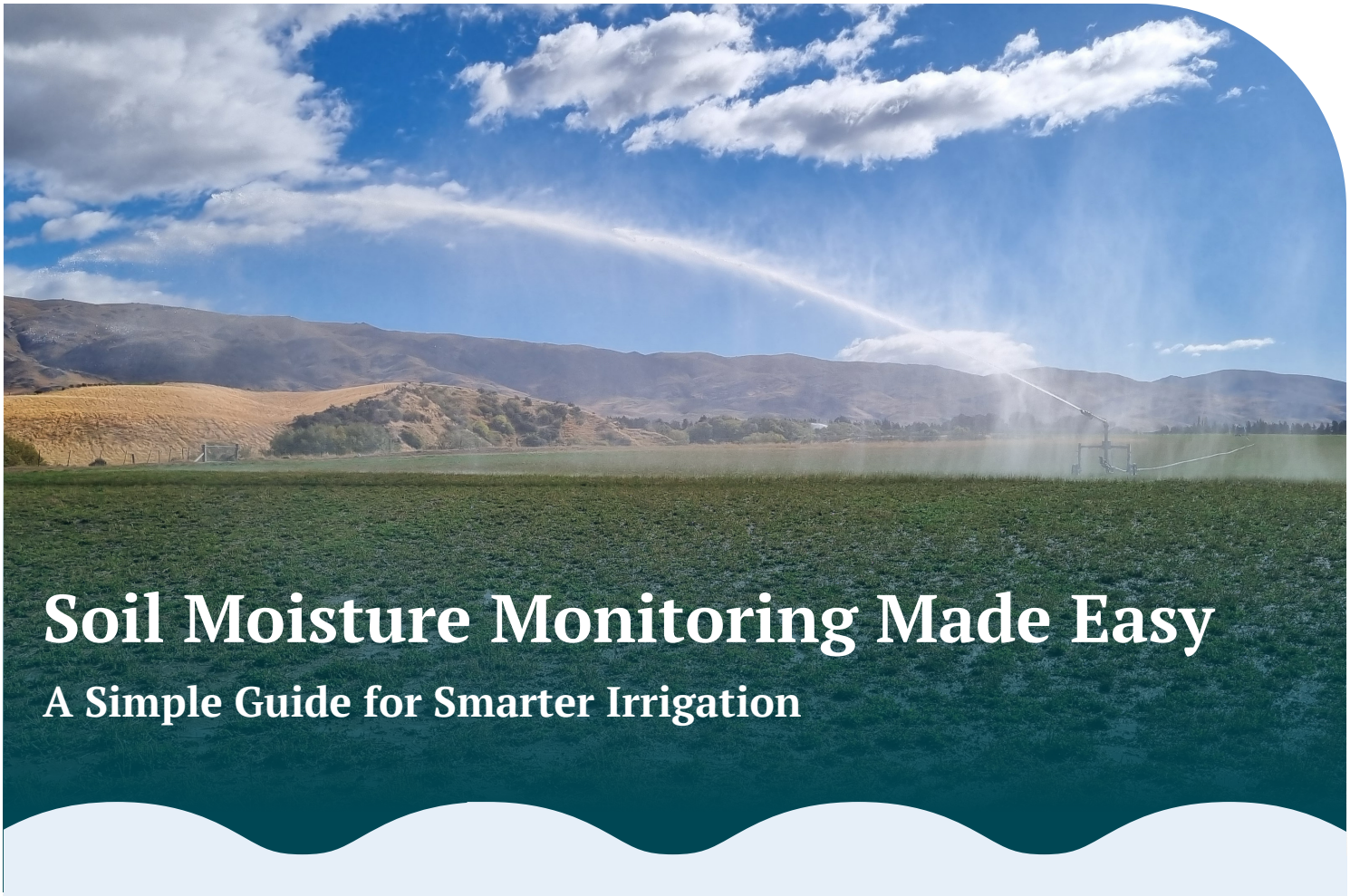

Soil Moisture Monitoring Made Easy

A Simple Guide for Smarter Irrigation

Managing soil moisture is key to healthy crops and efficient water use. Whether you're just starting out or aiming for the best results, this guide breaks it down step by step.

Why It Matters

- **Save water:** Use only what your crops need.
- **Healthier plants:** Avoid over or under-watering.
- **Higher productivity:** Optimise crop growth while protecting the environment.

Stay Ahead This Summer

Good irrigation management starts with accurate, up-to-date soil data. By following this guide, you can ensure healthier crops, better water use, and improved crop output.

When in Doubt, Check the Full Factsheet

This guide keeps it simple, but for detailed steps and technical advice, **visit the full guide here.**

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Getting Started:
Good Management Practice (GMP)

If you're new to soil moisture monitoring, here's how to get the basics right:

Step 1 – Choose Your Monitoring Site

- Pick **one site per irrigation system or crop type** (plants with similar water needs).
- The site should be in soil with the **lowest water-holding capacity** but still represent at least 25% of the irrigated area.

Step 2 – Set the Depth

- For **shallow-rooted plants**, install **one sensor**.
- For **deeper-rooted crops**, use **two sensors** at different depths.

Step 3 – Collect Data

- Calculate the **soil moisture deficit** to know how much water the soil can hold before it needs irrigating.
- Keep it simple: don't average data across depths or time. Look at trends instead.

Step 4 – Keep Things Running

- Regularly check sensors, charge batteries, and clean solar panels to keep everything accurate.

Step 5 – Getting Trained

- Get some basic training to understand the data and use it for scheduling irrigation.

Level Up:
Best Management Practice (BMP)

For those who want to maximise efficiency and reduce water waste, here's how to take soil moisture monitoring to the next level.

