AN INSIGHT TO KLEIN CONSTANTIA'S FARMING PHILOSOPHY

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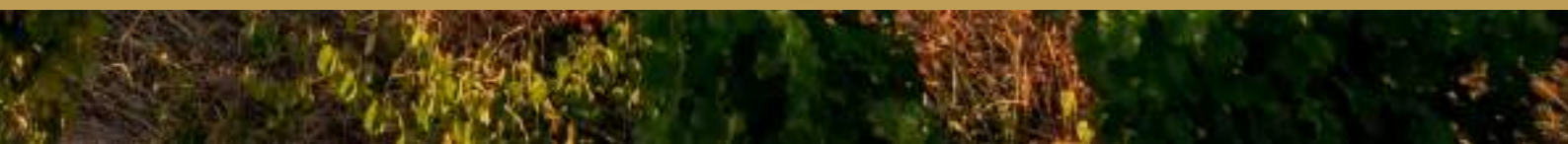


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WE CHERISH THE CONTINIOUS **LEGACY**

of a place that can only be described through a feeling when your feet touch the ground.

- **CRAIG HARRIS** |Farm Manager & Viticulturist

OUR FARMING
PHILOSOPHY

At Klein Constantia, our goal is to create a symbiotic relationship where every organism, from the tiniest soil microbe to the free-living wild animals, coexists in a mutually beneficial system. In our pursuit of excellence, we recognize the interconnectedness of all living beings and strive to cultivate vineyards that not only produce exceptional wines but also serve as havens of biodiversity and vitality. By nurturing this harmonious balance between man and nature, we aim to create our own version of Heaven on Earth—a place where every element thrives in perfect synergy.

MATTHEW DAY | Winemaker

CRAIG HARRIS | Farm Manager & Viticulturist

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Klein Constantia's rich history and prosperous future take hands to find the *treasure* in today.


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THE MOST UNIQUE **TERROIR**

A remarkable combination of factors contributing to the character of our grapes.

GEOGRAPHY & TOPOGRAPHY

Klein Constantia's vineyards consist of 67 hectares, situated on the south to east slopes of *Vlakkenberg* mountain, ranging from 70 to 343 meters above sea level; with the overall Estate making up 146 hectares. The vineyards benefit from cooler temperatures, especially at higher elevations. This cooling effect is due to reduced sunlight exposure and a consistent ocean breeze. The ocean air is carried by either the South Easter wind from Muizenberg, 7 kilometers away, or the North Wester wind from Hout Bay, 5 kilometers away.

The diverse topography of the mountain slopes greatly enhances the complexity of our Sauvignon Blancs. Notably, the high-altitude blocks, sheltered by *Vlakkenberg* mountain, experience afternoon shadows that extend the ripening period. This results in grapes with intensified and refined aromatics while preserving their natural acidity. The east-facing slopes, which ripen earlier, produce more fruit-forward wines, whereas the south-facing slopes, which ripen later, provide texture, acidity, and freshness. Due to the varying slopes and aspects, the Sauvignon Blanc harvest spans up to six weeks.

CLIMATE

Klein Constantia summers bring mostly comfortable, dry conditions with clear skies, while winters are characterized by long, cool spells accompanied by wet weather and occasional cloud cover. Throughout the year, the temperatures typically range from 8°C to 25°C, with rare occurrences of temperatures dipping below 7°C or exceeding 30°C. This climate makes the ideal growing conditions for Muscat de Frontignan, used to make our natural sweet dessert wine, Vin de Constance, as the berries can ripen fully before skin shrivelling begins it produces raisin-like grapes with remarkable intensity of flavour as well as natural acidity.

WATER

Klein Constantia received an average annual rainfall of 830 mm over the past 10 years, with 580 mm being the least in 2015, and 1260 mm being the highest in 2023. We have practiced dryland farming since 2018, having only irrigated conservatively (if at all) since 2014. All water used on the farm comes from our own dams, which are filled by rainwater and run-off from the mountains. They are registered with the Department of Water Affairs and are kept as free of debris as possible. We have three filtration systems installed on the estate supplying clean water for consumption by guest and residents, irrigation of the gardens, and for cellar and farm usage.

