

RP210 – Tailored nutrient and farm management solutions for the Herbert catchment area (Herbert RP161)

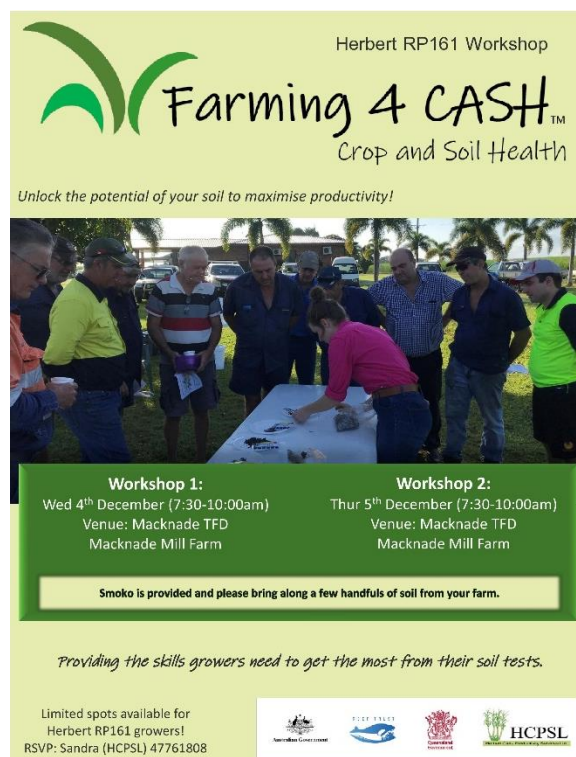
Milestone Report #5

Milestones	Outputs and other deliverables that make up this milestone	Milestone Key Performance Indicators See Supporting Information Part G	Submission date for outputs and deliverables	OGBR review of milestone (date)
Milestone 5 Provide Farming 4 CASH® training and support through on ground activities.	Training course	Training delivered to Year 1 growers 30 farms contracted to participate in year 1 (2020 cohort)	31 January 2020	24 February 2020

Provide Farming 4 CASH® training and support through on ground activities.

Farming 4 CASH® Workshops

- Two Farming 4 CASH® workshops were held in December 2019 with 24 growers attended the two workshops
- Two more workshops were held in February 2020 for 2019 Yr 1, 2020 Yr 2 and 2020 Yr 1 growers attracting growers from 16 farms.
- Workshops covered nutrient management, soil constraints and crop productivity in 5 modules;
 - Soils in the landscape and how it affects your farm (Andrew Wood)
 - Cation exchange capacity and effects on nutrient availability and losses (Ellie McVeigh)
 - Soil pH and the effects on nutrient availability and effective utilisation by the crop (Adam Royle)
 - Organic Carbon and nitrogen mineralisation in the soil (Shannon O'Brien)
 - Assessing the potential of your soil (traffic light system); a quick and easy assessment of a soils limiting factors using a soil test and the traffic light system assessment card (All presenters in small groups)
- After each workshop growers were provided the opportunity to provide feedback to presenters anonymously



Herbert RP161 Workshop

Farming 4 CASH™
Crop and Soil Health

Unlock the potential of your soil to maximise productivity!

Workshop 1:
Wed 4th December (7:30-10:00am)
Venue: Macknade TFD
Macknade Mill Farm

Workshop 2:
Thur 5th December (7:30-10:00am)
Venue: Macknade TFD
Macknade Mill Farm

Smoko is provided and please bring along a few handfuls of soil from your farm.

Providing the skills growers need to get the most from their soil tests.

Limited spots available for Herbert RP161 growers!
RSVP: Sandra (HCPSL) 47761808

Logos: Australian Government, Sugar Cane Growers' Association, Queensland Government, HCPSL

- Feedback from the Dec 2019 workshops was as follows;
 - Positive / don't change anything: 73%
 - Positive / with suggested improvements: 27%
 - Negative / I didn't like or got nothing from this workshop: 0%
- Feedback from the February workshops followed a similar trend.
- Presenters met informally after each workshop, as well as formally at the end of the last round of workshops, to evaluate and plan improvements and/or changes to the next round of workshops
- After evaluation, based on grower feedback and project objectives, it was decided that the next round will include more detailed information on phosphorus and fallow cropping, including sediment and nitrogen management of fallow crops
- The next round of workshops will be held in late 2020 or early 2021 depending on the length of the 2020 harvest season.



