Final report

Improving the Productivity and Profitability of South Australia's Red Meat and Wool Industries project (P.PSH.1256).

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Abstract

The South Australian red meat and wool sector has reliably achieved an average growth of 7% per annum in the five years to 2018-2019 when it had a production revenue of $2 billion and a processing revenue of $1.5 billion.

Since 2018-2019, as a result of the drought and the COVID-19 pandemic, South Australia's red meat and wool sector production has been declining, resulting in current production levels not being adequate to meet the demand for consistent, quality product from processors.

This project was delivered over a 3-year period from 2019-20 to 2022-23 and aimed to build business resilience and contribute to improving productivity and profitability for this sector through engagement of sheep and cattle producers in an extension/adoption focused Program.

A total of 1,789 participants, including 1,294 producers and 367 service providers[1] were directly engaged in Program events/activities. Indirect engagement and learning opportunities included online resources (17,136 downloads) and a Best Practice Demonstration Farm (BPDF) virtual tour (1,146 users).

Participating producers have an increased awareness, knowledge and skills in the areas of business acumen (average score increased from 5.4 to 7.4/10), eID technologies (average score increased from 5.5 to 7.5/10), Precision Livestock Management (PLM) technology and its use (average score increased from 4.2 to 7.4/10), and confidence in their ability to apply their learnings (average score increased from 5.1 to 7.1/10). This provided producers with the capacity to implement change, with 70% of participants across Program activities identifying that they were likely to do so and 88% of participants in the Livestock Enterprise Planning (LEP) component stating they were likely to implement actions identified within their Plan. Analysis of LEP review participants showed that 91% had commenced all their actions and 17% have completed all their actions. Actions most commonly completed were adoption of eID tags, use of eID equipment and data management platforms to measure individual animal data (e.g., weight gain, pregnancy status - wet/dry or multiples, lamb survival and fleece weights) to improve individual animal performance and guide nutrition management and breeder selection. A total of 86% of the Producer Group participants plan to continue to implement changes within their business, and 75% of the participants have implemented changes within their business as a result of participating in the Program.

Service Provider development was successful in ensuring support is available to producers to drive change. 132 service providers with a reach of 13,580 producers have attended a total of 16 upskilling events. Livestock Consultants rated events an average of 8.3/10 for both value and satisfaction, and Livestock Agents/Wool buyers and Brokers rated events 8.7/10 for value and 8.6/10 for satisfaction. Upskilling topics included Implementing eID technology, using data for decision making in Precision Livestock Management, software for data management, understanding genetic tools and understanding their clients' breeding objectives.

The Program has improved capacity and driven practice change specific to the needs of the individual livestock businesses. This has contributed to increased profitability and productivity and resilience in the sector through delivery of a successful extension/adoption program to livestock producers and their advisors.

[1] Remainder are other industry representative (66), students (58) or they didn't provide this information (4)

Abbreviations

ALPA – Australian Livestock and Property Association Limited

ASBV – Australian Sheep Breeding Value

BPDF – Best Practice Demonstration Farm

CIAA - Combined Independent Agents Association

EOI – Expression of Interest

EBV - Estimated Breeding Values

FD – Facilitated discussions

IPP – Improve Productivity and Profitability Pillar

LEP – Livestock Enterprise Planning

MLA – Meat and Livestock Australia

M&E – Monitoring and Evaluation

NRM – Natural Resource Management Boards, became Landscape Boards through the Landscape South Australia Act 2019

PIRSA – Department of Primary Industries and Regions

PLM – Precision Livestock Management

RMW – the SA Government's Red Meat and Wool Growth Program

SARDI – South Australian Research and Development Institute

SALC – South Australian Livestock Consultants

Other common definitions

Business and Technology Action Plan - is now known as the Farm AgTech Adoption Plan. However, for the purpose of this reporting it will be referred to as the Action Plan as this reflects the objectives in this project contract.

Demonstration Farms – also referred to as Focus Farms by Red Meat and Wool Growth Program.

Producer Groups – also referred to as Producer Technology Groups by Red Meat and Wool Growth Program.

Service Provider Development - also referred to as Upskilling Service Providers by Red Meat and Wool Growth Program.

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Executive summary

Background

Current production levels for red meat and wool livestock in South Australia are not adequate to meet the demand for consistent, quality product from processors. There was an identified need to support the sector by increasing the number and quality of sheep and cattle available.

The Red Meat and Wool Growth Program 2019-20 to 2022-23 (RMW) aimed to improve productivity, profitability and enhance market access by providing support to industry through engagement of commercial sheep (80% of target audience) and cattle (20% of target audience) producers in an extension/adoption focused Program. Key focus areas of RMW were improving business acumen and the uptake of data-based precision livestock management to enable practice change on farm. These focus areas formed the basis of objectives for MLA Project P.PSH.1256.

Outcomes of this Program will inform any future programs with similar aims/objectives and programs looking for effective extension/adoption-based approaches to support practice changes.

Objectives

The objectives for the Program were to assist producers to build business resilience through increased business acumen and skills, the use of technology for data-based decision making, and improved production efficiency. Participants produced a Business and Technology Action Plan outlining goals and actions specific to the needs of their business to drive on-farm change.

Methodology

The Program delivered a range of extension and adoption initiatives under five engagement activities:

- Livestock Enterprise Planning
- Producer Groups,
- Demonstration Farms,
- Co-innovation Officer at the Best Practice Demonstration Farm and
- Service Provider Development.

These initiatives were designed to build skills, promote the benefits of, and facilitate opportunities to adopt technology into livestock enterprises to enhance productivity, labour efficiency and data-based decision making.

Engaging and upskilling service providers enhanced the support available to their producer clients to drive practice change.

Results/key findings

The Program has contributed to improving productivity and profitability for the South Australian red meat and wool sectors through delivery of a successful extension/adoption program for livestock producers and their advisors. Participation has increased awareness, knowledge, understanding and confidence in key areas of business acumen and PLM technology. These producers feel able to and intent on enacting practice change, and in many cases have already begun to do so. Of the 41 producers interviewed through facilitated discussions, 36.6% reported improved profitability and 53.7% reported improved productivity.

Benefits to industry

High levels of engagement and participation in the Program have resulted in increased implementation of eID and data-based precision livestock management practices. Increased implementation of eID in the areas of nutrition, animal health and genetics that lower the cost of production and increase productivity should lead to increased output and profit among sheep and cattle producers and increased skills in business acumen should result in more resilient businesses.

Future research and recommendations

Recommendations for a future program include:

- Provide follow up sessions with LEP attendees to assist with 'barriers to implementation' of their Business and Technology action plan and provide further opportunity to review and update their Plan.
- Continue to support the Community of Practice formed through the Producer Groups and Demonstration Farms.
- Maintain and continue Service Provider Development, to upskill this sector and ensure a contemporary skill set to facilitate ongoing change in livestock businesses.
- Continue the demonstration of AgTech in a 'commercial' setting (BPDF), to demonstrate and validate the value proposition of AgTech and the outcomes of data-based decision making.
- Review the implementation of practice change in participating livestock businesses in 12 months (medium term), following Program completion (May-June 2024).
- Undertake a longitudinal study of participating livestock businesses to determine changes in productivity and profitability resulting from participation in the Program.

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1. Background

The South Australian red meat and wool sector has reliably achieved an average growth of 7% per annum in the five years to 2018-2019 when it had a production revenue of $2 billion and a processing revenue of $1.5 billion.

