

## Water Stewardship Case Studies

South Africa



### Case Study 3: De Keur

Worldwide Fruit Limited are investing in Water Stewardship across their supply-base and will be presenting 12 Water Stewardship case studies from supplying farms over the next 12 months. Their aim is to raise awareness of the challenges that South African growers deal with on a daily basis. Water management challenges and the solutions implemented to overcome them will be explored, but we will also see how growers are driving ongoing good management of water resources. Apart from water, case studies will also look at current sustainability strategies implemented and plans for improving sustainability into the future.

- Case study 1: Boomerang Fruits
- Case study 2: Dennegeur Farms
- Case Study 3: De Keur**



## Summary

The De Keur Group consists of three separate businesses, De Keur Estates, De Keur Packaging and De Keur Marketing, and is truly a family run business who is committed to making a difference in the immediate community. Three of the five De Keur Estates farms are situated in the Koue Bokkeveld region, about 200km north-east of Cape Town, in South Africa’s Western Cape Province, while the other two are closer to the town of Ceres, about 50km south of the Koue Bokkeveld. De Keur Estates has a long history of supplying first class agricultural produce, as the first farm was bought in 1934. De Keur Packaging was acquired in 2001. As part of the De Keur Group’s sustainability journey, the first solar panels were installed at De Keur Packaging in 2018. De Keur is passionate about sustainable farming through regenerative agriculture. They are convinced regenerative farming is the answer for them to be more sustainable and produce healthier and more nutritious fruit. De Keur has done a lot of work on using water more sustainably, especially since a severe drought hit large areas of the Western Cape province from 2015 to 2018, including the Koue Bokkeveld. De Keur truly cares for the environment, they love their people, they love their plants, they love the soil, and they love what they do.

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# History & Culture

The De Keur Group consists of three separate businesses: De Keur Estates, which produces a wide variety of fruits and vegetables (apples, pears, nectarines, cherries, berries, and onions); De Keur Packaging, a packaging facility on the outskirts of Ceres, acquired in 2001; and De Keur Marketing, who is responsible for the marketing of all De Keur's apples, pears and onions and also markets fruit and vegetables from other producers in the area.

We had the privilege of visiting the original De Keur farm where we met with Charl du Toit, Managing Director of De Keur Estates, and Anton de Jager, Head of Regenerative Agriculture & Farm Coordinator. We also met with Cathrine Smuts, General Manager of De Keur Marketing, and Debbie Schreuder, Marketer for all UK business, who showed us the ins and outs of De Keur Packaging.

Three of De Keur Estates' farms are situated in the Koue Bokkeveld region. Translated from Afrikaans, Koue Bokkeveld means "Cold Buck Shrubland" and is one of the areas with the coldest winters in the Western Cape. Situated ~200km north-east of Cape Town, ~50km north of the town of Ceres, the plateau of the Koue Bokkeveld is farmland, producing predominantly fruits and vegetables. Some of the oldest farms in South Africa are located here.



De Keur Estates has a long history of supplying first class agricultural produce and currently consists of five farms. Charl's grandfather, also named Charl du Toit, purchased the first farm, De Keur, in 1934, and this is also where the company name originated. In 1973 they purchased a second farm, and in 1981 a third farm. These three farms are situated in the Koue Bokkeveld region. In 2008, De Keur purchased two additional farms closer to Ceres.

The De Keur Group is truly a family run business. In recent years, a number of the "next generation" has joined the business in various key roles, including general management, production, marketing, packaging, and administration. The whole family is proud to be associated with the De Keur legacy that their grandfather began in 1934 and look forward to preserving his legacy for generations to come.

# De Keur's People

“I think what is different about this company, we love our workers, we don't like them, we love them. They are part of the family and we treat them as such”  
– Anton de Jager

De Keur is committed to making a difference in their immediate community. They have their own childcare facilities on the farms, where children get breakfast and lunch. Teachers are all trained to give children the right guidance from a young age to make them successful later in life. There is also a clinic, making it possible for employees to be treated at the work place.

De Keur have recently shortened their working hours and found their productivity to increase – “...people are happier and work harder... we also want the parents to have more time with their kids.”

Sport and recreation play an important role in the social lives of De Keur's workers. De Keur promotes and sponsors various teams from each production unit to participate in local leagues, and one of their choirs were regional finalists in a choir competition.

Training and development are also key aspects in the De Keur Group. For example, De Keur Estates have a scholarship plan in place for the children of employees who wish to further their studies at university. Their proudest export in this regard is Breyton Paulse, a much-loved South African rugby player who played 64 matches for the Springboks and grew up on the original De Keur farm.



Children aged 3 months to 5 years attend De Keur's childcare facilities. Photo: De Keur



De Keur's karate students. Photo: De Keur



De Keur Packaging rugby players with their hero, Breyton Paulse. Photo: De Keur

# De Keur Packaging

Key to the success of any fruit farming business is efficient packaging and swift transport. The De Keur Group purchased a fruit handling and packing facility on the outskirts of Ceres in 2001. This facility, De Keur Packaging, packs all of De Keur Estates' fruit, as well as offer contract packing options to other South African producers. De Keur Packaging has the latest technology ensuring that the best methods are followed for optimal water use, fruit quality and shelf life. As part of the De Keur Group's sustainability journey, the first solar was installed at De Keur Packaging in 2018.



