

# Long distance livestock management

Photo: Emma Leonard

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**Automated data collection and transmission from remote locations using UHF offers many opportunities to agriculture.**

The word telemetry is derived from Greek roots *tele* meaning remote, and *metron* meaning to measure. Telemetry is defined as the science and technology of automatic measurement and transmission of data by wire, radio, or other means from remote sources. It is anticipated that telemetry will become more common for a range of services in land based industries in Australia.

In the middle of rural South Australia, a 12,140 hectare sheep station runs completely unmanned, thanks to the use of telemetry. One hundred and fifty kilometres south in Port Augusta, Jamie McTaggart, runs daily checks on his 2000 sheep, watering points and even mothers-up ewes and lambs from his office computer.

In a pilot program, developed jointly by Rural Solutions SA, a division of Primary Industries and Resources SA (PIRSA) and Stockman Telemetry Systems, Jamie was provided with an Observant Remote Management System.

This is not first Observant remote stock management system installed for Australian graziers using integrated digital cameras, walk-over-weighing systems and radio signals instead of expensive phone lines, but it is the first to be installed over such a great distance from the office to the property.

Data is captured via camera, monitors on troughs and tanks, weigh scales and tag readers and transmitted on the UHF signal via two repeaters and a base station to

the computer in Port Augusta. Once downloaded on the office computer the data can be accessed anywhere in the world.

Typically, the maximum distance that UHF radio signals travel is 30 kilometres, but the addition of two repeater stations located strategically along the route means that data-intensive information such as photos and weight recordings can be relayed over 150 kilometres to the office base station in just a couple of minutes.

Using the remote management system Jamie is able to check the water levels in the troughs, watch the sheep in the yards as well as weigh each one as it enters. The tag reader identifies the sheep and records the weight against the tag number.

He can even remotely muster the sheep into yards by closing key gates, allowing him to match body weight to grazing conditions or to mother-up lambs. All of this is achieved with the click of a mouse.

On a daily basis everything can be managed remotely, which is saving Jamie a huge amount of time. The number of bore runs has been cut from twice weekly to monthly. For example, in spring 2008 Jamie only visited the property three times in four months. Mustering time has been cut from a two day job for two operators to one days work for Jamie.

Overall the telemetry system is providing savings in time, fuel and labour. At the same time it is

improving efficiency and in time it is hoped it will help improve productivity.

If a yard gate falls off or a pipe bursts someone has to physically be on site to fix it but with this system Jamie is able to identify a problem as soon as it occurs not days later as there are only so many places that can be physically checked in a day.

Under the project supported by the SA Arid Lands NRM Board, the telemetry system has been running since February 2008 and has proved to be reliable. The only problem with the system to date has been the difficulty with weighing accuracy with different size animals in a race that is one size fits all.

Data transfer problems have been experienced and the build-up of data can cause the system to overload but Observant are working to overcome this issue.

Jamie said the system can be used to draft off feral animals as they are identified by their lack of electronic signature. He believes the opportunities for telemetry are huge in other areas of land management, for example starting pumps or moving irrigators.

And if you are wondering what Jamie is doing with all his spare time, he has put it to use branding and marketing his own lamb products.

#### **For more information**

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