Monthly Report

August 2016

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Project Summaries

Research Behaviour Change

Segmentation and High Performance Farmer

The HPF report prepared following the workshop held early March 2016 was distributed to all attendees. Discussion held around how HPF's could be utilised in National Workshop. No other significant activity for the month.

Supply and Procurement

Activities continue with sourcing data for the 'stage one' research on 'quantifying the size of the prize'. Have been meeting with OSPRI to discuss feedback received from NAIT data access request. Data request application to be modified before the Panel meets on 20 September 2016.

There has been a fair amount of delay in receiving and sourcing information for the research which has been beyond the control of Deloitte. Of critical importance is receiving animal movement data from NAIT which needs to be agreed by the Panel on 20 September 2016 as they were not able to consider out of cycle. Once this data is received and analysed this will facilitate further engagement with processors, Beef and Lamb and other industry stakeholders.

Sector Capability

Attracting Talent

Agriculture in Education

The secondary school NCEA resources are being adjusted after gaining feedback from the trial schools, in preparation for submission to NZQA. We are targeting submission of NCEA resources to NZQA by early September. 'Agrication' the website where the resources sit is active. The year 9 and 10 resources are on the website. New Zealand Young Farmer Field Officers continue to speak to schools about the resources.

Develop Emerging Talent

The **Red Meat Network** is for students in tertiary study. The network once again was very active, with all hubs hosting meetings with lots of positive comments feeding in from the students.
Erica van Reenen from AgFirst spoke to the Telford students. Jason TeBrake the NZYF chairman spoke to the Waikato students. Anna Campbell from Abacus Bio spoke to the Otago students. Duncan Thomas from H&T agronomy spoke to the Otiwhiti students. Dan Shand, Nuffield scholar, farmer and entrepreneur spoke to the Massey students. Henry Studholm from Prime Smoke Salmon spoke to the Lincoln students.

The overwhelming positive feedback from the students has been received via text and the Red Meat Network (RMN) face book page. Speaker presentations are also uploaded onto the page. Some of the speakers have asked if they can post jobs from their organisations on the RMN face book page. This shows the speakers are impressed with the caliber of the students in our networks.

The **Industry Insight** programme, which is a one on one mentor programme for tertiary students, has 18 students engaged, each with an industry mentor.

The **Rural Mentor Programme** now has 41 farmers who have completed their mentor relationship and achieved the outcomes identified. 21 relationships are continuing.

Leadership and lifelong learning supported through nationwide networks

TeenAg clubs – Most clubs ran activities during August. A few of the highlights were the Taranaki District Executive members from the clubs attended a training session on 'questioning to gain good information', which was complimented by a number of career champions speaking to the students. St Peters in Cambridge participated in a wetland restoration project, with 20 students helping to plant 3000 trees. The Manawatu District clubs visited Otiwhiti Station to learn about the range of skills you need on a station. These students also joined in with the Red Meat Network students for the presentation from Duncan Thomas.

The **Rural Business Network** had 5 hub meetings in July. Gisborne is a new hub and Mike Petersen spoke to 33 attendees about a global perspective of the opportunities and challenges for NZ agriculture. In Hawkes Bay Brent Paterson, Managing Director of Rural Directions spoke about dealing with the challenges of finding and retaining staff, 29 people attended. In Otago, Graham Gale from Helicopters Otago, spoke about helicopters for agriculture, tourism and rescue. 22 people attended. In mid Canterbury Gina Williams from the Reserve Bank spoke about the economic outlook, 63 people attended. In Waikato, Ian Proudfoot from KPMG spoke about the future of food, 94 people attended.

Capability Development

National Roll out of Computer Upskill Programme – To date 19 courses have completed, with two more still in progress. The courses are now ceasing for the year. Evaluation of each course along with a feedback session with tutors and co-ordinators is planned for October.

Understanding Your Farming Business – The final six programmes for the year have commenced, this includes the three pilot programmes for the Wahine Maia, Wahine Whenua programme which commenced in Gisborne, Rotorua and National Park.
The pilot for Maori women is using the existing resources. However, to ensure the programme is relevant to the women attending, we have Maori business experts to ensure context is appropriate. Tina Ngatai, Anne-Marie Broughton and Hinerangi Edwards are assisting. Women have come from Auckland and Wellington to attend the Rotorua programme. An interesting value add to the Wahine Maia programme is that farm managers, along with farm trustees are attending the programme, therefore they are able to connect and discuss how they can work together.