SOIL

The vineyards are situated on the slopes of Constantiaberg mountain. At higher elevations, Peninsula Formation Sandstone, also known as Table Mountain Sandstone, overlays granite intrusions. Weathered Peninsula Formation sandstone is characterized by its sandy texture and low nutrient and water-retention properties. This facilitates efficient drainage in these blocks and contributes significantly to erosion control on the mountain. These Peninsula

Sandstone properties lend richness, a mid-palate, and roundness to the wines.

On the mid- and lower slopes, decomposed granite prevails. The mid-slopes predominantly feature a drier Glenrosa soil with a saprolite subsoil rich in clay and iron. Conversely, the lower slopes are dominated by a well-drained, deep, and fertile Oakleaf soil, distinguished by its high clay content. This clay content ensures effective water retention, crucial during the extended dry summers of the Cape. The soil's capacity to guide water to the roots facilitates optimal leaf canopy development and fruit ripening. These Granitic soils provide saline and savoury flavours to the wines.

SOUTH-EASTERLY WIND

Our vineyards benefit from the rejuvenating South-Easterly winds carrying oceanic influences (limiting disease pressure and cool evening breezes preserves aromas during ripening), while the more forceful North-Westerly winds that brings structural damages are predominantly mitigated by the protective barrier of the *Vlakkenberg* mountain.

GRAPE VARIETIES

We plant varieties that suits our terroir. Sauvignon Blanc is ideal in our area since a perfect balance is created in our Sauvignon Blancs between a crisp acidity and ripe fruit. The Sauvignon Blanc is divided into 43 small blocks, with a total 34 ha, each monitored on its own timeline and farmed according to its needs.
Perdeblokke ("Horse blocks") is the most prestigious block, and a single wine is made from this block yearly.

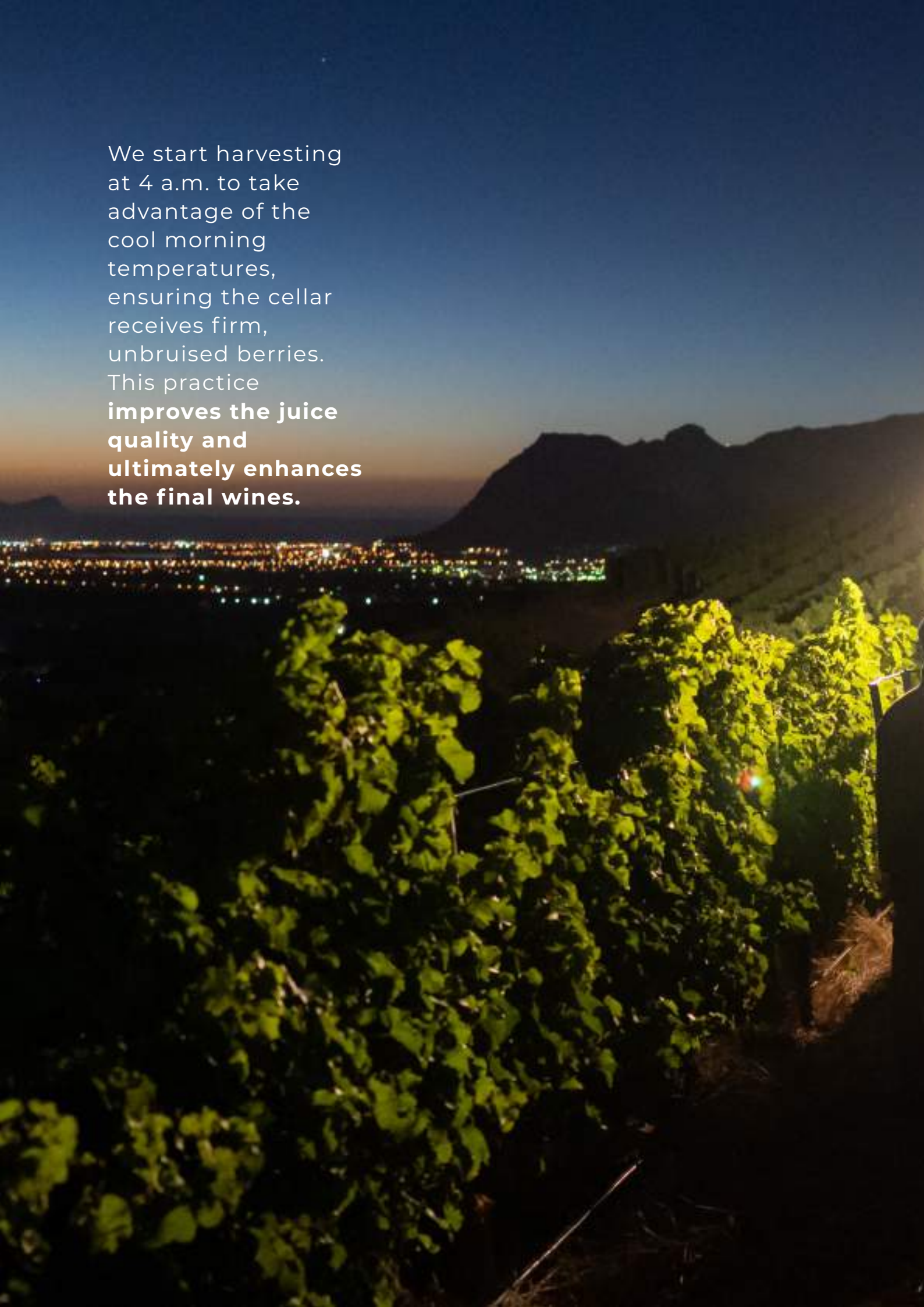
Clara is a combination of the more elevated blocks, 260-300 meters above sea level, situated on granite soil. For the Klein Constantia Estate Sauvignon Blanc, each block is fermented separately to highlight the terroir before blending. Various cellar techniques respect each block's unique characteristics.