Recently, as a result of the drought and COVID-19 pandemic, the sector has been declining. In 2020-21, the South Australian red meat and wool sector was valued at slightly over $2 billion in terms of overall industry revenue, down by almost 6% compared with the previous year, and exporting to around 50 countries with an estimated export value of $833 million.

Sheep numbers have declined from 13 million in 1990 to 10.7 million in 2021 and the value of wool exports has been impacted by COVID-19 pandemic. Cattle numbers sit at approximately 1 million head. In 2020-21 livestock production value fell 3% to $1.8 billion. Processing value fell by 18% to $1.1 billion, due to challenges such as declining stock numbers caused by the prolonged drought and subsequent restocking phase that led to lower slaughter numbers and lower price of wool due to low overseas demand.

Current production levels are not adequate to meet the demand for consistent, quality product from processors. There is an identified need to support the sector by increasing the number and quality of sheep and cattle available.

The Red Meat and Wool Growth Program (2019-20 to 2022-23) aimed to contribute to improving productivity, profitability and enhancing market access for this sector and provide support to industry for recovery and restocking through engagement of commercial sheep (80% of target audience) and cattle (20% of target audience) producers in an extension/adoption focused program.

The implementation of electronic identification (eID) management practices will provide informed decision making and demonstrate the financial benefits to lower the cost of production to livestock producers. This should increase output and increase profit among sheep and cattle producers, by empowering producers with the skills, knowledge and appropriate tools to identify gaps and opportunities through on-farm data, for example in the areas of genetics or nutrition.

The Program has focused on enhancing productivity, labour efficiency and data-based decision making through:

- strengthening strategic skills development (particularly in the area of building business profit and resilience),
- promoting the benefits of and facilitating opportunities to adopt technology into livestock enterprises to enhance productivity, labour efficiency and data-based decision making.
- Increase business acumen and skills in business, farm management and data-based decision making of livestock producers to build better business resilience and improved eID technology utilisation.

2. Objectives

The project was designed around achieving outcomes in four key engagement activities:

Livestock Enterprise Planning

Livestock Enterprise Planning aimed to build business resilience through increased producer knowledge and skills by utilising eID technology for data-based decision making and improved production outcomes.

1.1 At least 160-200 producers to access training and support to develop their Business and Technology Action Plan that will identify at least three actions to improve farm productivity.

1.2 At least 110 -140 producers (70% of producers having accessed training and support) have implemented outcomes from the Business and Technology Action Plan that resulted in a positive change to business and production.

1.3 At least 140 producers who have developed their Business and Technology Action Plan undertake a review session to evaluate progress against actions identified in their Action Plan and re-evaluate / reset actions if required.

Producer Groups and Demonstration Farms

Producer Groups aimed to provide opportunities for producers to be upskilled, supported and learn from each other in the implementation and practical application of eID technologies.

2.1 Support at least 15 Producer Groups to facilitate shared learning outcomes to at least 100 producers and service providers resulting on farm change by up to 80% of members.

2.2 At least 60% of livestock producers engaged in Producer Groups have improved awareness, knowledge and practical application of eID technologies for improved decision making and have the skills to use this information to identify gaps and opportunities to improve whole farm performance and sustainability.

2.3 Expand the membership of these producer groups by another 50 members (to 340 members) and maintain engagement with existing participants.

The establishment of Demonstration Farms aimed provide opportunities for producers to see the practical application of eID technology, biosecurity best practice and business planning.

2.4 Establishment of 13 Demonstration Farms across South Australia which will add value and sustainability to producer group outcomes under the guidance of service providers to drive the implementation of practice change.

2.5 Engage at least 100 producers in the demonstration and validation of AgTech and translation of data into on-farm decision making through the demonstration farms.

Service Provider Development

Service Provider Development aimed to build the capacity of the industry livestock service professionals who provide services to the red meat and wool industries to improve awareness, knowledge and understanding in the use of eID technologies and application of data to make decisions for business and livestock management. Upskilling industry service providers will help to support the successful implementation of practice change across the industry

3.1 Upskill at least 60 service providers across the state in the use of eID to be able to support producers in developing and implementing actions from their Business and Technology Action Plan that result in a positive change to business and production.

3.2 16 industry service providers events, to build service providers capability with eID technologies to better assist and understand competencies of producers and of the producer groups they service and tailor their services to meet the diversified needs of their clients.

3.3 At least 45 Service Providers (75% of those engaged) have increased awareness, knowledge, and skills in available eID technologies, to drive implementation of outcomes that result in a positive change to business and production.

Co-innovation Officer and Best Practice Demonstration Farm

The Co-innovation Officer (Agtech Extension Officer) was responsible for the extension and demonstration of the technology installed on the Best Practice Farm to demonstrate the value proposition of the technology to industry and contribute to other Program components such as Producer Groups, Demonstration Farms and Livestock Technology Expos

4.1 Deliver 2 Field Days at the Livestock Best Practice Demonstration Farm per annum and participate in the Livestock Technology Expos (2 per year).

4.2 Host 5 groups of producers per annum to the Best Practice Demonstration Farm.

4.3 Establish demonstration mechanisms at the Best Practice Farm and on-line for the technology installed on the Best Practice Farm.

4.4 Assess best practice technology and management innovations to transfer appropriate knowledge and skills to demonstrate changes to producer groups.

4 Methodology

4.1 Engagement activities

To meet the aims and objectives, the Program was designed to provide commercial sheep producers (80% of target audience) and commercial cattle producers (20% of target audience) an opportunity to engaged through four extension/adoption activities. To assist producers, build better business acumen and resilience and demonstrate to producers how the use eID technology and increased business acumen can drive productivity, profitability, quality and efficiency gains. The Program was also designed to upskill Service Providers to support producers in implementing change.

4.1.1 Livestock Enterprise Planning

Livestock Enterprise Planning (LEP) will assist producers to build business resilience through increased business acumen and skills, the use of technology for data-based decision making, and improved production efficiency.

The Livestock Enterprise Planning is focused on improving beef, sheep and wool producer's capabilities, skills and knowledge to manage key financial, productivity and risk management areas of their business.

A panel of providers was established to prepare and deliver the Livestock Enterprise Planning component of the Program. The target audience for delivery of the Livestock Enterprise Planning were sheep, wool and beef producers in South Australia.

The key outputs for the Livestock Enterprise Planning Program were:

- Business Acumen training to improve primary producer capabilities, skills, and knowledge to manage key financial, productivity and risk management areas of their business
- A Business and Technology Action Plan (The Action Plan) which identified key actions required to implement business change; and
- Adoption of technology to improve overall business performance and resilience.

Applications from Providers were received and evaluated with criteria for assessment being:

- An Economic Contribution Test: (This test is required under the South Australian Industry Participation Policy for contracts valued between $33,000 up to $1 million in Regional South Australia.)
- Experience and past performance in delivery of livestock business advisory services
- Capability and capacity to fulfil requirements; and
- Value for money.

One provider, ProAdvice Pty Ltd, was contracted. The initial contract was for engagement of 235 livestock businesses, but due to demand this contract was varied to include up to an additional 49 businesses.