Step 1 – More Sensors = More Accuracy

- Use 2+ depths for shallow crops, or 3–5 sensors for permanent crops at different depths.
- Add an extra sensor below the rootzone to track drainage.
- Ensure rootzones are identified accurately for precise irrigation.

Step 2 – Tailored Parameters

- Set thresholds like Field Capacity (when the soil is full but not waterlogged) and Stress Point (when crops need water).
- Get advice from an expert to fine-tune these settings.

Step 3 – Fresh Data

- Use soil moisture readings that are less than 24 hours old.
- Combine readings from all depths for a complete soil moisture picture – don't just average them.
- Look at graphs to track daily trends and make informed decisions.

Step 4 – Advanced Training

- Have a qualified expert install your system.
- Make sure everyone managing irrigation has in-depth training.
- Consider industry-approved courses for upskilling.

Make It Simple: Your To-Do List

1. Choose your site and set up sensors.
2. Collect and review data regularly.
3. Maintain your equipment.
4. Upskill your team for smarter irrigation.

Understanding Reading Points: Accurate data starts with the right setup

What Are Reading Points?

These are the specific depths where soil moisture sensors are installed. Proper placement ensures:

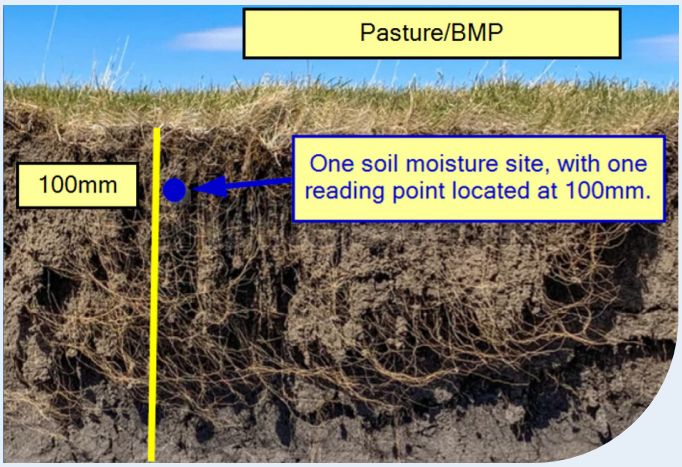
- **Better irrigation timing:** Know when and how much water to apply.
- **Accurate insights:** Understand soil moisture throughout the crop's rootzone.

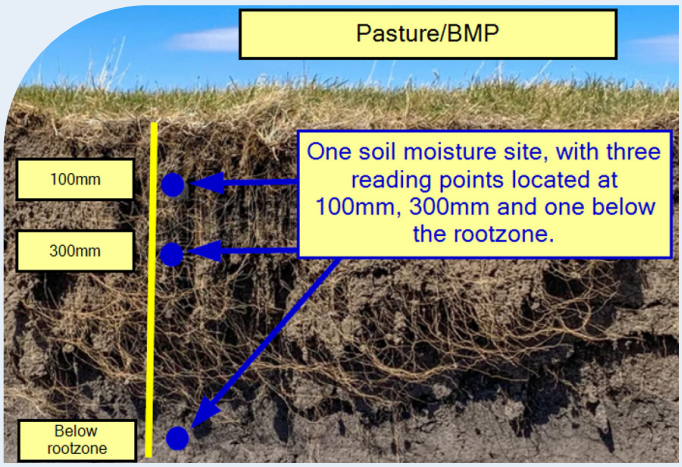
How Many Reading Points Do You Need?

- **Good Practice (GMP):** Fewer points, enough to track shallow or mid-root depths. The first sensor at 100mm for all crop types.
- **Best Practice (BMP):** More points, including multiple depths within the rootzone, and one point below the rootzone to track drainage. The first sensor at 100mm; subsequent sensors spaced 100–200mm deeper.

Placement Tips

- Tailor sensor depths to your crop type.
- Use 100mm as a standard depth for soil temperature readings - helpful for farm planning beyond irrigation.





Placement Tips and System–Specific Advice

Proper placement of soil moisture sites within your irrigation system is very important for accurate data capture.

General Tips

- Avoid wheel tracks, overlap zones or areas directly under sprinklers.
- Place sensors in healthy, representative crop zones.

System–Specific Guidance

- **Centre Pivots:** Install about 2/3 of the way along the pivot length. Avoid the first and last 1/3 of spans and overhangs.
- **Drip Irrigation:** Place sensors 100–300mm from emitters, depending on soil type.
  Coarser soils require closer placement.
- **Sprayline Systems (e.g. K-line):** Place sensors midway between pods and within the wetted radius.
- **Travelling Irrigators:** Install more than one wetted diameter away from the start or end of the run.
  Avoid overlap areas.

Pro Tip: Protect your sensors! Keep monitoring sites clean, secure and properly maintained to avoid inaccurate readings.

Frequently Asked Questions

How often should I check my data?

- **Good Practice:** Weekly checks during irrigation periods.
- **Best Practice:** Daily checks, especially during critical growth stages or dry periods.

What if my sensors show strange readings?

1. **Check Your Equipment**
   - Are the sensors clean and properly installed?
   - Is the battery or power source working?
2. **Review Your Site**
   - Is the site still representative of your soil type?
   - Has soil or crop damage occurred nearby?
3. **Get Help**
   - Contact a soil monitoring expert if readings still seem off.

How can soil moisture data help me?

- **Irrigation Timing:** Know exactly when to water to avoid crop stress.
- **Water Savings:** Use just enough to meet your crops' needs - no more, no less.
- **Rootzone Health:** Ensure water reaches the entire rootzone without draining away.

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