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Science in the field - anatomy of a trial

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Science in the field – anatomy of a trial

*Over the past four years participants of the Burdekin Nitrogen Trials (RP20) have gone from sceptics to passionate supporters of the SIX EASY STEPS™ guidelines for nitrogen application. This can be partly explained by the way in which the trials on their farms have been carried out. **By Andrea Evers***

RP20 began in 2011 to test the SIX EASY STEPS™ guidelines on all major soil types in the Burdekin. Many of the participating growers were convinced these trials would prove they needed to apply the same levels of nitrogen that they had been applying before joining the project. These same growers are now supporters of the SIX EASY STEPS™ method and are confident to use it to calculate their fertiliser requirements. This is because the trials have proven that the growers can maintain a profitable and sustainable farming business.

RP20 is now in its final year and harvesting is underway. The first of these harvests took place in the Clare district. Ryan Matthews, farm manager at the SISL farm, invited growers to watch his trial being harvested at a 'seeing is believing' harvest walk.

The challenge was put to growers to see if they could tell the difference between the different strip trials before they were harvested.

At the SISL farm, one strip within the trial had the SIX EASY STEPS™ rate of 160 kg N/ha applied, a second strip had the farmer's rate of 200 kg N/ha applied, and a third strip had a high rate of 240 kg N/ha applied.

Nobody could tell which strip had the different rates of nitrogen applied, which further confirms the project outcomes.

This also matches with the yield data collected in previous years of the project, showing the project team and collaborating growers that tonnes are maintained across the nitrogen rates being trialled.

While the trials were being harvested, Johan Deutschenbaur, SRA technician, and Andres Jaramillo, SRA Adoption Officer, were on hand to explain the process of how data was collected for these trials.

Observing and understanding the data collection process has given the growers who have participated in RP20 confidence in the results.

This has led to participating growers using the SIX EASY STEPS™ method for calculating their fertiliser requirements across their entire farm and seeing the benefits – savings in fertiliser costs, maintaining tonnes and, in most cases, increasing tonnes of sugar per hectare.



Left: Before the harvest, Johan marks out each replicate and treatment to ensure that cane is consigned correctly.

The trial farm will have either 4 replicates with 3 treatments or 3 replicates with 4 treatments.

Each trial site has a map that shows exactly where the various treatments and replicates are, and markers are used to mark these in the field.

The same six rows are used with the same treatments during the entire crop cycle – plant, 1st ratoon, 2nd ratoon and 3rd ratoon.



Above: Johan is on hand during the harvest and goes to the end of each plot to ensure that the harvester stops and the haulout is changed. He follows the haulout to the siding and makes certain that a separate consignment ticket is filled out for each plot. Wilmar generates a separate report for each replicate and treatment, including tonnes of cane and CCS.

Another group of Burdekin growers have begun working with Farmacist on a new project – Complete Nutrient Management Planning for Cane Farming (RP161).

The project provides \$5,000 worth of agronomic services to participating farmers with personalised one-on-one extension and farm visits from Farmacist.

It includes whole-of-farm and tailored nutrient management planning, fertiliser box calibrations and farm decision support. In addition, the team will also address irrigation and weed management, if these are an issue on particular farms.

SRA will again be providing support with the collection and analysis of data and assisting with irrigation management. If you are a Burdekin grower and would like more information, you can contact Jayson Dowie on 0408 009 348 or at jdowie@farmacist.com.au.

The final results of RP20 will be presented at the beginning of next year and will include a complete economic analysis, trial results and case studies over a full crop cycle.

You can see the results so far by visiting www.sugarresearch.com.au or request a copy by contacting Andrea Evers on 3331 3308 or at aegers@sugarresearch.com.au.