



# Stretch water and reduce costs with Agrico

by Du Preez de Villiers



**On Beerseun Farm, Agrico's pivots work at night to limit evaporation, while their drip irrigation works during the day, enabling them to make optimal use of the erratic water supply from their boreholes.**

A desperate water shortage handicapped Beerseun Farm's irrigation operations outside Tzaneen in the northern part of South Africa up to a year ago. But it took a dramatic positive turn when they employed the best technology and equipment they could lay their hands on, to get the maximum out of the water at their disposal.

Today, they plant sweetcorn, green beans, pumpkins, brinjals, various cultivars of peppers, papayas, guavas, macadamia nuts, citrus and figs.

They mainly supply the retail market such as Freshmark, Woolworths and Pick n Pay, and will send their surplus products to the market. For Woolworths and Pick n Pay, they pack on the farm and will even stick on the labels for upcoming specials!

Beerseun has been working with Agrico for over 16 years now. Agrico equipment and systems can be seen all over the farm. Rynier Steenekamp, Production Manager, knows how to use every drop of the limited water supply, and Agrico understands and supports him all the way. "We have centre pivot, drip and micro irrigation, but I am in the process of phasing out the micro-irrigation systems, because the evaporation is too high. The drippers deliver the same volume of water, but place it directly on the ground, next to the plant," he says.

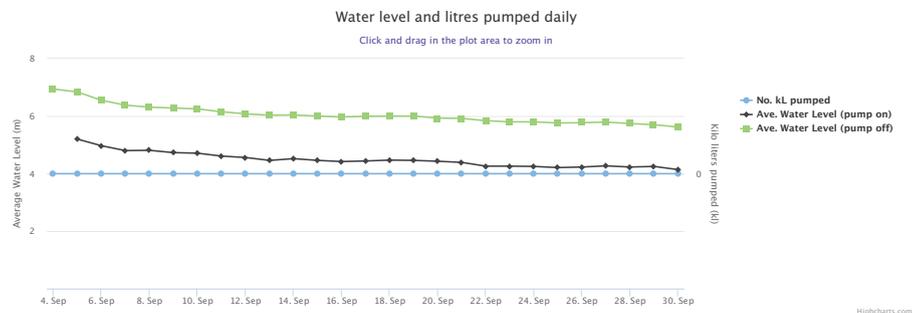
His pivots are ideal to irrigate full surface areas very efficiently and with high uniformity. Care has been taken to choose the most efficient spray packages, with ideal droplet size, low pressure and at the correct height to minimise possible losses. He also runs the pivots at night to eliminate losses due to evaporation, and the drip irrigation during the day. This is done to utilise the boreholes optimally over 24 hours.

The farm's borehole capacity is under pressure. The boreholes take a long time to recover if too much water is extracted. Agrico worked with Rynier to devise a plan to make the best use of the limited water without damaging the boreholes or the pumps by running dry. They purchased and installed a very nifty system that shuts down the pump as soon as the water level in the borehole

becomes too low. It switches the pump back on as soon as it is safe again. This ensures that the pump never runs dry and never gets damaged.

The pivots and drip irrigation have different and specific pressure and flow needs. These are met by using pumps with variable frequency drives (VFDs) to regulate the pump's delivery. VFDs ensure that the irrigation is always efficient and without any energy wastage due to unnecessary high pumping pressure in the system.

water levels over time. This enables him to plan his irrigation schedule in advance. This app is integrated with Agrico's systems, which streamlines the management process. He can adjust the water supply and turn pumps on and off remotely. The app also records electricity consumption, which is very convenient for expense calculations, reporting and budget purposes.



**Graph 1: This graph, from the monitoring system, displays the water level over time of one of the Beerseun Farm boreholes.**



**Agrico installed this system for Beerseun Farm to ensure that their borehole pumps never run dry.**

It has been five years since Beerseun received proper rain and the river that flows through the farm does not always run. Efficient and precise management of the scarce water source is therefore essential.

Through an application on his phone or computer, Rynier can monitor the

Agrico has a branch in Tzaneen, which is conveniently close by. They provide a seamless irrigation service, from designing complete irrigation systems according to the customers' needs, providing the irrigation equipment and material, and including a very thorough after-sales service. To back up this dedicated service, an extensive range of parts are stocked and technicians are always on stand-by. Agrico's systems are supported everywhere in Southern Africa with local factories in South Africa, an own branch network as well as experienced dealers.

**Agrico is always ready to help. Contact them at +27 (0)83-455-5423 or +27 (0)21-950-4111. You can also send an e-mail to [sales@agrico.co.za](mailto:sales@agrico.co.za), or visit the Agrico website at [www.agrico.co.za](http://www.agrico.co.za).**