Muscat de Frontignan, integral to Klein Constantia's history, covers 12.8 hectares and is cultivated with precision, using both, VSP-trellised as well as traditional bush vine methods from the 1800s.

The benefit of the bush vine is that due to its shape it promotes early shrivelling of the Muscat berries which allows for the grapes to concentrate both sugar and acidity early in the season. Providing the much-needed acidity when balancing the higher sugar levels.

Other white varieties on the estate include, Chardonnay (still wine and Cap Classique), Riesling (use to make a single still wine from it, but now a blending component), Chenin Blanc, Sauvignon Gris, Hárslevelű, and Petit Manseng (all blending components) with the overall white wine grapes comprising 70% of our vineyard plantings.

30% of the hectares are selected for red varieties. These create a unique Klein Constantia Red blend, featuring floral and elegant fruit nuances with a refined tannin structure due to the cooler climate and long ripening period, comprising of predominantly Cabernet Sauvignon, Malbec, Petit Verdot and Shiraz.



We start harvesting at 4 a.m. to take advantage of the cool morning temperatures, ensuring the cellar receives firm, unbruised berries. This practice **improves the juice quality and ultimately enhances the final wines.**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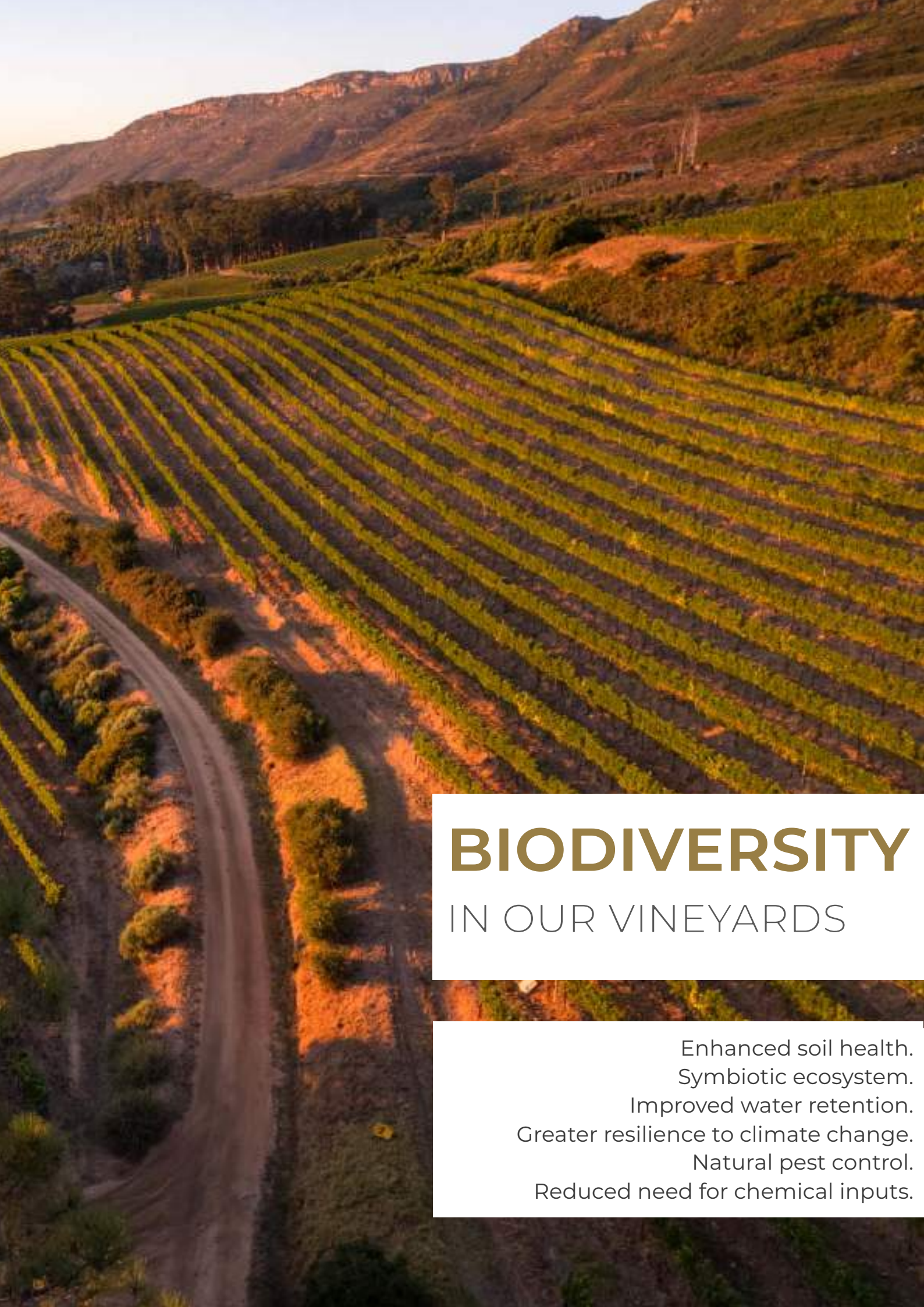

BIODIVERSITY

IN OUR VINEYARDS

Enhanced soil health.
Symbiotic ecosystem.
Improved water retention.
Greater resilience to climate change.
Natural pest control.
Reduced need for chemical inputs.

FLORA

NATURAL CORRIDORS AND HEDGEROWS

Joining the Biodiversity and Wine Initiative (BWI) in 2010 marked a pivotal moment in our journey towards conservation excellence, culminating in our achievement of Conservation Champion status in 2011, being the first winery to achieve this award in the Constantia Valley.

Nestled in the Cape Winelands, where 95% of South Africa's wine is produced, we're surrounded by two global biodiversity hotspots: the Succulent Karoo and the Cape Floral Kingdom.

