

# final report

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## **WA Producer & Researcher Thought Leadership NZ Tour (Precision Pasture and Livestock Conference)**

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## Executive summary

In mid October 2017 a group of 16 Western Australian producers, researchers, consultants and extension providers travelled to the north island of New Zealand, joined by 3 more professionals from the Eastern States, to attend 3 joint international agricultural technology conferences (7<sup>th</sup> Asian-Australasian Conference on Precision Agriculture; 1<sup>st</sup> Asian-Australian Conference on Precision Pastures and Livestock Farming; Digital-Farmer and Grower 2017), then partake in a study tour of related activities in the southern part of the North Island. It is understood that this is the first study tour of its kind in the red meat industry, whereby these four links of the 'R&D production supply chain' spent a week learning, sharing, networking and building relationships together in another country.

The Study Tour was initiated from a WA Livestock Research Council (WALRC) workshop whereby specific producers, researchers and consultants were invited to attend to 'brainstorm' ideas, exploring technologies and potential technological solutions to improve efficiency, productivity and profitability in livestock systems, through improved feedbase management, in WA. During this workshop it was agreed that New Zealand producers were seen as leaders in this field and that there would be value in visiting those who are doing it well to learn more about their challenges and successes in the adoption of technologies, given overcoming barriers to adoption was something discussed at length by the group. Weeks later one of the workshop attendees shared the link to the Precision Agriculture international conferences being held in NZ, and the seed was planted to make this study tour a reality.

WALRC distributed an Expression of Interest through its networks, following discussions with the MLA Meat Donor Company to ascertain avenues for funding whereby the attendees could pay half the cost of the trip and have their contributions matched. This resulted in the attendance of 19 people from the red meat industry R&D production supply chain, coming together to attend the three conferences, then travel on a bus together for two and a half days to meet with NZ producers, researchers, consultants and agribusiness leaders at their businesses to help the group understand how particular technologies are being used (including the challenges of introducing them to operations), to learn, share ideas and build valuable networks that will undoubtedly have lasting benefits for all.

Achievements of the trip were far reaching, both for the attendees and those from NZ who were visited. Strong networks were forged during the week that will see work progressed across Australia and between NZ and Australia. A Whats App group was created prior to the week to share information, and used throughout the week, then has continued to be the main point of contact for the whole group to discuss and progress ideas. On return, a debrief workshop was held, with as many of the attendees present as possible. Ideas for projects stimulated by the tour were discussed, then three chosen for further investigation. These three 'concepts' were discussed and developed, with the intent for progression in the new year, into possible projects. Plans were also made for another workshop at a time that is not so busy for producers, to revisit these concepts and progress further, with additional guests invited with expertise in the those fields. It is anticipated that at least two of these concepts will be worked up into funding proposals to be submitted in 2018. These three concepts are in the areas of hyperspectral imagery, livestock monitoring systems and whole mixed farm management software.

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# 1 Project objectives

The NZ WA Study Tour was instigated in order:

- To increase knowledge by WA based producers and researchers of current use, current R&D and future possibilities of digital agriculture generally and to their business.
- To obtain firsthand experience (through post conference visits – 2 days allowed) of what is happening in this space on the ground with New Zealand producers.
- For each participant to develop a summary report of their learnings and what this means for their business including at least one R&D concept for submission to MLA. Note failure to provide this summary report will result in no re-imburement of costs.
- For the Australian group to review and refine/improve on the evolving MLA digital agriculture strategy.

## 2 Discussion

### 2.1 Programme

A full programme was developed for the group, whereby making the most of the time away from businesses and to gain the maximum benefit from the study tour and investment made by each individual. The first 2.5 days were spent in Hamilton with attendees choosing from the many presentations across the three international conferences (<https://precisionagriculture.org.nz/events/pa17-the-international-tri-conference-for-precision-agriculture-in-2017/>), and meeting together for a debrief session each night to share findings from the day and dinner as a group. Debrief sessions were valuable to share what each had seen and learnt as not everyone could attend every session. The informal dinners then enabled networking and interactions to begin between the group and further discussions of sessions attended during the day.

