Primitivo
- Grenache
- Merlot

Tannins play a major role in the red wine making process because:

- It improves the balance and wine structure (for ageing wines)
- It regulates oxidation – reduction phenomena (spoilage)
- It stabilizes colour matter in wine

Wineries make use of tannins to help with colour stability and structure in wine, especially when working with ‘naturally low tannin wines’.



OAK

Oak is used in the winery to vary the colour, flavour and tannin profile and texture of the wine. It is used during fermentation (alcoholic and malolactic) and for ageing of red wines. French Oak barrels are mostly used. Wood is sourced from various forests and different toasting's are chosen. All these little details have an impact on the final product. In the Meerenal cellar, red wines are matured on oak from 12-24 months, depending on the vintage year and style of wine.



SAFETY & HYGIENE IN THE WINERY

The people of Meerendal are the greatest assets on the Estate. In order to ensure safe working conditions, staff are properly trained and equipped with adequate knowledge to operate machinery and equipment. Recognising and managing the risks and hazards in the everyday working environment is essential to reduce and eliminate accidents and injuries.

Hygiene is equally important and a lot is done on a daily basis to ensure that the cellar and all equipment are properly cleaned. Safety and hygiene in the winery is paramount to make good quality wine.

INTEGRATED PRODUCTION OF THE WINE SCHEME

Integrated Production of Wine (IPW) is a voluntary environmental sustainability scheme established by the South African Wine Industry in 1998. The 2000 vintage was the first to be certified under this scheme. Certification of IPW compliance falls under the jurisdiction of the Wine and Spirit Board (WSB) with a dedicated IPW office responsible for administrating the scheme.

IPW complies with international wine industry environment sustainability criteria, including the 'Global Wine Sector Environmental Sustainability Principles' as published by the International Federation of Wine and Spirits (FIVS) and the International Organisation of Vine and Wine (OIV).

Functions of the scheme are:

- To serve as a basis for the application of the principles of integrated production in the growing of grapes and the production of wine
- To regulate the registration of farms where grapes intended for the production of IP wines are grown, and of cellars in which such wine is produced
- To confirm the correctness of indications relating to the integrated production which are used in connection with the sale of such wine
- To establish confidence in such indications when they are used
- Meerendal Wine Estate is proud to be part of this scheme since 2004





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LABORATORY

Any well-respected winery should have a laboratory, even if only to do the most basic analyses required during harvest time and throughout the year.

SUGAR LEVELS

When grapes are received in the cellar the sugar of the juice must be determined. During the fermentation process the sugars will be monitored daily to make sure fermentation runs smoothly. Sugars are measured in °Balling or Brix.

pH & ACIDITY

Acidity and pH runs hand in hand and are crucial readings to take before and after fermentation. If acidity is too low and pH is too high, an addition can be made to the juice before fermentation, to correct the pH. During fermentation, a lot of acidity will 'drop out' resulting in a high pH and low acidity. This is normal for red wine grapes in the warmer wine growing regions, like South Africa. If it is found that the pH of the wine is above 3.6, a correction should be made to prevent any bacterial spoilage or unnecessary SO₂ additions. A pH meter is used to take the pH and acidity readings. The acidity is usually measured in g/Li.

SULPHUR

Sulphur is probably the most important reading to take. Sulphur is added before fermentation to prevent any oxidation and spoilage. After fermentation, there is usually no sulphur left in the wine and a drastic adjustment has to be made. Care must be taken if the wine has to go through malolactic fermentation. Too much sulphur will result in the wine not finishing its secondary fermentation.

All wine in the cellar must be checked on a monthly basis to make sure that the 'free sulphur' is adequate to keep the wine safe.



Turbidity meter used for white grape juice



Laboratory testing



THE ART OF BLENDING WINE

Blending of wine has been practiced for centuries in the old wine regions. The addition of some white varietals to reds was practiced widely, even today. Wines are all made separately and only blended afterwards. The only varietal that benefits from a partner when aged on oak is Cabernet Sauvignon.

When deciding to make a blend a few factors need to be taken into consideration. The grapes must be picked at optimum ripeness, to ensure the desired affect on the palette.