These unique habitats, found nowhere else on Earth, remind us of the priceless natural heritage we steward.

In our quest to restore native fynbos habitats, we have cleared vast areas of invasive alien vegetation and undertake annual plantings of 100 indigenous trees and shrubs each spring.

These efforts enhance the diverse fauna and flora near all vineyard blocks, especially in areas affected by the 2015 fire. Here, the introduction of Silver trees serves as a strategic measure to mitigate future fire risks while preserving the fynbos ecosystems.

While native plants are our priority, we temporarily use licensed alien species, like beefwoods, to quickly establish windbreaks protecting newly planted vineyard blocks. Upon completion of its purpose, we replace them with native

species, aligning with our vision of a flourishing natural landscape.

FORESTS

Our farm encompasses a total of 28 hectares of forest spread across seven distinct areas. The largest among these is Grootboskloof, covering 17.5 hectares. Notably, the top part of Grootboskloof, situated on the mountain outside the farm fence, have been committed to stewardship in collaboration with the World Wildlife Fund. This agreement stipulates the preservation of the natural vegetation within this 12.4-hectare area, ensuring its integrity.

COVER CROPS

We cultivate cover crops between vine rows to serve a multitude of purposes: preventing erosion, enhancing soil structure, augmenting available nutrients, and fostering beneficial microbial activity. Each crop is meticulously chosen to avoid attracting baboons, a key consideration in our mountainous terrain. In our mountainous vineyards, we primarily plant bitter lupins with the aim of capturing nitrogen and minimizing our reliance on artificial fertilizers. In areas less frequented by baboons, we diversify our approach, sowing blends comprising up to eight different seed types. These blends include lupins for nitrogen enrichment, radishes to alleviate soil compaction, barleys for weed suppression, and flowers to support local bee populations.

