

# Precision ag trials to lift profits

BY AIMEE PEDLER

**P**RECISION agriculture has opened up a new level of management in broadacre cropping, helping Stockport farmer Mark Branson get the most out of his soil.

Mark and his wife Nola, and parents Deane and Jennifer, have gone from fertilising the entire property, Clifton, in 1988, to a paddock-by-paddock basis, managing and fertilising areas within paddocks according to their potential productivity.

Clifton has been completely no-till for five years, after dabbling with no-till methods for the past 15 years.

Controlled traffic methods have also been used for three years, with tramlining used for the past 10 years.

Its precision agriculture involves matching agronomy with paddock variability through Global Positioning System technology, where any position can be repeatedly logged.

The 1200-hectare Clifton, is 80 per cent cropping and 20pc sheep, growing durum and bread wheats, malling and feed barleys, canola, faba beans and field peas.

Mark, who completed a bachelor of science at the old Roseworthy College in 1988, which is now part of the University of Adelaide, had his training acknowledged – and boosted – last year when he was selected as a Nuffield Scholar, studying farming systems in New Zealand, North America and Europe.

After “playing with” variable rate fertilising for the past five years, Mark recently acquired a hand-held sensor to trial crop canopy variations.

The Greensseeker RT100, from N-Tech, calculates nitrogen levels, and by comparing a nitrogen rich area with the rest of a paddock, he can work out fertiliser requirements with an aim to saving on input costs.

“Precision agriculture is a reality, and these new types of sensors, which are developed overseas, potentially have a place here because they are easy to use,” Mark said.

Mark’s sensor is one of only a handful in Australia and he believes they will improve nitrogen management and increase the gross value of crops.

Overseas trials have increased crop profits, in many cases because less nitrogen is leached into the soils.

Although the technology is mostly used for determining nitrogen needs, it can also be used with plant growth regulators and fungicides.

“I can see potential for these sensors to be used in Australia, but application algorithms need to be developed and the economics need to be defined for Australian conditions,” Mark said.

“A lot of scientists have been working out mineralisation rate in the soil, and this cuts out all of that.

“It lets the plants tell you whether

## Pointers to profit

- **SENSORS** aid crop canopy comparisons for nitrogen calculations
- **FERTILISER** savings
- **LESS NITROGEN** leached into soil



they need nitrogen or not, other than working from the soil up.

“The ability to accurately budget nutrients is a vital step in making precision agriculture work in relation to applying fertilisers, and for this to occur one needs to determine what nutrients are able to come from the soil’s natural pool.”

This season some of Mark’s crops will not need nitrogen – just some phosphorus.

The sensors retail at just under \$5000 and are available from South Precision Sprayers at Naracoorte.

Mark’s sensor was demonstrated to 26 farmers and agronomists, at a recent field day at Clifton, where soil tests correlate with results from the sensors, with figures in the ballpark range of predictions.

Mark is also a committee member on the South Precision Agriculture Association and has been involved with Grains Research & Development Corporation on precision agriculture work since 2002.

Mark was a guest speaker at a recent Australian Precision Agriculture Symposium in Sydney, and will speak at the Australian Controlled Traffic farming conference at Ballarat, Victoria, in September.



**PRECISION:** The Greensseeker RT100, by N-Tech, calculates whether the crop needs nitrogen. The device has increased crop profits overseas.



**MAKES SENSE:** Stockport farmer Mark Branson is trialling a hand-held sensor to determine crop canopy.

## Sheep help control ryegrass

**SHEEP** make up 20 per cent of Mark Branson’s cropping-based operation at Stockport, mainly to aid in ryegrass control to try to avoid chemical resistance by the weed. The farm runs a self-replacing Merino flock of 1000 ewes on Hazeldene blood, with 300 old ewes put over a Poll Dorset ram for first-cross lambs. In Mark’s father Deane’s days, sheep were the moneymaking enterprise on the property. But this has changed, with the focus on cropping. However, Mark’s flock helps improve the soil for the cropping enterprise. “They have become handy tool in ryegrass control,” he said.