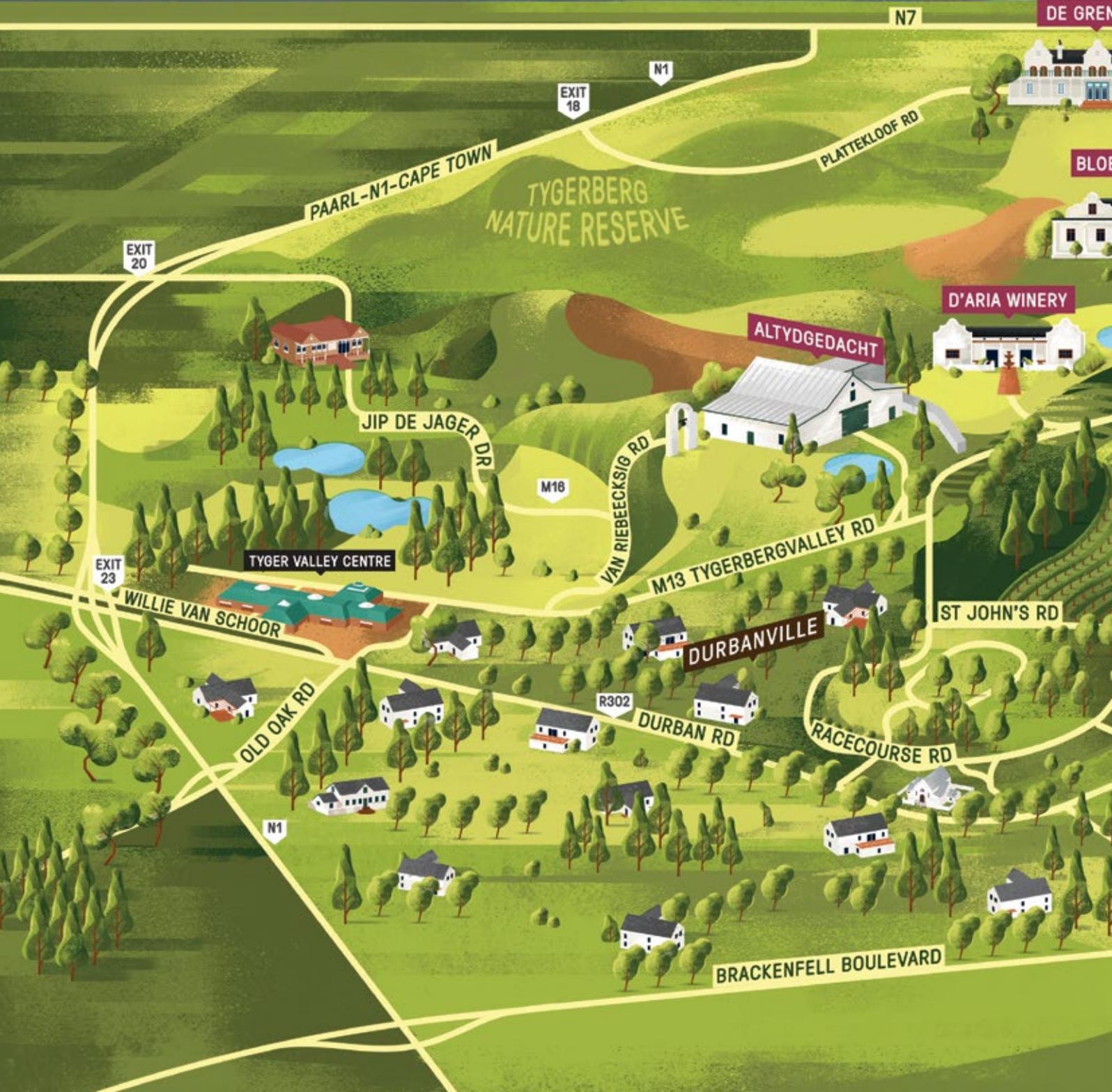
Some varietals favour each other and have specific identities. Merlot is round, fleshy and soft. Cabernet Franc is very aromatic. Shiraz contributes to structure, but can very easily overpower the varietal flavours of the other wines. Petit Verdot is a dark horse, it can either work in a blend or not, depending on the growing conditions. Normally Petit Verdot favours warmer regions, producing powerful, structured wines. Varietals working well together are normally genetically from the same 'family', such as Merlot, Cabernet Franc and Cabernet Sauvignon.

A blend can consist of 2 and up to 13 different varietals, but the magic is to ensure the perfect blend. A blend must have its own signature and be powerful with layers of different flavours on the nose and palate. It must be elegant and have complex fruit and spice components. All these characteristics must carry through to the end. Vintages are influenced by climate. In cooler growing conditions a varietal, like Merlot will usually be a big part of a blend. It brings a perceived sweetness and better structure to the mid-palate.

Oak has to be kept in mind. Different forests and toasting bring different tastes to the wine. Even a 'finished' blend will exist as separate cooper components. The final bottling blend is only created at the last pump-out, when oak notes of molasses and vanilla are delicately integrated. Ideally the resulting blend is greater than the sum of all its different wines.









DURBANVILLE

WINE VALLEY





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