LEP was delivered to each participant through a combination of attendance at a group session and subsequent follow up with one-on-one coaching. Participants developed a Business and Technology Action Plan outlining goals, actions and risks specific to the needs of their business (See Appendix 1 for a sample Business and Technology Action Plan). Goals covered six strategic areas: Business management, Banking, Land (natural resource base), Enterprises, People and Technology use. The Plan included Business and Technology Actions (how the goal would be implemented), with each action given a priority rating, the specific business member/s who would be responsible for driving implementation identified, a timeline for implementation and estimated budget required. A monitoring component describing what successful achievement of each action would look like was also completed by participants. Participating businesses were able to access a Livestock Agtech Adoption Rebate up to $10,000 (GST exclusive) to stimulate producer investment and support in business and technology adoption. Further detail regarding typical plan content is provided in Section 4.1.

Twenty-eight LEP sessions were delivered across the State (see Appendix Table 1.1 for session locations and attendance), including three sessions delivered online to accommodate livestock businesses who could not attend a session in-person.

4.1.2 Livestock Enterprise Planning Review Sessions

A Request for Quote was invited from four suitably qualified consultants to undertake a process to review Livestock Enterprise Plans. Applications from providers were received and evaluated using the process outlined previously in the Livestock Enterprise Planning section. ProAdvice was contracted to deliver a target of 140 plan reviews and accompanying producer surveys.

The LEP Review sessions provided an opportunity for producers to work one to one with a business consultant to evaluate progress in achieving the actions listed in their original plan and their progress in developing their knowledge and skills in business management and financial literacy. It was also an opportunity to readjust goals and set new actions based on changing circumstances and to demonstrate the importance of regular business plan reviews.

4.1.3 Producer Groups

Producer Groups provided opportunities for producers to see the practical application of eID technology, biosecurity best practice and business planning, and be upskilled, supported and learn from each other in the implementation and practical application of eID technologies through the Producer Groups.

Producer groups were promoted as an opportunity for producers to:

- Explore and share experiences and knowledge on ways precision livestock management technologies for beef, sheep and wool production can be used.
- Learn from experts on how technologies could assist you to improve productivity, efficiency and profitability in the livestock (beef, sheep and wool) aspect of your business.
- Support the beef, sheep and wool producer members to implement and apply technology to improve productivity and profitability.

The Groups were established through an Expression of Interest (EOI) process. Responses were evaluated on the following criteria:

- Enterprise type - wool, sheep and cattle;
- Natural Resource Management (NRM) region (seeking a spread of groups across NRM regions)
- Whether the applicant had the capability and capacity to fulfil Program requirements including details of producers wanting to form Group (minimum of 10); delivery plan for the Group; proposed timelines; suitable facilitator – qualifications and experience; and budget.
- Value for money
- Qualifications and experience of the proposed facilitator
- The range of experience and key technologies of interest of the group members and their experience with eID.

The EOI process was effective, with responses from 15 groups received. Following EOI evaluation by Team Leader of the Improve Productivity and Profitability Pillar, RMW Program Manager and a technical expert external to the RMW Program, 15 Producer Groups were established covering the following the NRM regions of the state – South East, Adelaide and Mount Lofty Ranges, Eyre Peninsula, Northern and Yorke, SA Arid Lands, SA Murray-Darling Basin except for the North West (Alinytjara Wilurara) where very few pastoral businesses exist. A mix of wool, sheep and cattle enterprises were present.

All Producer Groups had a facilitator who was responsible for:

- Developing a Group Plan including goals and outcomes aligned to the overall aim of the Program – explore and sharing experiences and knowledge on how PLM technologies can be used in red meat and wool production, learning from experts on how technologies could assist to improve productivity, efficiency and profitability and support members to implement and apply technology to improve productivity and profitability.
- Organising proposed activities
- Overseeing the group
- Completing reporting requirements (quarterly progress reports, final Program report)
- Managing monitoring and evaluation tasks for the Group.

Groups were expected to meet up to four times over the two year period of funding.

4.1.4 Demonstration Farms

Demonstration Farms provided opportunities for producers to see the practical application of eID technology, biosecurity best practice and business planning demonstrated at Demonstration Farms.

The Program aimed to engage Demonstration Farms from a variety of livestock enterprises – cattle, sheep and wool who have implemented a variety of PLM technologies. It is important that Demonstration Farms are representative of livestock producing areas of SA to ensure producers have access to relevant information.

Demonstration Farms were identified in consultation with Livestock SA in Year 1 of the Program. In Year 2 an Expression of Interest process was undertaken with Producer Groups. The aim of this activity is to provide opportunities to see the practical application of eID technologies, PLM, biosecurity best practice and business planning demonstrated "on farm" by producer peers. EOI's were assessed against the following eligibility criteria:

- Have prepared/or are prepared to develop a biosecurity plan and implementing best practice biosecurity
- Have already implemented and have a proven track record in using PLM technologies within their business
- Are prepared to share learnings and host Field Days and group visits.

This approach to engaging Demonstration Farms was effective, with 13 Demonstration Farms signed up. Refer to Table 14 (section 4.3) for details of farm locations, size and enterprise type.

Activities included the delivery of 9 Field Days at the Demonstration Farms (including one online) and the development of extension products for each of the farms including case studies, podcasts and/or videos, that were accessible via the Red Meat and Wool Growth Program website.

4.1.5 Service Provider Development

Service Provider Development focused on building the capacity of industry professionals who provide services to the red meat and wool industries to improve awareness, knowledge and understanding in the use of eID technologies and application of data to make decisions for business and livestock management. Upskilling industry service providers will help to support the successful implementation of practice change across the industry, particularly through PLM and the strategic actions identified in the producer's Action Plan, to improve productivity and profitability.

A scoping activity was undertaken with livestock consultants, livestock agents and wool brokers/buyers to determine the individual development needs of each group in the areas of eID, data-based decision making and precision livestock management. Suggestions for topics and speakers, delivery format were sought.

Consultation with livestock consultants was undertaken primarily with the South Australian Livestock Consultants (SALC) Group. Livestock agents and wool brokers/buyers were consulted through existing networks including the Limestone Coast Red Meat Cluster, the Sheep and Beef industry Blueprint working groups, the Australian Livestock and Property Association Limited (ALPA), the Combined Independent Agents Association (CIAA) and through Elders and Nutrien Ag and their agents.

This engagement and consultation provided a clear pathway not only for the scope, but also needs and timing of service provider development events.

A total of 16 upskilling events were delivered, including 8 for livestock agents and/or wool brokers/ buyers and 8 for livestock consultants.

Service Providers were also able to participate in other workshops and events run by the Program to contribute to their upskilling and had access to the resources being developed by the Program. Participants engaged in service provider development were surveyed to determine their potential

reach in terms of their producer clients (for example, the numbers and type of producers they work with as an advisor; the areas in which they work), the impact of the events and to collate feedback on each event to inform future events.

4.1.6 Co-innovation Officer

The Co-innovation Officer at the Struan and Kybybolite Best Practice Demonstration Farm (BPDF) worked with Elders, SARDI and Struan farm staff to identify commercially available technology that may be of benefit to install on the Best Practice Demonstration Farm. This included technology implementation and data management activities, and, in collaboration with SARDI and farm staff, assisting to identify any additional best practice technology currently commercially available to producers, which may be of benefit to install on the BPDF as well as engagement activities and delivery of events.

The Co-innovation Officer was also responsible for:

- Establishing data management, collection, and analysis protocols for each technology supplier with technology installed on the farm, including processes for interpretation and decision making for farm staff
- Planning, scheduling and developing extension activities and materials to promote and demonstrate technology to show return on investment, and the value proposition of technologies installed at the BPDF. This included Field Days and producer group tours at the BPDF, presentations and trade displays at events and preparing case studies.