FAUNA

DOMESTIC ANIMALS

We integrate domestic farm animals into our vineyards to enhance the ecosystem without detracting from our primary focus on viticulture.

We allow pigs to roam freely within the vineyard blocks during the day

Cows are rotated across the farm, grazing in areas adjacent to the vineyards and in open fields that are left fallow for two years before new vines are planted.

Chickens are confined to the shed area for their safety, as they are vulnerable to predation by caracals.

CARACALS AND RING-TAILED GENETS

Both are known to prey on rodents such as mice and rats. Although primarily carnivorous, they can consume insects, including agricultural pests such as grasshoppers, beetles, and caterpillars, contributing to natural pest control in vineyards, helping to mitigate insect damage to grapevines and other crops. These wild cats are encouraged but come at a cost because we lose a lot of our chickens to them.

Caracal in the vineyard.

PORCUPINES

There are several porcupines living on the farm.

Their feeding habits can contribute to seed dispersal, aiding in the regeneration of plant species within the ecosystem.

BEES & WASPS

Wild and commercial beehives are readily observable between our vineyard blocks. Bees play a pivotal role as efficient pollinators of cover and wildflowers, thereby contributing to enhanced soil health and biodiversity throughout our vineyard ecosystem.

Moreover, the presence of bees attracts beneficial wasps, which serve as natural predators of mealybugs in our vineyards. Mealybugs, notorious vectors of grapevine leafroll virus, pose a threat to grape quality by excreting sticky honeydew on bunches. Hence, the presence of beneficial wasps is actively encouraged as they aid in maintaining grape quality and vineyard health.

A wasp nest in the vineyard.

BIRDS OF PREY

The farm is home to a rich spectrum of birdlife, including African harrier hawks, fish eagles, jackal buzzards, herons, giant kingfishers, barn owls, and bats.

We have approximately 3m high wooden posts between the vineyards to encourage them onto the farm.

A steppe buzzard on a vine branch.

A rescued falcon found on the farm that injured its wing in February 2024.

Predatory birds like African harrier hawks, fish eagles, and jackal buzzards control rodent and insect populations, reducing crop damage.

Herons and giant kingfishers act as scavengers, aiding in nutrient recycling and waste reduction on the farm.

Barn owls provide eco-friendly rodent control, lessening the need for pesticides.

Bats indirectly support vineyard health by reducing insect pests.

HADIDA IBISES

Hadidas benefit grape farms by naturally controlling pests like beetles, grubs, and snails, reducing the need for pesticides. Their probing beaks aerate the soil, improving water absorption and root health. They also add natural fertilizer as they forage, enriching the soil without harming the grapes. By supporting pest control and soil health, hadidas contribute to a more sustainable vineyard ecosystem.

SNAKES

Cape cobras and puff adders, native to South Africa and found in our vineyards, play valuable ecological roles. However, being venomous, they require careful management to ensure worker safety.

Both species are highly effective in controlling rodent populations, a significant pest in vineyards. Rodents can damage vine roots and consume grapes, so unchecked infestations pose a risk to productivity. Cape cobras and puff adders also help regulate other small reptile and pest populations that could threaten the vines. Their presence alone can deter certain animals from venturing too close to the vineyard.

By maintaining a balanced ecosystem, these snakes contribute naturally to vineyard health when managed responsibly.

Cape cobra

Puff adder

BABOONS

There are three baboon troops circulating in the area that often come to feed in the vineyards and sleep in the Eucalyptus forests. They cause more damage to us than they are beneficial, therefore we have baboon monitors regulating their movement on the farm.


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A Movement to

Regenerative Farming

At Klein Constantia, we are committed to farming for the future by embracing practices that prioritize both environmental stewardship and operational efficiency.

ORGANIC AND BIODYNAMIC INFLUENCES

Tracey and Petrus preparing the biodynamic compost preparations to put in the compost heap.

Although our farm isn't officially accredited as organic or biodynamic, we wholeheartedly embrace these methods in our practices.

Biodynamic preparations improve compost by stabilizing nutrients, increasing microbial diversity, and enhancing decomposition and humus formation. They make essential nutrients bio-available for healthy plant growth.