Farming 4 CASH®: What is the potential of your soil?

pH 1:5 H ₂ O	EC (se) (dS/m)	Organic Carbon %	Phosphorus (BSES) (mg/kg)*	Potassium (Amm-Acet) (cmol+/kg)*	Sulfate (mg/kg)	Calcium (Amm-Acet) (cmol/kg)	Magnesium (Amm-Acet) (cmol/kg)*	Sodium % cation
<5	>3.5	<0.8	<40	<0.3	<10	<1.2	<0.15	>15
5.5	2.4	1.2	50	0.4	15	1.6	0.2	10
>6	<1.7	>2	>120	>0.45	>15	>2	>0.25	<5

* Phosphorus requirements also dependent on PBI
* Potassium requirements also dependent on Nitric K values & soil texture

Aluminum % Saturation (Group)	eCEC (cmol+/kg)	Copper (DTPA) (mg/kg)	Zinc (BSES-HCl) (mg/kg)	Silicon (BSES) (mg/kg)	
>30	<6	<0.2	<0.6	<10	Limiting factor
15	12	0.5	0.8	20	Monitoring required
<5	>25	>1	>1	>500	Non limiting factor

< Less then > Greater then

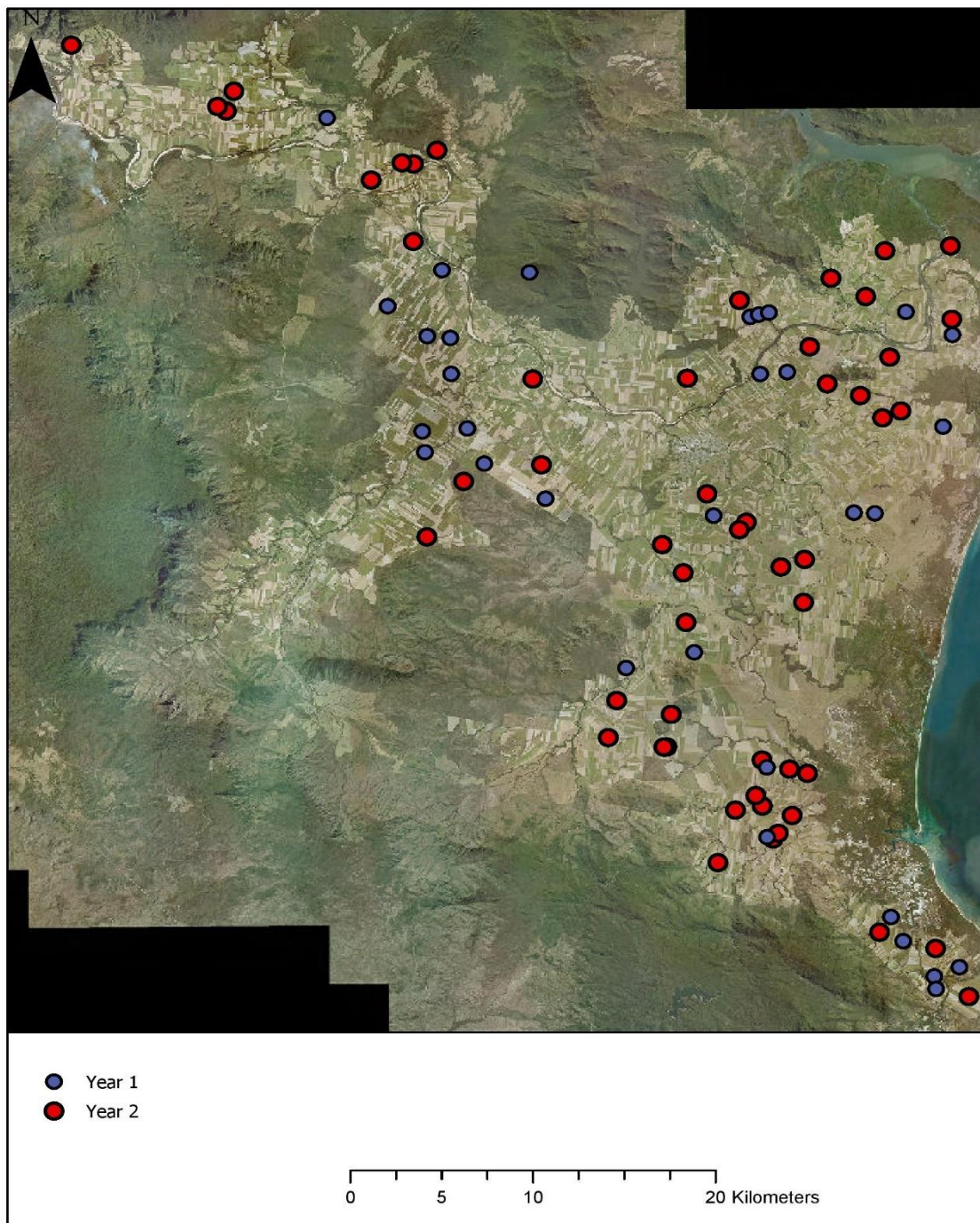
*Silicon requirements also dependent of Silicon (CaCl₂) mg/kg values