A total of 33 technologies from 20 suppliers have been implemented onto the BPDF. The BPDF has directly engaged a total of 226 producers through 9 Field Days, 15 producer group tours, accessing the 'visitor area' at the BPDF and a webinar series.

4.2 Monitoring and Evaluation

Monitoring and evaluation (M&E) was an integral part of delivering the Program. A M&E Plan was developed, including a program logic, to guide how the M&E team, Program Manager and Program delivery team would work collaboratively to ensure effective implementation of M&E, reporting and learning activities for the Program. To ensure the ability to:

- Evaluate Program engagement activities and delivery approach, and the extent of achievement of Program objectives
- Complete Program reporting requirements by measuring the increase in capacity as a result of participating in Producer Groups, LEP and Service Provider Development
- Identify and communicate Program achievements and impact/ benefits for industry
- Collect additional data to measure productivity KPIs and economic impact KPIs for sheep and beef reproductive efficiency

The M&E of the Program was implemented in line with the M&E Plan.

4.2.1 Evaluating the appropriateness of engagement activities and delivery approach

The evaluation of the appropriateness of the engagement activities and delivery approach involved the collection and analysis of both quantitative and qualitative information through:

- Smaller scale short-cycle evaluations
- A larger scale mid-Program evaluation
- Provider and facilitator evaluation reports
- Participant feedback surveys.

Short-cycle evaluations
Short-cycle evaluations were implemented so the Program could progress (as is) confident in the approach being used or make adjustments accordingly to improve and implement change in approach. A short-cycle evaluation was undertaken for Livestock Enterprise Planning (LEP), post-delivery of the first session, through a meeting (17 September 2020) with the Program Manager, Pillar Leader, LEP provider and the M&E Consultant. A short-cycle evaluation was also undertaken for Producer Groups through a meeting (3 February 2021) with the Program Manager, Pillar Leader, M&E Consultant and Producer Group facilitators.

Mid-Program evaluation
A larger-scale mid-Program evaluation was undertaken between December 2020 and March 2021 for the Red Meat and Wool Growth Program as a whole, including the Improve Productivity and Profitability (IPP) Pillar, under which the engagement activities associated with this MLA project are delivered. The M&E team, Program Manager, Pillar Leaders and delivery team were involved.

Provider (LEP) and facilitator (Producer Group) evaluation reports
At completion of delivery, the LEP provider and the Producer Group facilitators were required to complete a final report that included an evaluation section.

Feedback surveys (participant)
Feedback was sought from participants of LEP (as part of their end of LEP session survey), Producer Groups (as part of their final survey) and events delivered through Demonstration Farm, Service Provider Development and Co-innovation Officer engagement activities via an event survey (not compulsory to complete).

The data collected informed evaluation of Program events, as well as delivery of subsequent events in the Program.

4.2.2 Evaluating achievement of objectives

M&E data gathering for evaluating effectiveness of engagement activities in achieving Program outcomes and objectives included:

- Attendance registrations
- Participant surveys
- Facilitated discussions.

Attendance Registrations

Registrations collected for all activities provided an indication of the reach of Program activities, type of attendees (producer, service provider, other) total area managed (Ha), and the main livestock enterprise of participating producers.

Participant Surveys

A number of surveys were employed to assess any change and measure impact of change that had occurred as a result of participating in the Program.

- Producer Group member surveys - baseline survey completed at group commencement and a final survey completed at the end of the Program.
- LEP participant surveys - start of session and end of session surveys. In addition, a follow-up survey was emailed to participants at least 12 months post completion of their LEP session. This survey aimed to support the facilitated discussions by collating additional information around change and impact.
- Event participant surveys associated with Service Provider Development, Demonstration Farm and Co-innovation Officer engagement activities (not compulsory to complete the survey).
- Hard copies of the surveys and SurveyMonkey links were provided to the group facilitators and LEP providers, who then shared them with participants. The producers were provided with the option to do the surveys via SurveyMonkey or hard copy. The group facilitators and the LEP providers further ensured that surveys were completed by the producers, though not all participants completed them.

All survey templates developed were reviewed and approved by MLA.

Facilitated discussions

During April/May 2022 facilitated discussions (FD) were undertaken by Program team members with 41 producers who participated in Livestock Enterprise Planning and/or a Producer Group to obtain detailed feedback and data about level of producer engagement with the Program (i.e. the range of activities they participated in), satisfaction with Program activities and a measure of the impact that participating in Program activities had on their knowledge, skill and confidence levels with eID, PLM and business management as well as on adoption of new technologies. The process was also used to identify barriers to implementation of PLM (see Appendix 4.1 for a list of the FD questions).

FD participants were identified through a number of avenues including:

- An email to all producers who attended LEP at least 12 months earlier (and had provided consent to the Program to contact them), seeking a 'register of interest' to participate
- Recommendations from Producer Group facilitators
- Recommendations from LEP provider.

4.2.3 Limitations of monitoring and evaluation data

There are some gaps associated with data collection for the Program:

- Although completion of participant surveys was expected for all LEP participants and Producer Group members, we did not achieve a 100% completion rate. Some reasons for this are:
    - Membership in the Producer Groups fluctuated. For example, some producers joined a group sometime after the group formed and therefore did not complete a baseline survey but did complete a final survey. Some producers only attended one event and therefore did not complete survey.
    - Member attendance at Producer Group activities fluctuated so it was difficult for Group facilitators to get all members to complete a survey in the required time period. A lot of members were resistant to completing the survey online.
    - Three LEP participants out of 418 chose not to submit both a pre and post survey. One submitted on another attendees' survey from the same business
    - Ten LEP surveys were incomplete – i.e. missing either the pre or post survey.
- For activities where the Program has a partner role, there is not the same opportunity to undertake monitoring and evaluation as for the events developed and run by the Program. For example, for the Demonstration Farm Field Day at McPiggery, the Program was only able to attain the number of attendees but no further details.
- The first LEP follow up survey received limited interest and completion with a return rate of only 2%. The purpose of this survey was to provide additional data to support the information being gathered through the facilitated discussions.
- A second LEP survey conducted by providers during the LEP review process received 54 responses. This represents 95% of businesses who undertook the review but only 19% of the total number of businesses (284) who originally participated in LEP.

The Program was unable to attain longitudinal productivity and profitability data that would be required to demonstrate impact of practice change brought about by Program activities.

4.3 Communications

Various communication tools and platforms were utilised to promote participation in the Program and the resources developed, such as ministerial and departmental media releases, press and radio advertising, organic and paid social media campaigns, e-news, website updates/integration of resources and printed materials. The Program used partners and industry networks' marketing channels to cross-promote and maximise reach and effectiveness, with a focus on the objectives included in the Communications Plan.

Communications data has been monitored and collected throughout the Program. Media coverage (including print and online news articles, radio, social media mentions) was collated via the media monitoring platform, Isentia. Social media (Twitter, Facebook) was monitored and analysed via Hootsuite and also within the Facebook Business Suite analytics function. Podcast data was tracked via Buzzsprout and video views were pulled from YouTube. Website data (including case study downloads) was tracked by Google Analytics and data relating to e-newsletters was extracted from within the Mailchimp platform.