Farm Business Ownership Pathways – the organisations developing the resources are now contracted. Duncan Cotterill lawyers are preparing the templates and agreements. Deloitte are preparing the fact sheets and Crowe Horwath the self-assessment tool. Two case studies have been identified and the families have agreed to be profiled. All resources will be completed by November at the latest.

Facilitation skills – The PSG have agreed that an RFP process will be used to contract the development of a facilitation skills programme. Once developed this will initially be trialed within the facilitators of the farm pilots. It is then envisioned that the programme will add value to many Rural Professionals in the sector.

Key next steps – at a glance	Completion Date
Attracting Talent	
Annual survey of the Rural Business Network - results due	September 2016
Capability Development	
Review of the Computer Upskill programme for 2016	October 2016
Rural Professionals engagement programme	September 2016
Development RFP for Facilitation programme	October 2016

Extension Design

The month of August saw a strong focus on consultation and engagement with attendance by RMPP personnel at a number of conferences, organisational and farmer meetings. These included B+LNZ Farmer Council, Red Meat Sector conference, NZIPIM conference, AgFirst annual conference, annual meetings of pilot groups with ANZCO, Alliance and Greenlea, amongst others.

The majority of the questions received at the presentations were from attendees seeking clarity as to the Extension Design Project, and subsequent scaling up of the programme. There were a number of enquiries from farmers about how they can get involved in the programme. Management are currently reviewing the delivery of our message in regard to the Extension Design Programme and the best delivery method to ensure the project is more widely understood.

As a result of the presentations RMPP is speaking to a number of organisations such as NZIPIM, AgFirst and Crowe Horwath, to explore opportunities for engaging with rural professionals and their organisations. Initial discussions have been held with NZIPIM in order to jointly run workshops involving a cross section of rural professionals (from the wider Rural Professional community not just NZIPIM membership). The purpose of this is to identify how the extension system can better engage with rural professionals and to jointly identify the skills needs of rural professionals for them to most effectively support the future extension system.

Crowe Horwath (Business Advisors and Accountants) approached us with a proposal and preliminary discussions have been held to look at possibilities to test the extension framework on a partial user pays pilot and subsequent scalability. This would be an opportunity to test the "connector" concept with a trusted rural professional (accountants). They are fully engaged with our current extension strawman and we are looking to have a paper ready for discussion at the October PSG meeting

UMR and Lincoln University are currently undertaking their evaluation of the pilot farmers following completion of the first full year. The feedback from UMR to date has been very positive. UMR and Lincoln University will brief RMPP on their draft findings in September, with the final report due 1st December 2016.

Knowledge Network

The **Genetics Working Group** has been progressing the development of an evaluation approach called the "Evaluator". This approach is based on an online tool that assesses:

- Facilitation process
- Content
- Farmer changes in confidence during the test period

The farmer confidence responses will be baselined prior to the start of the workshops, at mid-way and at the completion of the workshops. It will show changes in confidence about making the best decisions for their business and where to seek the right advice. The facilitation and content information will be undertaken at the end of both workshops. The survey is undertaken by the participating famers, as well as the facilitator and the workshop host. From the outset, the questions design has been undertaken with the intention of utilising Evaluator for other topics and events. Should the Evaluator prove satisfactory, we intend to test it on extension activities outside the RMPP farm pilots.

Key next steps – at a glance	Completion Date
Knowledge Network – Genetics workshop	13 September 2016
Pilot Working Group meeting – update on evaluation (UMR and Lincoln University)	19 September 2016
Evaluation Feedback (UMR and Lincoln University)	20 September 2016

Farm to Processor

The Farm to Processor Project has been delayed and now has been reprogrammed to follow the completion of Supply and Procurement Project, if approved.

Key next steps – at a glance	Completion Date
Awaiting completion of "stage one" of the Supply and Procurement Project for the first Stop/Go point	November 2016
Awaiting completion of full Supply and Procurement Project for second Stop/Go point	January 2017

Data and Systems

Data Integration

The first **Data Linker** pilot data transfer between pureFarming and B+LNZ Genetics has been successfully completed, but will not go into operational mode until the SIL system redevelopment is completed later in the year. We have met with ANZCO and had a positive discussion regarding adoption of Data Linker. Greenlea have moved very quickly on Data Linker and are currently establishing an implementation path with their IT providers. FarmIQ have also commenced work to investigate requirements for adoption.