Once the conferences had closed at lunchtime on Day 3, the group then began the specifically designed study tour programme (Table 1), which had been planned by Hamish Gow, Massey University and MDC connection. The study tour was to take the group from Hamilton, across to Napier, then down to Palmerston North. The programme was developed based on the information provided regarding what attendees had communicated they would most like to learn and see, with some of the programme adapted as the week progressed as further insight was gained as more specific needs, knowledge gaps and interests were ascertained. A mix of family and corporate farms (grass-fed beef, feedlots, sheep, dairy and horticulture enterprises) were visited, along with research locations and consultancy firms. Guest speakers and dinner guests were also invited to join the group at dinners to provide additional opportunities for learning and networking.

Day	Business visited/Dinner speakers	Location
Wed 18 <sup>th</sup> Oct	Gallagher Headquarters tour and presentation (Darryl Jones, National Sales Manager for Animal Management in New Zealand)	Hamilton
	Agfirst Consultancy (James Allan, Chairman, and colleagues)	Hamilton
	Dinner Speaker - James Parson (Chairman Beef & Lamb NZ/Nuffield Scholar/Producer)	Hamilton
Thurs 19 <sup>th</sup> Oct	Landcorp Farming Ltd (Bruce Hunter, Senior Business Manager and colleagues)	Wairakei
	Dinner speakers - Patrick Maher (GM Atkins Ranch) Shayne Walker (CEO Local Indigenous group) Sam Lange (local producer/Nuffield scholar)	Napier
Friday 20 <sup>th</sup> Oct	Waitatapia Station Ltd (Roger and Hew Dalrymple, Principals)	Bull
	Hyperspectral imagery presentation (Prof Ian Yule, Massey University)	Bull
	Farm IQ (*Collier Isaacs, CEO)	Bull
	My Farm Ltd (Andrew Watters, Chief Executive)	Fielding
	Dinner speakers - *Prof Hamish Gow & members of the group	Palmerston Nth

(Table 1: Bus Tour daily programme)

\*joined the full bus tour

## 2.2 Attendees

Following the distribution of information regarding the Study Tour, numerous Expressions of Interest were received, resulting in 19 people attending this unique experience (Table 2). All provided written Evaluation Forms from each day of the tour, to help inform a final report of the findings, and to assist in reflection of learnings as the tour progressed. All attendees agreed that one of the most valuable parts of the tour were the interactions within the group, as they learned an shared together. Many commented that they had known some of the other attendees for many years, but never had the opportunity to spend quality time with each other exploring professional ideas and opportunities in the area of livestock systems. Others made new connections with each other that will undoubtedly have lasting effects for the benefit of research, development and adoption both in WA, interstate and across to New Zealand.

Many of the producers attending also had experience in research, development and/or adoption, either as hosts or instigators of research, or as part of previous professional roles. The same was found to be the case with some researchers and consultants who were also actively involved in family farming businesses. This added further depth to interactions amongst the group and with others, as most participants had a wide knowledge base experiences to draw and build upon.

First Name	Surname	Profession	Location/Organisation
Marcus	Sounness	Producer	Borden
John	Fry	Producer	Donnybrook
Allan	Wilson	Producer	Katanning
Dean	Thomas	Researcher	CSIRO, Perth
Erin	Gorter	Director	MLA Board, WA
Brad	Wooldridge	Producer	Arthur River
Paul	Omodei	Consultant	Planfarm, Manjimup
Andrew	Thompson	Researcher	Murdoch University, Perth
Sarah	Hyde	Executive Officer	Facey Group, Wickepin
Pip	Crook	Producer	Kojonup
Rebecca	Wallis	Consultant	Aginnovate, Dalwallinu
Phil	Barrett-Lennard	Consultant/Producer	agVivo, Gingin
Kelly	Pearce	Producer	Yealering
Tanya	Butler	Researcher/Producer	DPIRD/Bruce Rock
Nigel	Tompkins	Researcher	MLA, Brisbane
David	Lamb	Researcher	University of New England, NSW
Chris	Miramis	Director	MLA Board, NSW
Andrew	Slade	Producer	Mt Barker
Mark	Bending	Producer	Manjimup