Communication activities were overseen by a communications advisor within PIRSA Communications and resources co-developed by the Program Manager, Pillar Leader, Program delivery team and Communications Advisor.

5 Results

This report includes results for delivery of the engagement activities through to 30 April 2023. Few engagement activities occurred in May-June 2023.

A total of 1,789 attendees have been directly engaged in events and activities delivered under the Program, including 1,294 producers, 367 service providers, 66 other industry representatives and 58 other people (e.g. students). Four attendees did not provide this information.

Table 1 shows that approximately 21% of participating livestock businesses are a cattle enterprise and approximately 55% are a sheep enterprise. The remaining 24% are mixed sheep and cattle enterprises. Total area managed (Ha) was also collected for livestock businesses participating in LEP and Producer Groups and are included in Table 1. This data was provided by 523 producers/livestock businesses through registrations or surveys for producers attending Livestock Enterprise Planning (LEP)and Demonstration Farm Field Days, as well as members of Producer Technology Groups.

The 523 businesses participating in LEP and Producer Groups manage a total of 2,418,154 sheep and 130,703 cattle. Tables 2 and 3 show additional details on flock/herd composition.

Feedback sought from participants in LEP, Producer Groups, Service Provider Development and Field Days held at the Demonstration Farms and Best Practice Demonstration Farm, showed the participation was of good value to their business (average rating of 8.2/10) and met their needs (average satisfaction rating of 8.3/10).

Table 1. Main livestock enterprise spread across participating producers and total area managed (Ha) for each enterprise type.

Main Livestock Enterprise	Estimated percentage of producer/business participants*	Total area managed (Ha)**
Cattle	20.9	2,109,136
Mix sheep meat, cattle	8.4	1,128,769
Mix sheep meat, wool	36.8	664,575
Mix sheep meat, wool, cattle	14.1	1,238,064
Mix wool, cattle	2.0	10,754
Sheep meat	16.1	200,731
Wool	1.7	10,580
	Total	**5,362,609**

*based on 283 LEP businesses that completed surveys out of 284 participating businesses, 175 Producer Group businesses (237 members) and 65 Demonstration Farm participants **based on 277 LEP businesses, 175 Producer Group businesses

Table 2. Number of sheep by type for enterprises participating in LEP and Producer Groups

Type of Sheep	Number of Animals, LEP*	Number of Animals, Producer Groups**
Dry Ewes	480,278	249,223
Ewe Hoggets	122,741	75,759
Lambs	293,110	241,603
Wether Hoggets	25,089	18,043
Adult Wethers	12,655	18,285
Rams	21,977	9,527
Ewes mated to Merino	259,592	170,115
Ewes mated to non-Merino	251,664	168,493
Total	**1,467,106**	**951,048**

*based on 283 LEP participant businesses, **based on 277 LEP participant businesses and 175 Producer Group businesses combined.

Table 3. Number of cattle by type for enterprises participating in LEP and Producer Groups

Type of Cattle	Number of Animals, LEP*	Number of Animals, Producer Groups**
Cows	32,535	30,850
Bulls	1,470	1,645
Steers	5,134	15,161
Heifers	8,516	13,734
Steer & Heifer weaners	15,032	0
Other	4,668	1958
Total	**67,355**	**63,348**

*based on 283 LEP business surveys, **based on 277 LEP businesses, 175 Producer Group businesses

5.1 Livestock Enterprise Planning

5.1.1 Objective 1.1

Objective 1.1: At least 160-200 producers to access training and support to develop their Business and Technology Action Plan that will identify at least three actions to improve farm productivity.

This objective has been met, with a total of 418 producers from 284 livestock businesses completing Livestock Enterprise Planning (LEP) and developing a Business and Technology Action Plan specific to their business needs (see Appendix Table 1.1 for a list of sessions and attendance figures). Participation in training sessions was greatly incentivised because completing LEP and a Technology Action Plan was a requirement for producers to access a Livestock Agtech Adoption Rebate that was on offer to producers from the PIRSA Red Meat and Wool Growth Program.

The approach used for the LEP sessions was effective in improving participants' knowledge and skills around six strategic areas - business, banking, land, enterprise, people and technology use.

LEP participants completed a self-assessment at the start of the LEP session to score (1 being very low and 10 being very high) and record their perceived knowledge and skill for the range of topics. The self-assessment was then repeated at the end of the LEP session to collect data on perceived improvements in participant knowledge and skill. The largest change in knowledge and skill observed being in the use of PLM technology for data-based decision making (see Figures 1 and 2). This increase in knowledge and skills assisted producers in developing a well-informed, strategic Business and Technology Action Plan including goal/s and a set of actions against each of the six strategic areas (as appropriate) to drive increased productivity and profitability in their livestock business (see Objective 1.2 and 1.3 for discussion on success of implementing actions). Business and Technology Action Plan example goals and actions for each of the six strategic areas are summarised in Table 4.

Figure 1. The self-assessed average knowledge level (out of 10) for producers in the six strategic areas of LEP, at the start of the LEP session (baseline, blue) and at the end of the LEP session (Follow-up) (orange) based on 413 baseline surveys and 409 end of session surveys.

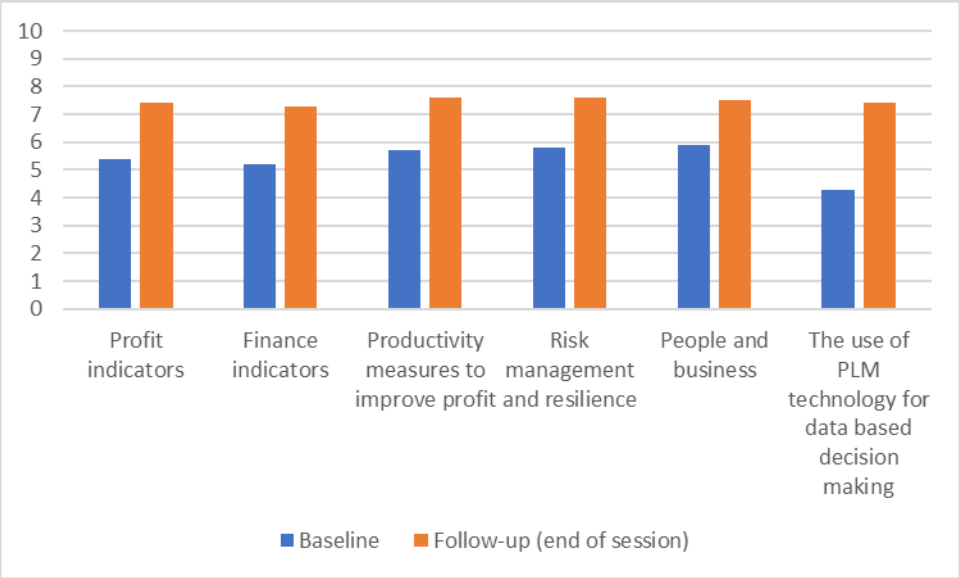
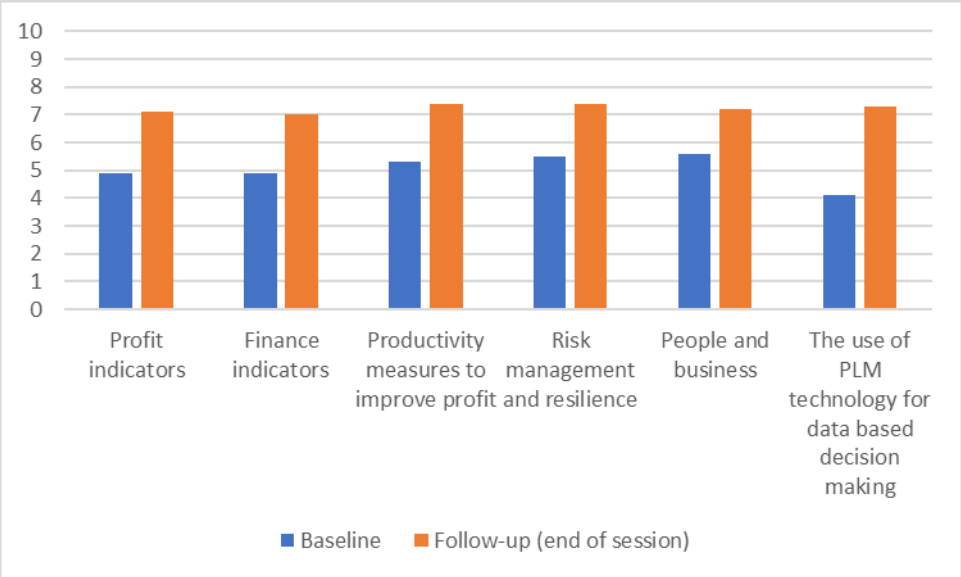


