https://via.farm/

The VIA

The Virtual Irrigation Academy

ICAC 4 December 2019
The Virtual Irrigation Academy (VIA) comprises a suite of soil water and solute monitoring tools that give output as colours, coupled to an on-line database and visualisation platform.

The VIA was designed to transform the small-scale irrigation sector through three functions:

1. A soil water and solute monitoring system

2. A community of practice learning system and

3. An irrigation governance system.
Irrigated Cotton

315 million hectares of cotton globally

16 million ha irrigated (5%)

Australia irrigates 365,000 ha

32 countries irrigate more than 15,000 ha of cotton

http://www.fao.org/nr/water/aquastat
Who actually measures soil water?

Stirzaker, 2006
Soil water monitoring technology

Numerous tools on the market, but few used by farmers

Adoption of soil water monitoring appears to be declining in Australia, despite huge public and private investment.

Soil water monitoring almost unknown in the small scale sector
Chameleon sensor

Measures what the plant experiences (suction not soil water content)

Gives output as colours (not numbers)

Shows the soil water by patterns (not graphs)
Wetting Front Detector
Solute Monitoring

Captures a soil water sample by converging the downwards movement of water, and indicating with a mechanical float.

Measuring soil salinity

Measuring soil nitrate
The learning platform

https://via.farm/
Water Productivity

Trials with smallholder farmers on publicly funded schemes in Africa

Maize yield increases from 28 to 135%

Using 41 to 61% less irrigation water

Giving rise to Water Productivity increases of 220 to 570%
The roots go deeper than I thought.

Soil looks dry but there is sufficient water below.

Too much water leaches the nutrients.

We don’t need to fight over water.
Get Involved: Entry Level

The entry-level tools are designed to be simple and affordable and are read manually.

The Chameleon Card is a credit card sized reader that measures individual Chameleon Soil Water Sensors and displays the moisture level using a colour LED.

The Wetting Front Detector combined with Nitrate Test-Strips and the Chameleon EC meter allows nitrate and salt to be monitored.
Get Involved: Advanced level

A set of three Chameleon Soil Water Sensors (a sensor array) are monitored using the Chameleon Wi-Fi Reader. The data is displayed on the reader by three LEDs and then stored in the reader for later uploading by Wi-Fi to the VIA platform.

Salt and Nitrate is manually measured entered into the VIA platform. This data combines to create colour visualisations for the entire season, to help irrigators better understand how to manage their irrigation.
How to join the VIA

See our Engagement strategy here https://via.farm/engagement/

Purchase our equipment here https://viashop.csiro.au/

Or contact us directly at https://via.farm/contact-us/