(Table 2: Study Tour attendees)

## 2.3 Project Objectives

- To increase knowledge by WA based producers and researchers of current use, current R&D and future possibilities of digital agriculture generally and to their business.

The three conferences gave a wide selection of topics on various research and development activities being conducted around the world, providing an opportunity for all attendees to choose which areas they were most interested in expanding their knowledge in. The most popular with the majority of attendees were the sessions where producers from New Zealand and Australia shared their own findings from research conducted on their properties. Extensive knowledge was gained, along with awareness of certain areas of work being conducted, even if not directly relevant to all individuals.

The bus tour was then an opportunity to apply newly gained knowledge, or build on existing experiences and knowledge in an effort to improve or refine current practices. Of particular interest to the whole group was the way certain farming businesses were adopting specific technologies, or how they were planning to work them into current practices. This stretched to ways of recording and utilising extensive amounts of data efficiently and effectively. It was clear that things that NZ farmers and their advisers were grappling with in this area were not dissimilar to the study groups own experiences when venturing into the adoption of digital agriculture.

- To obtain firsthand experience (through post conference visits – 2 days allowed) of what is happening in this space on the ground with New Zealand producers.

The bus tour conducted after the conferences was unquestionably the most valuable part of the whole week, where participants could visit farms and other related businesses, to gain a deeper understanding of many issues faced by the NZ agricultural community. At all times, participants were able to ask questions of hosts and speakers, then the time on the bus gave the opportunity for the group to have individual or small group conversations to further delve into what had been seen and learnt. Feedback from those who were visited, was that they gained as much from our group through the questions asked and the insights provided, as the group did from their hosts.

Learnings were not just restricted to technologies and research. In many instances, conversations turned to managing issues such as labour, future capacity, soils and climatic challenges. It was clear to the visitors that many challenges experienced in WA were exactly the same as those confronting NZ farmers, such as biosecurity, environmental challenges being dictated by those outside the rural industries and compliance.

- For each participant to develop a summary report of their learnings and what this means for their business including at least one R&D concept for submission to MLA. Note failure to provide this summary report will result in no re-imburement of costs.

Each participant completed evaluation forms for each day, as well as participated in debriefing sessions at the end of each day where feasible. These forms and insights were then used to collate a whole tour final report, which includes a summary of three possible R&D concepts being developed by the group, that it is envisaged will be submitted to MLA for consideration in 2018. (Appendix 2 – Confidential). These R&D concepts were outcomes of a post tour debrief workshop held in Perth in December 2017, whereby ideas based on knowledge gained from the study tour for projects were discussed and three chosen from that list to pursue in more detail in smaller groups.

Interestingly, on review of all forms of evaluations both written and verbal, two words appeared regularly from all participants across the whole week – ‘opportunity’ and ‘measure/measurement’. This strongly reflects the core of what can be gained from first hand experience to enhance knowledge and understanding; build networks and relationships; and foster interest and adoption across many sectors. All saw many opportunities to enhance and/or build their businesses or organisations, whilst at the same time recognising the significance and importance of measurement.

- For the Australian group to review and refine/improve on the evolving MLA digital agriculture strategy.

Information was provided to the group regarding the MLA Digital Agriculture Strategy, providing background information to participants regarding MLA’s work in this area. The group will continue to provide input and insight to the strategy through MLA contacts (Nigel Tomkins, David Beatty and Sean Starling) as required. Information and contacts have been provided to further expand MLA’s footprint in WA with those already working in this area in connectivity and other rural industries, such as grains.