Figure 2. The self-assessed average skill level (out of 10) for producers in the six strategic areas of LEP, at the start if the LEP session (baseline, blue) and at end of the LEP session (Follow-up) (orange)



Feedback received from 416 surveys showed that the LEP sessions met producers needs with an average satisfaction rating of 8.3/10. Producers indicated the sessions were of value to their business, with an average value rating of 8.3/10. Specific feedback from participants include:

'A really worthwhile program that has accelerated the uptake of AgTech in our enterprise to drive labour efficiency and collect individual animal data to make our flock as healthy and productive as possible.'

'Very beneficial in gaining knowledge about building a financially healthy business.'

'All of the areas were relevant to our business and will definitely be implementing our learnings.'

'A great online workshop put together with specificness to the pastoral areas and industry. The benchmarking in this workshop can help improve profitability, productivity and overall decision making.'

'Great way to obtain a strategic and achievable business plan.'

Table 4: Common goals and actions themes listed by producers in their Business and Technology Action Plan, and the average number of actions listed by producers by strategic area

Strategic Area	Common goals themes	Common actions themes	Average number of actions
Business	• Increase turnover/profit • Improve efficiency • Invest in improvements and upgrades	• Lease/purchase more land • Budgeting and planning • Get expert advice	0.9
Banking	• Reduce debt	• Meetings/discussion with bank • Budgeting • Financial planning	0.6
Land	• Improve pastures • Increase stocking rate • Improve soils,	• Invest in pasture renovation, • Clay delving • Fence smaller paddocks and improve pasture utilisation	0.8
Enterprise	• Increase lambing/calving % • Improve genetics • Use feed more efficiently • Increase rate of weight gain • Increase stocking rate	• Pregnancy scanning for multiples • Grow more feed • Pasture agronomy advice	1.3
People	• Have a sound succession plan • Have a better work/life balance • Minimise risk of injuries • Increase livestock management skill level	• Succession planning with expert input • Hire new staff • Use tech (bulk handlers etc) to improve safety • Undertake training e.g. data collection and use, Lifetime ewe management etc.	0.8
Technology use	• Implementing eID and use eID data to improve decision making • Water monitoring systems to reduce labour and minimise losses.	• Purchase eID tags • Purchase and use an Auto drafter and/or weigh scales (with software) • Training and advice on data use • Install water monitoring devices.	1.4

5.1.2 Objective 1.2

Objective 1.2: At least 110 -140 producers (70% of producers having accessed training and support) have implemented outcomes from the Business and Technology Action Plan that resulted in a positive change to business and production.

This objective has been met, with producers intending to implement and have implemented actions (outcomes) from their Business and Technology Action Plan that resulted in a positive change to business and production. Evidence to show achievement of this objective has come from a range of different sources of data collected during the Program:

- End of LEP session surveys
- LEP Review session and associated surveys
- Livestock Enterprise Planning - End of Program Survey (May 2022)
- Facilitated Discussions

Findings from the information and data demonstrates that producers intended to implement and have implemented actions (outcomes) from their Business and Technology Action Plan that resulted in a positive change to business and production. During the Facilitated Discussions participants outlined that they expected their farm productivity to increase due to changes they have implemented through the Program, and they also reported perceived actual improvement in their farm productivity and profitability.

Findings from the end of LEP session surveys

Of the 409 Livestock Enterprise Planning (LEP) end of session surveys completed, 83% of LEP participants said they were highly likely or likely to implement the actions within their Business and Technology Action Plan that would lead to change (see Table 4 for further discussion on Goals and Actions listed by producers in their Business and Technology Action Plan).

58% of LEP participants indicated that they intend to increase technology and data usage and 45% described that they would increase the use of benchmarking, financial ratios and indicators (Table 5). These results concur with the actions in participants Business and Technology Action Plans, with participants listing 1.4 actions per plan from 'Technology use' strategic area and 'Enterprise' and 'Business' with 1.3 and 0.9 actions per plan respectively (Table 5).

Table 5. Respondents' perception on the type of change they may make, results from Livestock Enterprise Planning (LEP) end of session surveys (n = 409)

Type of change participants perceive they may make	Percentage of participants
Increased technology and data usage, including implementing eID and/or using it to full potential to measure weight gain, pregnancy status and fleece weights.	58.1%
Increased use of benchmarking/ratios/indicators to monitor progress and performance	45.2%
Implement business plan actions/goals and succession planning	11.3%
Risk management/livestock/farm management/improved labour efficiency	9.1%
Engage further with consultants/experts, advisors or undertake training or further business planning, in areas identified through LEP.	7.7%
Improved decision making (evaluate information/data before making decisions)	2.5%

Type of change participants perceive they may make	Percentage of participants
Leasing and purchasing land/pasture utilisation/supplementary feeding/nutrition	2.5%
Wellbeing - make sure take a break, prepare for retirement, individual time	1.4%

(Note: the participants were open to provide the number of responses against the question about the type of change the participants perceive they might take.)

Findings from the LEP Review sessions and associated surveys

The LEP Review process aimed to engage businesses who had completed a Business and Technology Action Plan, through the Livestock Enterprise Planning to revise their business analysis, analyse their businesses progress since they completed the Plan (productivity and/or profitability gains, Return on Assets Managed improvements etc) and revise or reset any priorities and/ or risks as required.

A total of 58 producers participated in review sessions to evaluate progress of implementing actions listed in their Business and Technology Action Plan and changes in productivity and profitability that their business had experienced since participating in the LEP training process (see Objective 1.3 for further discussion). The review involved:

- assessing (through a facilitated survey, n=53) the extent to which actions have been implemented, changes to the original Action Plan, participants perceived impact of the LEP training process and implementation of actions
- recording producer's level of knowledge, skill and confidence in business acumen, use of eID and use of PLM to improve enterprise performance; and
- exploring changes in the profitability and productivity indicators (business efficiency ratios, banking ratios and key enterprise numbers for DSE, lambing/calving % and bales of wool) included in each producers LEP.

