

# Sustainable agriculture: A smart investment for farmers

Sustainability is not just about protecting the environment for future generations; it can also be good for business. A recent panel discussion at Nampo Cape, South Africa, concluded that sustainable agriculture practices can provide significant financial benefits to farmers.

The panel, which included experts from the Western Cape Department of Agriculture, a precision agriculture company, the Milk Producers' Organisation, and WWF-SA, discussed a variety of sustainable agriculture practices, such as water conservation, soil management, and integrated pest management. They all agreed that these practices can help farmers reduce costs, increase yields, and improve their overall bottom line.



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## Financial benefits of sustainable farming

All of the panel members supported the move to sustainable agriculture and gave examples of farmers who have benefited financially from being good stewards of their resources.

Fanie Ferreira, CEO of the Milk Producers' Organisation (MPO), said that sustainability means profitability for dairy farmers. He said that all of the finalists for the MPO Nedbank Stewardship Award for 2023 mentioned that the financial viability of farming sustainably is the greatest, most immediate benefit.

Ferreira said that most dairy farmers in the MPO are part of a program to become more sustainable. He said that while the initial investment is high and it can take 5 to 10 years to see the benefits, farmers are already reaping the rewards of working with nature rather than against it.

Shelly Fuller, Sustainable Agriculture Programme Manager at WWF-SA, agrees that sustainable agriculture is good for business. She says that the Conservation Champions programme, a partnership between Nedbank, WWF, and the South African wine industry, has helped to make the SA wine industry a market leader in sustainable production.

Fuller says that 95% of SA wines are now certified as sustainably produced under the Integrated Production of Wine (IPW) scheme. The Conservation Champion programme recognises farmers who go even further in their commitment to sustainable practices.

Fuller says that even after experiencing the worst drought in decades and a changing climate, most of the farms in the Conservation Champion Programme have been able to maintain their productivity and continue to grow.

Johann Strauss, who leads research on conservation agriculture in the Western Cape, says that farmers who have switched from conventional to sustainable farming have saved the province approximately R440m in environmental damage between 2002 and 2020.

"Conservation agriculture is a farming system that is based on three principles: minimal soil disturbance, biodiversity through crop rotation, and covering the soil with living crops or crop residues." Strauss says that these principles are simple and cost-effective in the long run.

#### **Sustainable agriculture practices can lead to a number of benefits, including:**

- Greater soil resilience, thus reducing water and fertilizer usage, water runoff, and soil erosion
- Greater yield consistency
- Resilience to drought periods
- Reduced capital and operating costs

Strauss says that there is evidence that sustainable agriculture practices can help soil to build resilience, as evidenced by the fact that farms that apply these principles have recovered more quickly from drought periods in recent years.

## **Technology, a major enabler of more sustainable farming**

Another point that the panel agreed on is the role of innovation and big data in enabling farmers to produce more with fewer resources and farming sustainably.

Tara Southey, founder and CEO of TerraClim, believes that data is more important than ever before in helping farmers and policymakers make decisions and plans to adapt and mitigate climate change and market shifts.

Southey founded TerraClim while conducting research for her PhD in viticulture and climate change. She discovered that there was inadequate climatic data available to farmers, and she decided to build an integrated climate, geographical information system, remote sensing, and crop database to provide this essential information.

TerraClim's database provides farmers and policymakers with access to data on climate, soil, and crops. This data can be used to make decisions about things like when to plant and harvest, how to manage irrigation, and how to adapt to climate change.

"In partnership with Metos SA, we now have an additional 200 weather stations, strategically placed across the Western Cape, which constantly measure while TerraClim collates multiple factors, such as hourly temperatures, solar radiation and

hydrology profiles to mention a few," she says.

"TerraClim integrates multiple weather station networks to fill in the gaps to build a robust, complete set of data that is invaluable in analysing the changing environment on an hourly basis. This in turn helps farmers in the region understand the changes that their crops are undergoing and thus make informed decisions to adapt."

Ferreira agrees that technology is a major factor in improving yields and making educated decisions. 'When I started working in the dairy industry in the 1980s, there were more than 28,000 dairy farmers in South Africa. There are now less than 900 – but they produce more milk with fewer cows than those thousands of farmers in the 80s. Because of technology – specifically genetics in this case – each cow is producing up to 50 litres of milk per day, as opposed to 5 to 10 litres of milk per day back then.

There are so many innovations these days, such as cow management systems, digitised milking parlour systems and genomics innovations that drive better breeding outcomes – all of which give dairy farmers the edge to maximise their yields and provide their animals with better care.'

## **We all have our part to play**

Fuller is a passionate advocate of farming sustainably, which she views as moving towards a more nurturing practice. "Farmers easily understand the benefits of working with Mother Nature – almost like a business partner – and their role as a custodian for the services that nature provides.

Within this context and considering the ever-increasing input costs, the profitability factor is making the decision to move to sustainable farming easier and I'm happy to report that that is more important than the scorecard for them," she says.

"But it's not just about what farmers need to do. I see the public less as consumers and more as supporters: With our every purchase we can choose to support sustainability or not. It's really that simple."

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