Research shows these preparations boost soil life and promote stronger, pest- and disease-resistant plants. Additionally, biodynamic compost increases carbon in the soil, aiding climate balance.

The biodynamic spray preparations are made up of horn manure or silica, that also undergoes a fermentation process, they are prepared by rhythmic stirring in water and sprayed onto either soil or plants depending on the growing cycle and time of year.

Stirring is done with small amounts of preparations and at certain rhythms, which is why working with the preparations is also called homeopathy for the soil.

The sprays either enhance the life of the soil and the relationship between soil and plants (increasing plant immunity) or strengthen photosynthesis and enhance ripening.

We have dedicated biodynamic and organic blocks, where we strictly follow respective principles, however we include these principles in our conventional blocks as well where possible.

We carefully select fungicides and limiting their use as much as possible, with the environment in mind, but also to do what is best for the health of the vines and grapes. Our integrated pest management strategy is highly effective in combating

pests and diseases, promoting environmental stewardship and minimizing our ecological footprint.

We employ mechanical weed removal to reduce herbicide use. In areas where mechanical weeding is not feasible due to steep terrain, we utilize softer or organic weed killers. Additionally, we practice cover cropping using a no-till planter to minimize soil disturbance. These cover crops serve as mulch, effectively controlling weeds while enhancing soil health.

OPERATIONAL EFFICIENCY

To optimize operational efficiency and minimize environmental impact, we use an automated system linked to a computer program to closely monitor fuel consumption. This data-driven approach enables us to track vehicle fuel usage, identify trends, and implement measures to reduce consumption year after year.

We utilize lightweight vehicles, such as motorcycles, quadbikes, and RTVs, which benefit the vineyards by causing less soil compaction and offering better fuel economy.

Additionally, we invest in high-efficiency machinery, including tractors designed for minimal soil disturbance and multi-row mist blowers, to further enhance our operational efficiency and spray effectiveness.

While we have tested the use of biodiesel, further investigation is required to assess its practicality and efficiency in machinery performance.

SOIL PROTECTION AND QUALITY

We have several ways in which we protect our soils, from formal drainage systems, designed to prevent soil erosion, to a specialized tractor that can operate on slopes with minimal compaction and erosion. Cover crops are essential in the improvement of our soils in terms of

boosting organic matter, increasing biodiversity, and anchoring the soil during the winter rainfall months to minimize erosion.

MITIGATING EROSION

With our steep-sloped vineyards, road maintenance and erosion control are priorities.

To mitigate erosion and safeguard our land, we partnered with a reputable civil engineering and construction company to install comprehensive roadways and water channels.

These installations direct water away from vulnerable slopes into strategically positioned catchment dams. Our dedicated team performs ongoing maintenance, ensuring the integrity of our roads and channels, and proactively clears gutters before anticipated rainfall events.

COMPOSTING & MULCHING

Our compost is divided into two groups, biodynamic and conventional. We reserve the biodynamic compost for our biodynamic blocks and this compost is made from only “clean” material such as garden waste and garden plants that haven't been sprayed with any chemicals. Manure from our cows is incorporated into the biodynamic compost, while the conventional compost is made from all suitable farm material and not only cow but also pig and horse manure. This compost is used to improve poor soils, bringing weak spots within vineyards into balance.

The compost heaps get turned regularly to help the decomposition process and aerate the piles.

WASTE MANAGEMENT

Managing waste is another cornerstone of our sustainability ethos. We responsibly collect recyclable materials such as plastic, cartons, metal, and glass, partnering with external companies for proper disposal. Organic waste from our gardens, farm, and cellar is meticulously chipped and mulched, then reused to enrich vineyard soils and nurture biodiversity.

PEST CONTROL

We use integrated pest management across the farm to control mealybugs and aphids in the oak trees.

To manage the banded fruit weevil beetle, we found that leaving a sacrificial shoot at the base of the trunk is effective with minimal chemical input.

For baboons, we installed a solar-powered electric fence and employ baboon monitors. We also removed all fruit trees, avoided vegetable gardens, and securely lock bins.

For birds, we use bird tape and have erected perches to attract birds of prey, which scare away smaller birds like the Cape white-eye. During harvest, we install bird netting to protect the crop.