The surveys found:

- 91.3% of producers have completed or commenced all the actions listed in their Plan, (with 85.5% of those having an action relating to the use of eID).
- 17.3% of the businesses have completed all the actions from their Plan
- 80.8% of the participating producers have completed 3 or more actions from their Plan
- 100% have completed or commenced at least 1 action (Table 6).

The results of the LEP review surveys found that the strategic area of 'Technology use' (e.g. activities relating to the purchase of eID technologies, remote water and electric fence monitoring, eID capable handling and auto drafting equipment, pregnancy scanning for multiples, genetic profiling and advice/training on data collection and use) had 21.2% of actions being implemented or partially implemented and the strategic area of 'Enterprise' (activities directly related to livestock operations such as nutrition, fertility and animal health management and changes to flock/herd composition) had 20.8% of actions being implemented or partially implemented. The area with lowest number of actions being implemented or partially implemented was 'Banking' (activities directly related to dealing with banks) with 9.0%. The goals related to the strategic area of 'Banking' were to reduce debt, which included actions such as meeting with their bank, budgeting and undertaking financial planning (Table 6). Participants identified that banking actions were most frequently not commenced or only partially completed for the following reasons: business structure prohibiting

action, distance to banking services and change in business direction – sold or purchased land/assets.

Participants were asked which actions they had re-evaluated or reset. 'Business' was the most common strategic area with 23.6% of actions being changed, followed by 'People' with 20.0% of actions being changed. Actions in this category included activities such as succession planning, training of owners or staff and changes to the number of FTE's employed. 'Banking' was the strategic area with the lowest numbers of actions re-evaluated or reset (9.1%), the reasons attributable are not available.

Table 6 Summary of number of actions completed from Action Plan, surveyed at LEP review (n = 53)

Number of actions completed from Business and Technology Action Plan	Proportion (%)
Businesses that completed 4 or more actions	61.5
Businesses that completed 3 or less actions	19.2
Businesses that completed 2 or less actions	11.5
Businesses that completed only 1 action	7.7

Producers were also asked to identify the most significant impact and/or benefit of the actions implemented by the producer and/or the farm business to production and business. 21 responses were received and 'Improved farm productivity, efficiency and profitability' was identified by 48% of participants as the area which had the most benefit. Producers feedback included:

"Increase in lambing percentage to 130% in current year."

"Improved efficiency and return per ha".

A total of 38% of participants identified 'Technology adoption' as the area of most benefit, feedback included:

"Purchase of auto drafter and eID implementation has enabled the identification of better performing stock and which stock more suitable to cull."

"Use of EID in stud has made it much more efficient and enjoyable."

'Improved knowledge and skill/workload management' was identified by 14% of participants as the area of most benefit, feedback included:

"Review Stocking rate and review and monitor land & feed. Yes, nailed this one (due to additional learnt knowledge)."

"Leveraging farm business owners' time by employing 2 FTE staff."

The results of the LEP review surveys showed that participating in the Program has led to producers having a high level of knowledge, awareness, confidence and skill in eID and PLM (Table 7). 92.5% of producers reported that their knowledge and awareness of eID was 8 or more out of 10 as a result of participating in LEP.

Table 7. Summary of participants perceived level of knowledge, awareness, skill and confidence in using eID and other PLM, and financial literacy/business acumen as a result of participating in LEP, surveyed at LEP review (n = 53)

Participants perceived level of knowledge, awareness, skill and confidence	Percentage (%)
Producers who rated their level of knowledge and awareness of eID 8 or above out of 10.	92.5
Producers who rated their level of skill and confidence in adopting and using eID 8 or above out of 10.	50.0
Producers who rated their level of knowledge and awareness of other PLM 8 or above out of 10.	67.3
Producers who rated their level of skill and confidence in financial literacy/business acumen 8 or above out of 10.	42.3

The Program examined available financial and enterprise data to look for any changes to the following metrics of Livestock businesses:

- Return on Assets Ratio (a measure of business efficiency looking at how much profit is being generated from the farm business asset base)
- Gross Margin Ratio (compares gross income from farm products to the direct costs that go into producing and selling the product as an indicator of better managed and more effective/efficient livestock enterprises)
- Number of Dry Sheep Equivalent (DSE) being run
- Lambing and Calving percentages

Table 8 shows the average change for a selection of livestock business metrics for participants undertaking LEP Review. All changes are positive. The total area managed by the 58 businesses that completed a LEP review exceeds 184 000 hectares. Surveys show 34 of the 58 businesses were Sheep meat and wool, 15 businesses had both sheep and cattle enterprises and 3 businesses only operated a cattle enterprise.

Table 8: Livestock business metrics averages from LEP Review updated Business and Technology Action Plans

Livestock business metric	Pre-Program	Post-Program	Change
Return on Asset Ratio (%)	1.8	3.8	+ 2.0
Gross Margin Ratio (%)	57.9	61.8	+ 3.9
#DSE	6200.9	7042.6	+ 841.7
Lambing percentage	142.3	161.0	+ 18.7
Calving percentage	93.5	95.2	+ 1.7

Pre-Program = FY18, FY19, FY20, Post-Program = FY21, FY22, FY23

Measuring positive changes to business financial position and production attributable to the implementation of Business and Technology Plan actions are difficult given the relatively short timeframe of the project and the data available to the Program. It is also difficult to separate from seasonal and market (both livestock and financial) influences. The economic analysis undertaken by BDO provides further insight into economic impact of the Program.

Findings from the Livestock Enterprise Planning End of Program survey (May 2022)

The purpose of this first post-LEP survey was to re-connect with participants of Livestock Enterprise Planning (LEP) to learn about any on-farm changes implemented since attending LEP and developing their Farm AgTech Adoption Plan and how this has benefited participants and/or business.

Information from the end of Program survey (completed by 10 businesses) showed that all 10 respondents have implemented actions from their Business and Technology Action Plan. The most common action (indicated by 50% of respondents) being the implementation of eID tags, use of eID equipment and data management platforms to measure weight gain, pregnancy status (wet/dry or multiples), lamb survival and fleece weights to improve individual animal performance, and guide nutrition management and breeder selection. All but one business agreed or strongly agreed that implementing actions has allowed them to make more informed (data based) farm management and business decisions. Other actions implemented included:

- installation of remote monitoring equipment for water infrastructure
- better weighing and handling systems for stock to improve labour efficiency
- accessing consultant advice or training (for example pasture agronomy, nutrition, data use to guide decision making) to identify and implement changes that increase productivity and profitability
- restructuring finance and changing enterprises to improve profitability.

Most producers surveyed (87.5%) identified that they plan to continue implementing actions within their Business and Technology Action Plan into the future. The most common timeframe for implementing additional actions/ change was in the intermediate term (between 1-2 years).

The majority (87.5%) of respondents also identified that they have implemented other changes outside of their action plan. Some examples include modifying genetics, subdividing property, moving forward with succession planning, changing breed/production model and storing and analysing data to support decision making. 75% of respondents plan to implement further change based on what they have learned through being involved in the Program.

LEP contributed to the ability of these businesses to implement their Business and Technology Action Plans. Half indicated that without LEP they would have still implemented some of the actions/changes, but in a longer timeframe. Only one respondent identified that they would have implemented all of the changes they have made to date in the same timeframe. Another respondent identified that they would not have implemented any of their changes without being involved in LEP.

Respondents were asked to rate their level of agreeance against a set of potential outcomes from implementing these changes. Results show that the majority agree or strongly agree with all of the outcomes (Table 9).

