

The Harvest system is an internet based (IoT) remote monitoring solution covering a range of applications. In most situations, our systems are totally standalone utilising solar power and the cellular network to send data to the Harvest servers. Wireless UHF radio "remotes" can also be used to collect data from around the property. The information can be viewed using any computer or smartphone.

Note: all the documents mentioned in this info sheet can be found by using the search bar on our web site <u>harvest.com</u>, or by visiting <u>harvest.com/support/</u>.

Weather Monitoring/Forecast

The base station is typically set up as a weather station however weather sensors can also be connected to wireless remotes at other places on the property. Parameters that are typically monitored include:

- Air Temperature
- Relative Humidity
- Rainfall
- Wind Speed and Direction
- Solar Radiation (for Evapotranspiration calculation)

For any systems with weather sensors we can also provide an optional forecast.





Soil Moisture Monitoring

Soil moisture/temperature sensors can be used to collect reliable real-time soil moisture readings from around the farm. We are now predominantly using Acclima TDR sensors at varying depths for multi-level readings. The Time Domain Reflectometry technology provides excellent accuracy and precision in comparison to other sensor technology options available. The sensor design also allows for very little soil disturbance.

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Our add-on service allows for calculation of irrigation required (mm). You can read more about our soil moisture monitoring in our document <u>How to use soil moisture readings for irrigation</u>.



Irrigator Monitoring and Failsafe

Our Irrigator Monitor features a design refined over 5 years on farms and offers a market leading monitoring and control solution, including automatic pump shutoff and alerts for effluent management systems (see our <u>Irrigator Monitor</u> <u>brochure</u> for a list of features). The unit on the irrigator uses UHF radio to communicate with a second unit at the pump which controls the pump.

We also have packages available for pivot/lateral/hose reel irrigators.

Water Monitoring

Harvest devices can provide real-time readings and configurable alarms for water and irrigation systems. Common applications include:

- Flow meters (optional transfer of data to council)
- Water tank level
- Well/bore level
- Pipe pressure
- Pump control

Alarms (txt message, email, or voice call) can be set up for any of the measured values e.g. max daily water usage exceeded, low tank or bore level etc. Remote control can be a secure virtual switch on the Harvest web page or based on a measured value e.g. when max daily water usage is exceeded, pump shutoff activated.





Electric Fence Monitoring

Made to remotely monitor fence voltage, it allows you to check the status of your fence from any computer or smartphone.

Available as a standalone package or as part of a full ITU G2 system.

Milk Vat Monitoring and Alarms

Monitoring and custom alarms for milk vats and refrigeration can be incorporated into the Harvest system, in most cases for no additional ongoing monthly charges. Typical alarms include: high milk temperature (vat), stirrer failure, outlet tap open during milking, vat has not been Clean In Place for X hours, boiler not reached 65°C in 24 hours, hot water entering vat, milk leaving cooler at x°C, and power failure.

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Feed Silo Monitoring

Our Feed Silo sensor is the safe way to see your silo level - with online level data available via our smartphone app and web page. Customisable level alarms in real-time will improve both the safety and efficiency of your operation and help you re-order on time.

Available as a standalone package or as part of a full ITU G2 system.



Operating Fee

Each Harvest system has an operating fee (billed annually in advance) which covers the following:

- Data transferred from the system via a cellular network to the Harvest servers
- Hosting of data on the Harvest website (available in a graphical format or downloadable CSV format)
- Processing configurable automated alarms (e.g. effluent failsafe activated, milk vat temperature etc.)
- Optional transfer of data to third party providers (e.g. consent data to councils or weather data to consultants)
- Dedicated support team available via 0800 number and email. Emergency 24hr 7 day a week support available

Repeaters and complex solutions have additional fees due to the additional ongoing support they require.

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Live Data Demo

You can look at live data from a large number of public systems by visiting "live.harvest.com".

HARV	EST.			Region ∨ Southland	Sub-Region ∨ Fernview	Unit ∨ Demo Da	airy			
Home	🕑 We	b App								
i Site	Info									
Fernview Demo Dairy SID:8340 HSN:11225, 70004 USER:Guest LAST DATA:Wed May 29 2019 12:00:01 GMT+1200 (New Zealand Standard Time) - 28:57 minutes ago										
Aeris 10-Day Weather Forecast										
Outlook: Expect isolated light rain showers starting around 9 PM. Temperatures remaining around 13 degrees through early afternoon.										
Wedneso 13°C		Thursday 30 10 °C 4 °C	Friday 31 <mark>8°C 2°C</mark>	Saturday 5°C 3°			onday 3 .ºC 5 ºC	Tuesday 4 8°C 5°C	Wednesday 5 6°C 6°C	Thurs 7 °C
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Image: Soil Metering Travelling irrigator Electric Fence Weather May 2019 May 2019										
Temperature (°C) 15 10 2 0	May 2019 Air Temperature (°C): 10.9 min 1.2 avg 10.5 max 17.6 Feels Like (°C): 9.0 min -1.3 avg 8.9 max 15.7 Thu 23 Fri 24 Sat 25 Sun 26 Mon 27 Tue 28								April 2019 Harvest Rain Gauge, Soil Mois and more <u>View Newsletter</u>	
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