CARBON SEQUESTRATION

We practice carbon sequestration by implementing sustainable farming techniques such as cover cropping, mulching, reduced tillage, and organic composting. These methods enhance soil health and increase its ability to capture and store atmospheric carbon dioxide, contributing to climate change mitigation. Additionally, maintaining healthy vines and planting trees around the vineyard further supports carbon absorption and storage in both biomass and soil.

In young blocks where the root systems and a strong trunk and shoots need to develop, we use hay as mulch to retain soil moisture and support their growth.

WATERPLANT INSTALLED TO USE MOUNTAIN WATER

A comprehensive water filtration system has been installed for consumption purposes across the entire farm. Mountain water is collected in two dams, filtered, and then distributed to all buildings. Additionally, two separate filtration systems are dedicated to water used in the gardens and around the farm. This approach leverages our own water sources, ensuring high-quality water for all farm operations.

RENEWABLE ENERGY

We are committed to a greener future by implementing eco-friendly principles.

Our farm buildings are partially powered by renewable energy, with 40% of our total electricity consumption sourced from solar energy. Our goal is to become completely off-grid by 2032.

FIRE MANAGEMENT STRATEGY TO COMBAT CROP LOSS

In response to the heightened fire risk during the summer months in the Western Cape province, we have devised a robust fire management plan to safeguard our property and surrounding ecosystems. A critical part of our strategy involves the annual clearance of fire breaks around the farm, especially in high-risk areas such as the fynbos and Eucalyptus forests. Additionally, cycling and walking paths in these forests serve dual purposes as recreational trails and vital firefighting access routes, promoting eco-tourism while enhancing safety.

To ensure rapid response capabilities, we maintain a 600L water-filled firefighter skid unit on standby over weekends and provide comprehensive firefighting training for our employees with protective fire equipment.

Our proactive measures are designed to effectively combat fire outbreaks, protecting lives, livelihoods, and biodiversity.

At Klein Constantia, each person's unique qualities are invaluable, creating a noticeable gap when they are not present.


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VISIONARY

INNOVATION

Small steps to significant success.

PRECISION AGRICULTURE

Klein Constantia have integrated drone and satellite imaging technologies into vineyard operations to implement a vineyard wellness program centred on vine health, vigour, and canopy area.

This information is helpful for optimize fertilizer plans, as well as pruning and harvesting strategies.

HERITAGE CLONES

Our oldest vines, dating back to 1983, originating from cuttings of, what is believed, the original Muscat de Frontignan imported to the Cape in the 1650s, were nurtured in our mother block, Block 322. Due to the block being affected by various diseases, necessitating its removal. However, from this block, seven healthy Muscat vines were meticulously selected and underwent thorough cleaning and analysis. Ultimately, two superior clones, WM271 and WM612, were identified and are now being multiplied for replanting in 2026, ensuring that Block 322 will be rejuvenated with its own meticulously curated material.

SUITABILITY OF NEW VARIETIES

We know that the legendary Constantia wines of the 18th and 19th centuries were crafted from several Muscat varieties as well as Chenin Blanc, Semillon, and Pontac.

To enhance freshness and complexity, we are now experimenting with other grape varieties. Our experimental vineyards already include Chenin Blanc, Hárslevelü, and Petit Manseng.

In June 2024, we established a new block of Furmint, the second Hungarian variety, after Hárslevelü, of Tokaj fame, on Klein Constantia.

Additionally, we will reintroduce Pontac, a historically significant variety from the 1800s, now a rare find globally.

PRUNING AND TRELLISING EXPERIMENTATION

We explore various trellising techniques and canopy management strategies to enhance grape ripening and flavour development, often conducting in-house experiments involving leaf breaking and canopy management.

However, our most essential collaboration is with the consulting and training company, Simonit and Sirch. They've developed a precise pruning method, which they impart to pruners through rigorous coaching in the vineyard. This approach aims to ensure vine longevity and achieve optimal vegetative and productive balance.

SOIL ASSESSMENTS

Our viticulturist conducts annual bulk soil health sampling on the farm's three primary slopes that is analysed by Brookside Clinical Laboratory in Pennsylvania as part of a long-term experiment to compare the general soil health over the years. Additionally, a comprehensive soil analysis is performed for each block every three years to evaluate the soil condition and identify necessary corrections.

For each new block, a soil map is created by a soil scientist, providing detailed information on the soils present within the block.