Requirements to transition the **eASD** proof of concept to a wider pilot phase have been agreed. A statement of work is being prepared and will be presented to the PSG for approval. The pilot will extend the number of processors and farm businesses participating, implement an end to end solution (i.e. integrated with operational procedures and IT systems) with at least one processor and obtain approval to submit an electronic only ASD. The latter being critical to increased adoption by processors and farm businesses.

Software development work required to achieve the above will be completed in 2016, enabling the eASD pilot to run in the current season with sufficient volumes.

Analysis of operational procedures at all contributing processors and the outcomes of the pilot will inform the business case for a full scale implementation of eASD.

Benchmarking

The cost to convert our **Benchmark** models into on-line tools is under investigation and will consider two options, a) utilise existing FarmIQ functionality with some further development work to match our specific needs or b) develop from scratch via our digital partner, Pikselin.

Work is on-going to ensure we can deliver robust lost revenue figures in the carcass defect benchmark model and we are working to ensure Data Linker can deliver all the data required to pre-populate the benchmarks.

Decision Tools

Rapid Group Weighing: On-farm trials have been completed and while the early indications were promising, the results obtained were not consistent enough. AgResearch are investigating alternative algorithms to resolve this issue. A copy of Simon Lovatt's recent email on the matter is attached for reference.

Information Hub: Initial designs for the Information Hub proof of concept (PoC) have been presented to the pilot genetics knowledge network project team. Their feedback was very positive. This design will be tested with a number of farmers during September and further usability testing will be undertaken early and late October, as development progresses.

The **Sheep and Cattle Feed Planner app** (www.feedsmart.co.nz) has been completed and is now available for use. B+LNZ and RMPP will initially be undertaking a soft launch, with B+LNZ gearing up for a formal and fully supported launch mid-November ahead of weaning.

The development of a **Ram Value Calculator app** for use as one of a set of tools in the Genetics Knowledge Network pilot has been completed. At this stage distribution is being limited to those farm businesses involved in the genetics pilot for testing and feedback on usability, but will be made publicly available following the trial.

Key next steps – at a glance	Completion Date
Data Integration	
Develop business case for eASD pilot	30 September
Work with processors to ensure participation in Data Linker trial	31 October
Benchmarking	
Finalise carcass defect model lost revenue calculation	30 September
Develop beef defects and live weight gain benchmark models	30 September
Convert kgs/ha and live weight gain benchmark models into on-line tools	30 November
Decision Tools	
AgResearch investigating alternative algorithms for RGW	31 October
Complete Information Hub Proof of Concept development	31 October
Test Genetics Learning Pathway through Information Hub Proof of Concept	15 November

Email From - Simon Lovatt, AgResearch

As we discussed on the phone a couple of weeks ago, we did the trials as scheduled in late June and early July. On each of three trial days we weighed mobs of 50 sheep and 50 cattle individually and weighed them 10 times each over the RGW, giving a total of 60 data sets.

The algorithm that we used on the trial days gave outputs that were often quite close to the mean animal weights or the mean half-animal weights as measured individually. Unfortunately, around half the time, the weights reported by the RGW algorithm when it was searching for unique solutions were quite some way from the individually-measured weights.

We found (as we expected from the simulations) that when we got multiple solutions from the algorithm, the solutions were much more widely spread apart with smaller numbers of animals on the scale than with larger numbers of animals on the scale, so that was a good sign because it improved the chance of correctly identifying the preferred solution among multiple solutions.

In the month or so after the trials, we tried several variations of the algorithm that we had described in our June report in order to get more consistent results from the measured data. For example, we reported in June that smoothing the numbers of animals that the algorithm internally estimated were on the scale helped the algorithm get consistent results from simulated data so we tried a range of different smoothing parameters on the experimental data. It turned out that doing more smoothing with the cattle data (e.g. smoothing over 50 to 100 data points rather than 5 to 7 as we had with the simulated data) improved consistency, but the results were still not as good as we think will be needed in practice.