Photo: De Keur



Photo: Carina Wessels



Photo: Carina Wessels



Photo: Carina Wessels



Photo: De Keur (pre-covid)

# De Keur Estates

## Regenerative Agriculture

### What is Regenerative Agriculture?

Regenerative Agriculture describes farming and grazing practices that rebuild soil organic matter and restore degraded soil biodiversity. It has many benefits, such as improving the water cycle, and storing more carbon in the ground, ultimately aiding in climate change reversal.

De Keur is passionate about sustainable farming through regenerative agriculture. A couple of years ago Anton de Jager, De Keur Estates' Head of Regenerative Agriculture, attended a workshop on nature's trophic levels and a whole new world opened up to him. Anton decided that he wanted to learn more and has been doing courses from Dr. Elaine's™ Soil Food Web School over the last year and a half. These courses are aimed at developing your knowledge in regenerative agriculture.



Photo: Carina Wessels

Harvesting pears on the original De Keur farm.

### Dr. Elaine's™ Soil Food Web Approach

Dr. Elaine Ingham is an American soil biologist and founder of Soil Food Web Inc. She is known as a leader in soil microbiology and for her research of the soil food web.

“Dr. Elaine's™ Soil Food Web Approach is the key to rapid and effective soil regeneration. Only with the complete soil food web in place, can the ecological functions of the soil be restored, protecting, and purifying the world's waterways, reversing climate change and providing super-nutritious foods. Our mission is to empower individuals and organizations to regenerate the soils in their communities” - <https://www.soilfoodweb.com/>

# De Keur Estates

## Regenerative Agriculture

“When I came to the farm 22 years ago, the believe was that you can fix everything with chemistry, you don’t need good soil,” says Anton. Now, De Keur is moving to a more biological approach, working on putting the microorganisms back into the soil. Healthy soil helps maximise water use efficiency in rain-fed and irrigated systems, and also store more carbon, among other benefits.

“If we want to stop global warming, then everyone has to do it, because we can put the carbon back in the soil.” – Charl du Toit



Photo: Carina Wessels

Charl du Toit, Managing Director of De Keur Estates

In their orchards, De Keur focusses a lot on soil preparation and there is quite a lot of science involved. Anton uses a microscope to look at the microorganisms in the soil. They found that the quality of the compost they have been using is actually very poor. “It’s good enough to use as fertiliser, but in terms of getting the soil life going, there are actually more bad things in the stuff we buy than good things.” The plan is therefore to look into making their own compost. According to Anton you will not believe the amount of soil microorganisms in orchards where they have trialled their newly prepared soil, compared to the limited soil life in orchards that have had compost and mulch for up to 3 years. “It happens fast, it can happen faster, but it’s a difficult process.”

De Keur believes that “farming is all about biodiversity, not about monocultures”, and their aim with this new approach is to be more sustainable and “to produce healthy fruits and vegetables, nutrient dense fruits, that few people produce at the moment.”

# De Keur Estates

## Water Management

Most of De Keur's water comes from rainwater runoff from the mountains which run into private dams on the farms. They accumulate their water in winter and use it in summer, as summers in the region are very dry. They do not get any water from a water scheme. They do have some boreholes, but it's not their main source of water. There is a river that runs through one of their farms situated between Ceres and Citrusdal, the Leeuwrivier ("Lion River"), which runs into the Olifants/Doorn catchment.

De Keur has done a lot of work on using water more sustainably, especially because of the severe drought from 2015 to 2018 that hit large areas of the Western Cape province, including the Koue Bokkeveld. Before the drought they started computerising their irrigation system and according to Charl that saved them a lot of water. 2017 was an especially dry winter where they got only about half of their normal annual rainfall. They had to take out some of their older orchards. However, they found that getting rid of orchards earlier than they used to, actually helped the business be more profitable. Charl says that "the new orchards we are planting now is definitely more water friendly than the older ones. The old orchards really used a lot of water, and the soil was not very well prepared. We also used to plant wide rows, so evaporation was a lot higher. We are definitely working a lot smarter with water now."



A private dam on the original De Keur farm in winter (top) versus summer (bottom).

# De Keur Estates

## Water Management

Charl says that they also learned a lot about how to use groundwater more sustainably. Some of their boreholes dried up in the 2017 year. They use solar panels at their boreholes now, pumping water for less hours per day, and not stretching the boreholes to its maximum anymore.

Other water saving initiatives at De Keur include putting wheat straw on the orchard floors to reduce evaporation of water. De Keur also reduced the radius of their micro spitters. They started with drip irrigation in some orchards and saw good results with this method. Regenerative agriculture is also part of their water management strategy. Healthier soil has better water holding capacity, as the soil ultimately becomes like a reservoir. De Keur also put up nets over some of their orchards and they found a 15-18% saving on water, with the additional benefits of protection against hail and sunburn, as the Koue Bokkeveld experiences extreme heat in mid-summer.

