

Description

The FullStop is a Wetting Front Detector designed by CSIRO, Australia's scientific research organisation.

The FullStop provides a cost effective method of improving irrigation management and can be used to assess whether too much or too little irrigation is being applied, to detect water logging and to monitor nutrient and salt levels in the soil.



The heart of the full stop is a funnel shaped collector which is buried in the soil. As moisture moves through the soil profile (a wetting front), it converges in the funnel and collects in a reservoir in the base of the unit.

How It Works

An indicator flag is fitted to an extension tube which protrudes above ground. When water collects in the base of the funnel, the indicator flag pops up to show that the wetting front has arrived. The indicator flag is held up with a magnetic latch and must be pushed down to release it. Should the soil still be very wet, the flag will pop up again.

The best results are obtained from installing FullStops in pairs: one at 1/3 of the root zone depth and the second at 2/3 of the root one depth. If neither FullStop indicators pop up, too little water is being applied. If the shallow indicator pops up but not the deeper one, irrigation levels are about right. If both indicators pop up, too much water is being applied.

An outlet tube at the base of the FullStop allows water collected in the funnel to be extracted using a syringe, and tested for EC and nitrate levels. Salt levels build up in the root zone as the

irrigation season progresses. The FullStop provides a cost effective method by which these changes in the salinity of the soil can be assessed – simply measure the EC of the extracted water with a hand held conductivity meter.

A portable EC meter is available from MEA (part no MEA2272).

If salt levels increase to an unacceptable level, apply a leeching irrigation to flush salt from the root zone. Nitrate test strips can be used to test nitrate and nitrite levels, allowing fertigation programs to be tailored to best results. Nutrients should be kept in the top part of the root zone (and hence visible in the shallow FullStop) but should not be moving passed the root zone (levels should not be rising in the deep FullStop).

Nitrate and nitrite test strips are available from MEA (MEA2273 and MEA2274).

FullStops can be used with all irrigation types. In drip irrigation systems the sensors should be sited directly below an emitter. In sprinkler systems they should be sited where the sprinklers are giving their rated output. For furrow irrigation the sensors should be sited half under the furrow and half under the bed.

FullStops are installed into a hole drilled with 20cm (for the neck of the funnel) and 5cm (for the narrow end of the funnel) augers. It is important that once the FullStop is installed and filled with the supplied filter sand, that the soil above the unit is reinstated as carefully as possible.

More information about the FullStop is available at the web site www.fullstop.com.au

What You Need



Nitrate Strips

Nitrate test strips, pk 100 10 to 500 ppm or 2 to 80ppm



EC Scan

Eutech EC Scan hand held conductivity meter