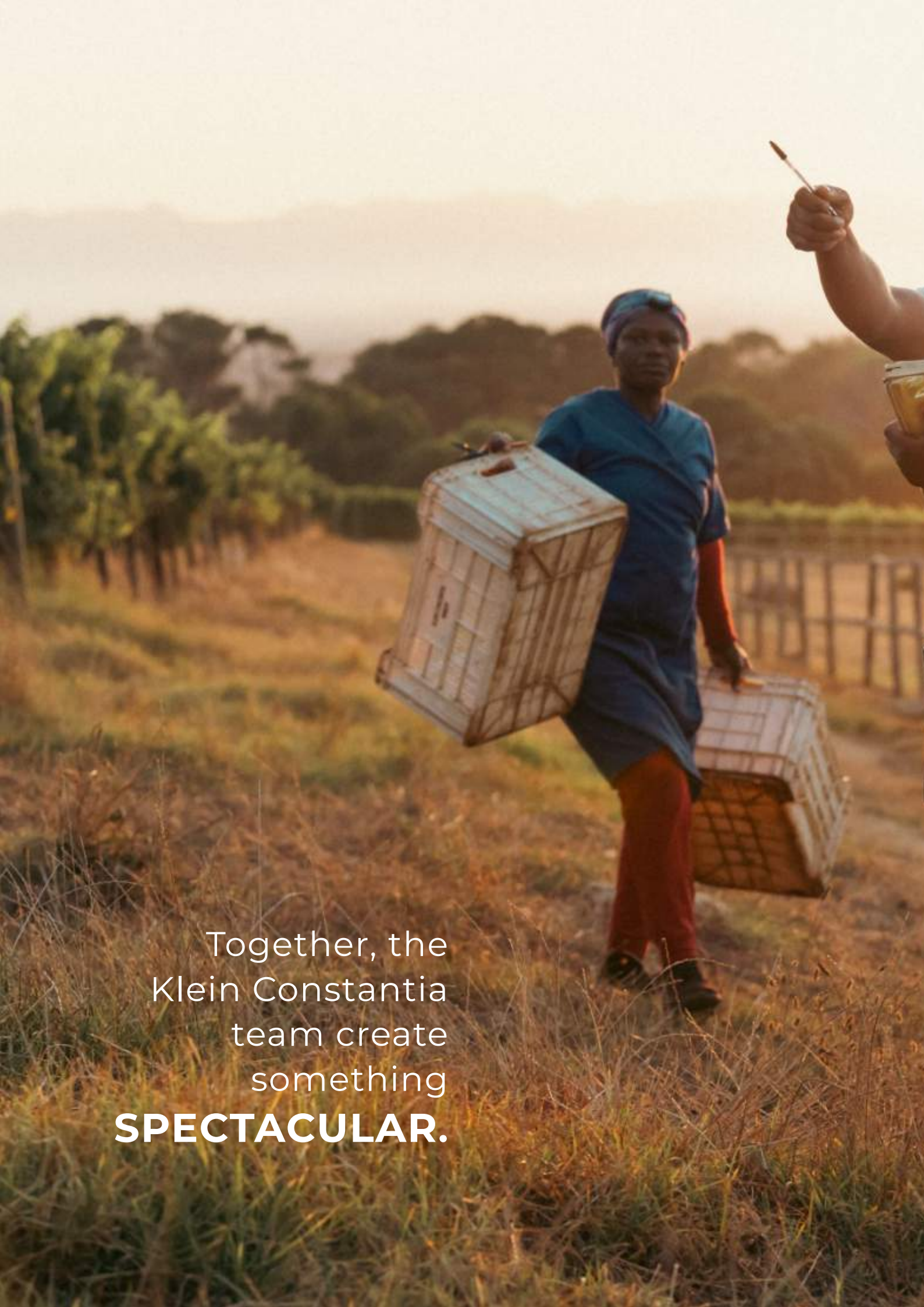
Thereafter, NDVI imaging is utilized to pinpoint weak growing vines, often indicating poorer soils.

IMPROVE SPRAY EFFICIENCY

For the 2025 season's vineyard sprays we are anticipating the use of drones to experiment with the foliar spray efficiency in order to reduce the number of products and sprays being applied to the vineyard.

GOING GREENER

Currently, a quad bike is being converted from petrol fuel to electric. If this is a success, it can be an option for other vehicles as well.


Together, the
Klein Constantia
team create
something
SPECTACULAR.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The Home of

Vin de Constance

The luscious, sweet wine that has put South African wines on the map.


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2024 Edition

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