Tally		
Green	Yellow	Red
x2 =	x 1 =	x 0 =
Total =		

2020 Year 1 Growers (30)

- Ellie McVeigh will play a greater role in developing nutrient management plans and will be responsible for delivering the bulk of the 30 new farms in 2020; Shannon O'Brien will also take on a portion of new growers.
- To date, the Herbert RP161 team have received interest for the 2020 Year 1 intake from 48 farms;
 - 31 farms have signed agreements (as at 26th Feb) and completed, or are in the process of completing, benchmarking.
 - Numbers are now filled, however HCPSL has agreed to accept 1 more grower who has been on the waiting list since 2019. The grower is currently overseas and will sign an agreement upon return.
 - 12 farms are on the official waiting list.
 - 4 farms opted not to participate after initial interest due primarily to a change in the farming entity.

2020 Grower Distribution



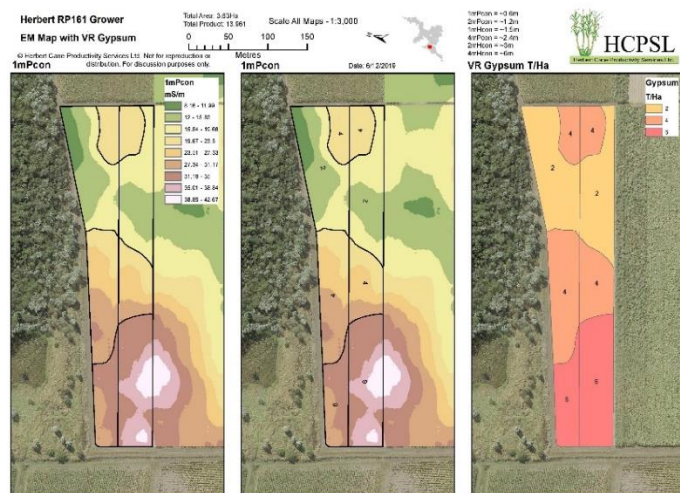
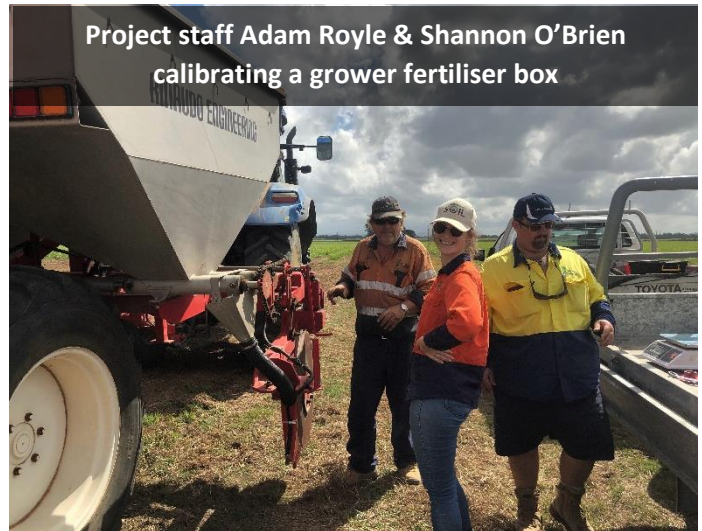
Onground Activities

