

**Producer case study: “Bunyara Merino and Poll Merino Stud,”  
Ian and Fiona Koch**

*Farm Monitoring Systems: Tank Water Level Monitor*



Ian and Fiona Koch own and operate a Merino and Poll Merino Stud and a commercial flock at Moculta, Barossa Valley, South Australia. They have a water tank that waters up to 450 sheep during Summer.

Before installation of the Waterwatch T35 tank level monitoring device (“the device”,) Ian’s elderly father used to check a feeder tank approximately three to four times a week, 20 mins each visit, being 1 hour operating time needed for water tank management per week. The device and tank are situated approximately 800m directly from the main house. There are several different access routes to the tank, being 2 kms driving, (4km return trip,) and needing to open and close a gate. The tank is linked to 10 other watering points for livestock and well as their house garden.

Ian and Fiona have recently travelled to Queensland and had peace of mind, by being able to easily monitor their tank levels at home in South Australia via this device. Ian says that in the future he may consider installing more devices to assist with his time efficiency with his primary production business. Ian thinks that this device is worth the cost of investment. It also saves time with monitoring his water reticulation during harvest when he will be extremely busy. It has been extremely helpful and reliable.

**Figure 1:**

*T35 Tank Level Sensor monitoring up to 10 livestock watering points.*



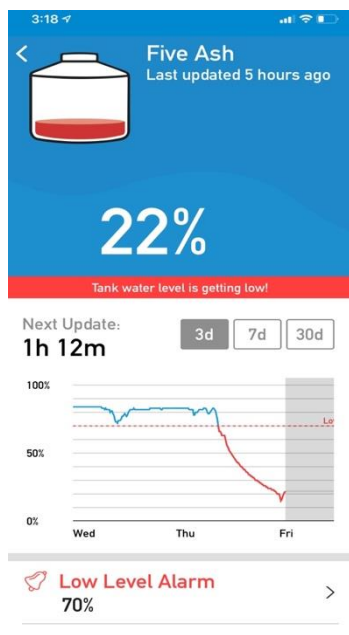
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**Figure 2:** T35 Tank Level Sensor



**Dashboards**



Launched in March 2019, the T35 measures daily water levels as often as every 30 minutes. The tank levels can be viewed online from a smartphone, tablet, or computer. If tank levels are running low, SMS and email notifications will be sent. It sends notifications for high, low, and rapidly changing levels, (eg. Leaks, blockages, and pump failures,) whilst managing multiple tanks and sharing remote access with others.

It has a very wide network coverage and works with Spark, Vodafone, Telstra and Sigfox networks. The T35 also offers a battery life of 3-10 years, based on the selected reporting rate, and panel or cables.

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**The Koch’s Waterwatch Farm Monitoring Solutions Tank Level Monitor savings calculations over 3 years:**

**Current Operating Costs: Over 3 years.**

Total time (hours)	168
Total kilometres Driven	2,016
Labour Cost (@ \$50/hr)	\$8,400
Fuel Cost (@ \$1.72/L : est 10L/100kms Diesel 4WD)	\$348.76/annum x 3 yrs = \$1,046.30
(Pre installation of device) cost to check Water Tank	\$11,630.00

**Waterwatch Operating Costs: over 3 Years:**

Waterwatch FMS Hardware/software	\$985.00 (+GST \$98.50)
Operational Costs with Waterwatch FMS	\$168.00 p/a (+GST \$16.80) x 3 years = \$504.00
Shipping and handling	\$35.00 (+ GST \$3.50)
Waterwatch FMS Costs to Check Water	\$1,527.50

**Waterwatch Costs Savings: Over 3 Years.**

<b>Total Costs Savings</b>	<b>\$10,102.50</b>
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*Average estimated profit calculations from using these water measuring devices, estimated approximately a 60%- 50% reduction in labour and vehicle costs. Estimated labour costs of \$50 per hour to check waters. Motor vehicle diesel costs estimated a \$1.72/L. ROI calculations assume no water issues have been detected in 3 years.*

**Additional Business Costs:**

The following are not considered and could influence measurable productivity with any tank level monitoring device.

**Water Waste** – how many litres of water are lost if a leak goes undetected?

**Animal Weight and Welfare** – how much weight are your livestock losing if temporarily without water?

**Vehicle wear and tear** – capital vehicle depreciation.

**Vehicle maintenance savings on costs** – every landholder’s vehicle maintenance costs are subjective. If these figures were included these would have increased the landholder’s savings figures, however, for consistency with calculations, the focus was on fuel, labour costs and time.

**Carbon Emissions** – how much carbon is your vehicle use contributing to the environment?

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**Connectivity Requirements**

- It has a very wide network coverage and works with Spark, Vodafone, Telstra and Sigfox networks.
- Bluetooth Low Energy
- Accuracy 0.2%
- SMS and email notifications, remote access from your smartphone, tablet or computer.
- Manage multiple tanks and share access with others.

**Installation and Power:**

- Installed by the user – no technical skills required.
- Power is supplied by a battery.
- Battery life: 3-10 years based on selected reporting rate.  
Type: 3.6v Lithium Primary  
Capacity: 7Ah

**Pricing model**

- Annual subscription and hardware costs for data and service.

**Environmental conditions**

**Protection:**

- Water and UV resistant, IP67, MIL-STD-810G, Method 505.5
- Operation temperature: -40 degrees Celsius, to +85 degrees Celsius.
- Recommended storage temperature: +15 degrees Celsius to +25 degrees Celsius.

**How can I see the Water Watch T35 operating?**

- All Australian enquiries to:

**Farm Monitoring Solutions**

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**Contact**

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This program received funding from the Australian Government's Future Drought Fund