## 2.4 Insights

All participants agreed that the Study Tour had been a good investment, both in time and money. Many expressed that they had been unsure how much they would gain from the trip, but returned to WA satisfied that spending time learning with others, in different environments was important to growing and improving their businesses and/or professional outlooks. All agreed that had they had to pay the full cost of the tour, it is less likely that they would have attended, although there was consensus that it was important for them to provide some of the cost. One attendee commented that he felt the trip allowed everyone to 'defrag' – reset themselves across their whole 'system' in order to refresh and reinvigorate themselves in their businesses and organisations.

The areas felt to be of most value by all attendees was:

- Interactions within the study tour group, especially given the unique mix of producers, researchers, consultants and extension providers.
- The visit to Waitatapia Station (Dalrymple business), where a professional approach to a successful, diverse family farming business was shared openly, from the office to the paddock.

The area of least value across the week was :

- The conferences. It was felt that a lot of the information presented was either not relevant to producers, too technical to be of value and/or so far into the future before it will be available that it was not of interest. It was suggested that on reflection, it may have been better to just attend one day and evening of the conferences, and travel elsewhere for the rest of the time.

Suggested improvements that could be made for future study tours were:

- Some time for sightseeing, as there was none programmed. However, on discussing as a group, many expressed that had the trip been longer, they would not have been able to attend. Having a bus driver who was able to provide some commentary in certain areas of interest enabled some tourist information to be shared on the bus trips.
- More farm visits, which could be accommodated, keeping the trip to the same length of time, if less time was spent at the conferences.
- Individual hotel rooms for attendees



## 3 Conclusions/recommendations

### 3.1 Conclusions

The opportunity for this unique group to travel and learn together was of immense value to all attendees. Each person drew their own professional and personal value from the study tour, but all agreed to gaining the most from sharing the experience as a group. This will have added benefits on return as those networks are fostered and build upon through future R&D collaborations and sharing activities. This study tour and its participants will undoubtedly be a catalyst for significant change and action around technology in WA livestock systems in coming years, if support can be mustered from funding organisations and commercial partners.

Through the post tour debrief workshop, three R&D project concepts were decided upon for further development, based on innovations seen and/or discussed on the tour. Three groups were formed, based around each concept, and tour participants chose which concept they would like to work on. A 'Lead Person' was allocated for each group, with the responsibility to keep the momentum going, and a 'Lead Organisation' was nominated who would ultimately write up the project and manage it if successful. Those not able to attend were given the opportunity to join whichever concept group they were interested in working with. Another workshop to further progress the concepts, and to do an initial 'pitch' to MLA for feedback was planned for February, where it was also planned to integrate presentations from David Lamb and Ian Yule, and if funds allow, Mark Trotter and Hamish Gow.

There is no doubt that the group of 19 people who attended the Western Australian New Zealand Precision Agriculture in Livestock and Pasture Management Study Tour 2017 gained immeasurable benefits from the week spent in each other's company, and the company of those who hosted or spoke to the group. The tour also provided an opportunity to strengthen relations between WA and NZ which will undoubtedly result in collaborations in R&D in the future, along with reduce the likelihood of unnecessary duplication of R,D&A resources between the two countries. This will also flow across to the Eastern States, given the presence of attendees from NSW and Queensland as well. Commonalities have been found, networks created and friendships formed and cemented, which will provide ongoing benefits to both countries industries as we work side by side in an effort to catapult adoption of technology in livestock systems.

### 3.2 Recommendations

#### Recommendation 1

Provide assistance and encouragement to conduct Study Tours to other regions, states and/or countries with a combination of producers, researchers, consultants and extension providers should be supported

#### Recommendation 2

Assistance with further development for the following three concepts be considered by MLA (in no specific order)

- 1) Hyperspectral imaging
- 2) Remote monitoring (livestock management) including e-shepherd/virtual fencing
- 3) Mixed farm data integration management programme