Calibrations

- Staff continued to conduct fertiliser box calibrations
- Training related to calibration of fertiliser boxes was also provided to staff
- Calibrations of other equipment, such as spraying equipment, was also carried out

Soil testing

- Soil testing for 2020 commenced in Dec 2019
- Most growers moving into year 2 of Herbert RP161 have taken advantage of an early end to harvest to take their samples pre-2020



Variable rate mapping (EC mapping)

- Several Herbert RP161 growers have utilised HCPSL EM mapping program
- EM mapping, followed by strategic soil sampling has enabled project staff to develop variable rate (VR) ameliorant maps
- VR maps allow growers to strategically apply ameliorants to better manage soil constraints
- Improved management of soil constraints results in improved efficiency usage of applied nutrients, improved profitability and reduced nutrient losses to the environment

General Activities

- A variety of one-on-one extension activities, including nutritional, pest & disease and general agronomic advice, were carried out throughout the reporting period.
- Project staff member Shannon O'Brien presented at a recent series of grower forums on the advantages of ameliorants for effective nutrient uptake (the forums attracted over 100 growers).

General Activity Updates

Grower Extension

- Refer to “Onground Activities” above.

Work Experience Students

- HCPSL hosted two work experience students in October
- As a part of their learning experiences both students joined Herbert RP161 staff in delivering on ground extension (including soil sampling)

Project Meetings & Training

- Several meetings between staff and Andrew Wood to plan Farming 4 CASH® workshop were held in November 2019.
- Post workshop staff met again to debrief, review and discuss possible improvements to future workshops
- Over the December – January period staff continued to meet at least weekly. Primarily discussions have revolved around;
 - Developing new NMP templates to come in line with changes to regulations
 - Identifying and benchmarking 30 new RP161 growers
 - Reviewing progress on new 30 and existing 50 RP161 growers
- Training in the use of the new nutrient planning system and GIS mapping have commenced with more planned for the next reporting period.
- Project supervisor Adam Royle and HCPSL manager Lawrence Di Bella attended an advisor accreditation course (Agronomy in Practise and Fertcare C)
- Lead project staff worked with Megan Bickle (DES) to finalise a variation to the project plan in order to commence the 30 extra growers for the Herbert RP161 project
- Project & HCPSL staff met with Megan Bickle, Billie Gordon, David Defranciscis and Chris Johnson (via tele-link) on 29 January 2020 to discuss the new regulations.



Case Studies – CaneConnection

- Spring & Summer edition of Sugar Research Australia’s Cane Connection featured project staff with two project growers (Casey Jones and Pace Farming)

FAT CATTLE AND BIG CANE – NUTRITION JUST ONE PIECE OF THE PUZZLE

MAKING A SMALL FARM PAY ITS WAY AND JUGGLING WORK OFF-FARM IS A CHALLENGE BEING TACKLED BY MANY IN THE INDUSTRY. FOR CASEY JONES, HE IS MAKING IT SUCCEED THROUGH HIS INVOLVEMENT IN A PROJECT KNOWN AS RP161. BY BRAD PFEFFER



Adam Royle with grower Casey Jones (left) and growers Rebekah & Briannan Pace with Shannon O'Brien (right) recently featured in the Sugar Research Australia Cane Connection magazine

NEXT GENERATION SETS THE PACE OF SUSTAINABLE MANAGEMENT

YOUNG OR OLD, EVERYONE PITCHES IN AT PACE FARMING IN THE HERBERT, WITH THE FAMILY OPERATION CONTINUING TO LOOK FOR WAYS TO IMPROVE THEIR SUSTAINABILITY AND PROFITABILITY. BY BRAD PFEFFER



General Learnings & Observations

- Grower attendance at Farming 4 CASH® workshops was boosted by using multiple contact streams; including a phone call to each Herbert RP161 grower a week prior to the workshop. Without direct grower contact, via a phone call a few days prior, numbers at the workshops would likely have been lower than achieved.