Since we talked by phone, Tony and I have tried an alternative approach that involves weighting the likelihoods that the algorithm estimates for different numbers of animals on the scale at each data point based on their expected probability. That is, when walk cattle over the scale, it is much more likely that there are one or one and a half cattle on the scale at any given time than two cattle (because of the scale size) or only half an animal (because they cattle tend to walk in a line with few gaps between them) on the scale. The previous algorithm had implicitly assumed that the probabilities of each possible number of animals were equal, which was not quite right in practice. We therefore added more parameters to the algorithm to account for those differing probabilities, but we had to fit those parameters because they vared between measurement runs (based on how smoothly the animals flow across the scale) so we could not set them *a priori*. Designing an optimisation algorithm to reliably find the right values of those parameters has been challenging (as multi-dimensional optimisation often is) so we tried two different approaches to the problem (a genetic algorithm and a Markov Chain Monte Carlo algorithm) and we now have both of those methods working.

Late last week, we had one of the methods giving us what we thought were excellent, consistent outputs that were very close indeed to the mean individual weights. Unfortunately, further testing showed that the consistency was partly an artefact of the constraints we put on the solution and the results were not as good if we used different (but also credible) constraints.

At this stage, neither method is giving us quite the level of accuracy that we're looking for yet, by itself. That doesn't surprise us as it is often difficult for even sophisticated optimisers like the ones we're using to find a global optimum in multiple dimensions, but we are now trying to combine two different approaches – one that constrains where the solution should be and another that finds a refined solution within those constraints.

In summary, we don't yet have an algorithm that we can recommend to continue in the product development process but we think we are close and we hope that we'll be able to make such a recommendation in our next report. We won't make a positive recommendation unless we are convinced it is ready to go to the next stage, though.

Fortunately, the work we're doing at the moment requires thinking in the background, a modest amount of a person's time to change the algorithm to try some refinement or other and then computer time. Thus, we're not burning through what remains of our budget very quickly. We are conscious that time is ticking along, however, so we're writing up our report, describing the methods and results in detail, which we'll have peer-reviewed and submit to you shortly (certainly well within this month).

I hope this provides enough background for your Board report. Please let me know if I can clarify any points or if you have any other queries.

Regards

Simon
Simon J Lovatt
Executive Officer

Production and Provenance

NZ Red Meat Story

A proposed Red Meat Sector Market Development Action Plan has now been developed by the red meat sector. One component of this proposed Action Plan is the development of the Red Meat Story.

The integrity of the red meat sector story will be built on the RMPP Farm Assurance Programme and the many national regulations which our farmers and meat exporting partners have to meet know as a compliance network. This network is a mixture of voluntary and regulatory standards. Currently this system supports market entry and customer acceptance.

Work is currently underway on mapping out this network, identifying the systems, what they do, where they fit in, and who controls what. From this information we will be able to identify if there are any gaps and the key messages and proof points that will resonate with regulators, customers, and consumers.

Key next steps – at a glance	Completion Date
Undertake a desktop analysis of the current compliance landscape (v1 prototype).	October 2016
Test and add to the v1 prototype through data gathering from key contacts - commercial and government.	October 2016
Map the compliance landscape and systems- what are the systems, what do they do, where do they fit along the supply chain, who controls their content and auditing?	October 2016
Preliminary identification of gaps.	November 2016

NZ Farm Assurance

The New Zealand Farm Assurance Programme Advisory Group meeting was held on the 23 August 2016 in Christchurch with full attendance of 23 people making for a good meeting. The meeting focused on the Pilot Programme feedback provided by Melonie Sheppard, the findings were wide ranging through the total assurance process. A report will be presented to the PSG, partner groups and the participating farmers. A positive take-out from the evaluation was that 98% of the 34 Pilot farmers believe there is benefit to their business in being part of a NZ-FAP.

A key meeting outcome was to confirm the content of the NZ-FAP Standard. The total document was reviewed and updated based on input from the partners and also findings from the Pilot farmers.

Other business presented and discussed included:

– Natalie Bowie gave an outline of a communication strategy and also undertook to pull together a media release aimed at informing farmers of the NZ-FAP, the Pilot programme and positive farmer comments supporting both.
– Colin O'Connor – MPI Verification presented an outline of their current farm verification programme and how this could support or even be integrated with NZ-FAP in the future.

- A separate NZ-FAP Governance Group will be setup to oversee the NZ-FAP. RMPP will be the owner of the programme for the short to medium term.
- Participation be companies outside of the RMPP is supported by the group with appropriate financial recognition of partner inputs to date.

