



Tapping into the soil moisture probe portal

Traditionally, finding out how much rain has fallen and how much moisture is about has long been shared from farmer to farmer with a ring around the district, coupled with rainfall totals and weather predictions by the Bureau of Meteorology.

But with the rapid evolution of technology there's a new way to keep track and take the guesswork out of decisions around farm tasks such as spraying, harvest and planting – soil moisture probes and weather stations.

Matt Rohde from the Woorak Community and Land Management Group in the Hindmarsh Shire near Nhill was one of the first in the district to adopt the technology. In 2021 he installed one of six soil moisture probes and weather stations on his property to access better soil moisture data, with the probes going down to 1.2 metres.

Matt said he had learnt a lot of valuable lessons along the way.

It takes time to use the soil moisture data for decision making.

Understanding how the soil moisture data can be compared from season to season, how far rain has infiltrated and what level of risk farmers might be facing as they move forward through the season takes time to fall into place.

It has taken three to four years to get to the point of being able to make decisions from this data. It's not until you are able to compare what has happened in specific paddocks over a few years and be able to compare under different scenarios that you can really utilise it.

For example, water holding capacity is something that becomes available as the data set matures and the site has experienced the two extremes of saturation and dry. You can then start calculating soil moisture as percentage of water holding capacity.

Work with others to get the best value from the data.

Identifying where soil moisture levels are at compared to previous seasons helps us weigh up some of the risks and helps us plan things like our nitrogen strategy.

Being able to track soil moisture throughout the season is also really useful, and it can help us work out target yields for crops and what level of risk we are facing in terms of moisture levels as we move forward through to harvest.

To get the real value from the soil moisture data, you really need to work together and don't be afraid to tap into the knowledge of technical people. It can be confusing when you're looking at a lot of data, and the more you know the more you discover you don't know, but there are a lot of people who can help.



In 2023 Wimmera CMA supported farmers in installing soil moisture probes and weather stations to cover an area of 30,000 square kilometres and expand on the Woorak, Wonwondah and Perennial Pasture Systems networks. The probes and weather stations collect a broad range of data, presented in real time including soil moisture, air temperature, soil temperature, dew point, DELTA T, humidity, wind direction, rainfall and detailed frost information.

Wimmera CMA's soil moisture portal is a great place to start with case studies and webinars on how to interpret data.

Scan QR code



Visit

wcma.vic.gov.au/soil-moisture-probe-portal/



Information sharing across the region is valuable.

Being able to look at data across the whole district is a lot more valuable than just looking on your own farm in terms of sharing the decisions group members have made based on the data and how that's worked for them. You can do this at a district level as well as a regional level by tapping into the Wimmera CMA portal.

The benefits of the weather stations for our day-to-day operations has been a welcome surprise.

The weather stations are accurate and well worth having. We're getting a lot more accurate weather data at a local scale. For example, rather than me look at what's happening in Nhill 30 kilometres away when it could be experiencing completely different weather, I have more accurate data from our individual network.

Having this localised information is really useful, particularly for spray decisions as we can generally get into a site 10km from where we're working. We can pull into a paddock to spray and if it's next to a sensitive crop, we can immediately log in and check wind direction and make a more informed decision about whether it's safe to do our first run along the neighbour's fenceline.

Having the fire danger index locally to where you're harvesting is also really valuable so you can see when you should be pulling up and stopping.

When making on-farm decisions, it is important to interpret the data within context of other things happening on the farm.

You can have different soil types even within one paddock, and definitely from neighbour to neighbour, so although we have all this great information across the network, it has to be interpreted in context of your farm.



Wimmera CMA provides regular updates and data interpretation to portal account holders via newsletters, case studies and webinars. We welcome individuals and groups to get in touch for additional support.



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