Photo: Carina Wessels



Nets have many benefits, such as reducing evaporation of water.

Photo: Carmen Naude ([www.hortgro.co.za](http://www.hortgro.co.za))



Wheat straw on orchard floors to reduce evaporation of water.

Photo: Carina Wessels



Harvesting pears on the original De Keur farm.

Photo: De Keur



Apples ready for harvest.

# De Keur Estates

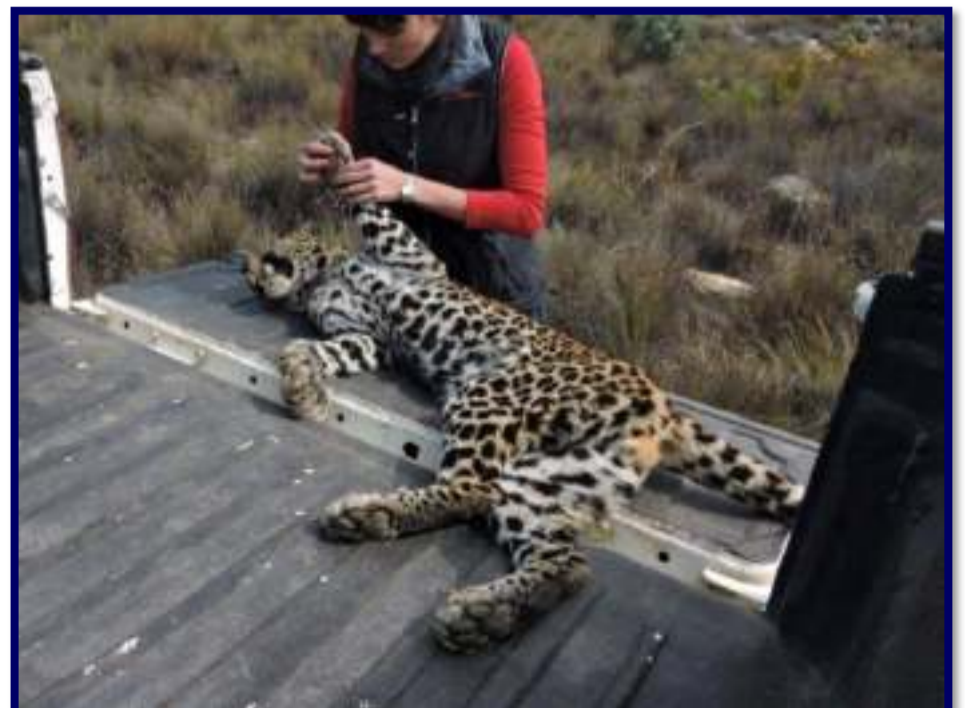
## Environment

The Koue Bokkeveld's farms are large, but little of it is cultivated. The original De Keur farm is 2500 hectares, although they only cultivate about 200 hectares. The farm consists of a lot of mountainous areas where a variety of animals such as birds, buck, and even leopards are found.

A Cape Mountain Leopard was caught in a trap on one of De Keur Estates' farms. Fortunately, with the help of CapeNature and the Ceres Veterinary Hospital, they were able to treat and free the beautiful creature back into the mountains.

It saddened everyone at De Keur that this happened on one of their farms:

**“It just reminded us again of the evil of traps and the job that we have to educate everyone about its impact on our beautiful wildlife.”**



A Cape Mountain Leopard caught in a trap. Photos: De Keur

# Plans For The Future

“Our main focus will be regenerative farming, we feel really strongly about that. We’re still in our baby shoes with it, but everything we do at the moment and all our plans for the future are based on that.” – Charl du Toit

De Keur will be trialling cover crops in their orchards this year. Cover crops have been found to lead to reduced water use and increased biodiversity in the soil. They are also looking to put up a Vermicompost plant on the De Keur farm, to start getting the right organisms in the soil. With the Vermicompost project they will also be able to recycle paper and all foodstuffs on the farm.

## Vermicompost

Vermicompost uses various species of worms to create a mixture of decomposing waste and vermicast. Vermicast (also called worm castings, worm humus or worm manure) is the end-product of the breakdown of organic matter by earthworms. Microbial activity in worm castings have been found to be 10-20 times higher than in the soil and organic matter the worm ingests. Vermicompost is an excellent, nutrient-rich organic fertiliser and soil conditioner and has many benefits, including better soil aeration, enriching soil, improving water holding capacity, and enhancing plant growth, to name only a few. <https://en.wikipedia.org/wiki/Vermicompost>

De Keur believes that regenerative farming is the answer for them to be more sustainable and produce healthier and more nutritious fruit.

“It’s not about the money, we love the soil, we love the plants, we love what we do.” – Anton de Jager



Photo: De Keur

Aerial view of the original De Keur farm.