Key next steps - at a glance	Completion Date
Complete Pilot Programme	Completed
AG meeting in Christchurch to review/confirm NZ-FAP Standard for implementation and also next steps	Completed
Pilot Programme Reviewed by third party, report to AG	Completed
NZ-FAP Governance Group established	September 2016
NZ-FAP submitted to JAZ-ANZ for ISO17065 Scope Extension	September 2016
Pilot Programme Evaluation report to PSG	October 2016
NZ-FAP implementation by partner group as required	November 2016

Communication Timetable of Activity (August – December 2016)

2016	August	September	October	November	December
Social Media	Daily Twitter posts and retweets Weekly Facebook posts and shares	Daily Twitter posts and retweets. MPI to do run of RMPP tweets Weekly Facebook posts and shares	Daily Twitter posts and retweets Weekly Facebook posts and shares	Daily Twitter posts and retweets Weekly Facebook posts and shares	Daily Twitter posts and retweets Weekly Facebook posts and shares
Partner Newsletters/E-diary	As and when	Greenlea – spring edition ANZCO -spring update to QA farmers. MPI – Aggregate spring edition	ANZCO – Farmer newsletter Beef & Lamb newsletter – computer wrap up	As and when	As and when
RMPP e-newsletter	Edition 2	-	Edition 3	-	Edition 4
Press Release		NZFAP Te Keo, ANZCO pilot farmer, Wairarapa Red Meat Network (Emma Higgins, Rabo) Rural Business Network (Waipuk)	Computer courses – wrap up for 2016 Alliance pilot farm group/PSG in Invercargill Farmers Weekly Column (TBC) eASD pilot start	Farmers Weekly Column (TBC)	Farmers Weekly Column (TBC)
External article (reporter, partner)	Southland Girls Teen Ag Meat companies working together AWDT Southland article ANZ – Opinion Editorial	Alliance Pilot Farm – Parris', Tuatapere ANZCO Pilot Farm – Mt Somers Greenlea – Vicki Gower, Benchmarking angle Rabobank – Report from Matt Costello due out	Greenlea – David Kidd, Routine weighing angle Rabobank – Rural News section (end of Oct) TBC	Beef & Lamb – FeedSmart app	
Events	**Presentations to:** Beef & Lamb Farmer Council NZIPIM Conference AgFirst Conference National Party AgCaucus	**Presentations to:** Beef & Lamb Extension conference MPI Lunchtime session NZ Meat Board Alfredton Farm Discussion	**Presentations to:** Alliance pilot farm group (Invercargill) Hawke's Bay Regional NZIPIM branch meeting **Attendance at:**	**Presentations to:** **Attendance at:** MPI PGP Expo (Theme: Our food & fibre future) Primary Schools linking with farmers launch	**Presentations to:** PAC Meeting **Attendance at:** Rabobank launch of reports (TBC)

2016	August	September	October	November	December
	briefing Beef & Lamb Technology Expo Greenlea pilot farmer workshop	Group (TBC) **Attendance at:** Rabobank 'Pathways to Farm Business Ownership' seminar MPI – Drought in North Canterbury workshop	Rural Business Network, National Advisory Group, Hamilton		
Additional plans completed	NZ Farm Assurance Programme	Communication Crisis	One pager project plans		
Reporting	Quarterly MPI Report Monthly report to partners Monthly summary to partner communications team	Monthly report to partners Monthly summary to partner communications team	Monthly report to partners Monthly summary to partner communications team	Quarterly MPI Report Monthly report to partners Monthly summary to partner communications team	Monthly report to partners Monthly summary to partner communications team
Specialist Newsletters	Federated Farmers Friday Flash (Weekly). Info as and when AgriOne newsletter. Info as and when AWDT Newsletter	Federated Farmers Friday Flash (Weekly). Info as and when AWDT Newsletter	Federated Farmers Friday Flash (Weekly). Info as and when AgriOne newsletter. Info as and when AWDT Newsletter NZVA - Sheep & Beef Veterinarians Special Interest Branch newsletter	Federated Farmers Friday Flash (Weekly). Info as and when AWDT Newsletter	Federated Farmers Friday Flash (Weekly). Info as and when AgriOne newsletter. Info as and when Sheep & Beef Vets newsletter (6 monthly) AWDT Newsletter
Website	Overhaul of content, links and all pages.	Overhaul of content, links and all pages.	Maintenance of site	Maintenance of site	Maintenance of site
Public documents		Booklet	Booklet		