Table 9. End of Program Survey Respondent's level of agreement with statements of outcomes of implementing the changes (n=10)

Attending LEP and implementing these changes has enabled (or is expected to enable) me to:	% Agreed or Strongly Agreed
Improve labour efficiencies within my livestock business	87.5
Improve work-life balance and wellbeing	75.0
Make more informed (data based) farm management and business decisions	87.5
Better understand my business and have clarity about future direction	87.5
Manage stock more effectively	87.5
Improve profitability of my livestock business	75.0
Increase productivity of my livestock business	87.5
Focus attention within the business for areas for improvement	87.5

Findings from the Facilitated Discussions

Facilitated Discussions were undertaken as a means of measuring the success of the Program initiatives and to better understand the impact of change participating producers were achieving. Facilitated Discussions were completed with 41 Program participants during April and May 2022, the findings were summarised and the extent to which the Program contributed to the following was assessed:

i) increased farm productivity/profitability
ii) building resilience through enhanced business acumen
iii) planning and adoption of technology, and
iv) improving data-based decision making.

More than half (53.7%) of participants described that their farm productivity *will* increase due to changes they have implemented through the Program and 36.6% of participants have reported *actual* improvement in their farm productivity and profitability. The Program has also improved, flock management and classification (29.3%), animal health and welfare (14.6%), breeding & genetic gain (17.1%), business direction and confidence (17.1%), lambing and weaning percentages (17.1%), pasture management (9.8%) and increased resilience (9.8%).

The Facilitated Discussion results showed that the top three actions implemented were: getting additional expert advice (48% of respondents), purchasing and using eID tags (39% of respondents) and purchasing and using and auto-drafter (32% of respondents). Complementing this, 88.2% responded that they are likely to do something differently in their business as a result of the skills and/or knowledge gained at the LEP session.

73.2% of participants reported that implementing eID and getting additional expert advice has increased the availability of more accurate data and enabled it to be effectively used and 63.4% of participants reported that the Program improved their farm efficiencies, particularly through being able to better utilise on-farm resources, their improved management skills, improved accountability and performance, increased efficiency, and reduced risk of on-farm injury.

The Facilitated Discussion participants were invited to respond to the open-ended question, *"What has been the resulting impact on your business and/or you?* Majority of participants (90.2%) have installed new technologies on their farm as a result of their participation in the Program. Further, approximately half of the participants (48.8%) have also practically applied their learnings and knowledge to improve their farm efficiency, productivity, and profitability.

Producer feedback from Facilitated Discussions:

> *"I have the data, so then when it comes to a dry time or a tough period, you have that ability to cut out the least productive animals."*
>
> *"Genetic gains should be exponential from there. I don't think I ever dreamt that we'd be able to go through the software with the data we've got against each animal, and then come up with a sire that's going to be the one that suits a... to gain, going forward."*

(Note: 34 of the 41 participants in the facilitated discussion were members of the LEP, and 15 of the 34 LEP members were also members of the Producer Groups.)

5.1.3 Objective 1.3

Objective 1.3: *At least 140 producers who have developed their Business and Technology Action Plan have undertaken a review session to evaluate progress against actions identified in their Action Plan and re-evaluate/reset actions if required.*

All 284 businesses that participated in LEP Program were contacted by email and phone and encouraged to participate in the LEP review. A total of 58 businesses (20.7%), (35 sheep meat and wool, 3 cattle, 4 sheep meat and 15 sheep meat, wool and cattle) took up the offer.
The reasons provided for declining the offer were most commonly:

> "We're on-track" (most often given), "Too busy", "Not interested", "Have sought another advisors input" and "we're engaged with another program of a similar nature."

The small uptake may be a result of no incentives for producers to participate in the review. Producers have also experienced a favourable year for primary production which may lessen the drive to focus on business planning for profit and productivity gain. The timing of the review was also suboptimal as it competed with seeding season for winter crops.

During the LEP Review session producers evaluated their progress against actions identified in their Action Plan. As previously discussed in Objective 1.2, 91.3% of producers have completed or commenced all the actions listed in their Plan with 17.3% of the businesses having completed all the actions from their Plan.

Half of the participants in LEP Review sessions re-evaluated/reset their actions, with an average of one action re-evaluated/reset. 7.5% (4 participants) re-evaluated all their actions. Participants were asked why they had reset/re-evaluated their actions and what the outcome was, if known. Responses included:

- Market conditions and interest rate increases
- New knowledge/information and different direction of business
- Family health issues
- Found another way of getting the best return on investment/the proposed plan was uneconomic
- Rising land prices and increased capital costs
- Change in circumstances
- Property expansion
- Environmental circumstances

- Farm purchase happened

Common barriers identified for not commencing or completing actions to date include:

- Slow progress with succession planning and difficulty in achieving agreement
- Financial constraints limiting ability to purchase equipment or services
- Difficulty in engaging training providers (for equipment setup/operation, data collection and data management)
- Changed circumstances for business and/or owners

Comments provided by participants following LEP Review Sessions included:

"Revision has been useful, need to do this every two or three years."

"Great to get the follow up. Today given me a better understanding of the targets. Seen targets once is ok but better to see more often. Good to see the targets in the good years not just bad years (so this is not normal). Good to have the 5 years view of business (unusual with Government projects as the focus is often with the 1 funding year)."

"Good to be forced to be thinking about business direction. Some areas addressed were not my common thoughts/thinking and valuable to discuss."

The commentary provided shows that participants found the sessions valuable.

5.2 Producer Groups

5.2.1 Objective 2.1

Objective 2.1: Support at least 10 Producer Groups to facilitate shared learning outcomes to at least 100 producers and service providers resulting in on farm change by up to 80% of members.

Fifteen Producer Groups were established in 2020, with 293 members from 211 livestock businesses as of March 2022, and 340 members from 240 livestock businesses as at May 2023. Seven of these members are members of two groups, meaning there are 286 distinct producers (204 businesses), as of March 2022 and 333 distinct producers (233 businesses) as at May 2023 involved in Producer Groups (see Appendix Table 2.1 for Group names and member figures).

Producer Groups held between 5 and 11 activities (average = 8 activities) to build their knowledge, awareness and skills around priority areas identified by the Group. They developed Group Plans that outlined activities and actions to achieve their goals and desired outcomes. Group goals were successfully achieved by all of the of Producer Groups. Examples of activities undertaken by Producer Groups include:

- Farm visits to view technology and data use in action and hear about experiences of the host farm owner in using technology and data. Technologies included: sheep handling equipment, auto drafters, farm software. data management and apps, and yard design.
- Development and presentation of case studies based on members experiences
- Attending Technology Days / Expo's to provide exposure to implementing technologies, sheep handling equipment, EID and remote technologies in a group context for greater levels of discussion and reflection.

- Attending Focus Farm Field Days – to look at using farm software, remote pasture monitoring, technology for containment feeding and using eID equipment, this enabled greater levels of discussion and reflection by Group members.
- Feed Budgeting Workshop – understanding and practice at creating a feed budget for summer and autumn.

(see Appendix Table 2.2 for complete listing of group goals and activities).

On-farm Change

Based on the 121 final surveys, the majority of Producer Group members have started to implement change in their business as a result of what they have learned, with 18.5% having implemented significant changes and 56.3% having made slight changes. Changes made included:

- Adopting eID for the first time (20% of members)
- Increasing the use of data for PLM (28% of members)
- Adopting non eID PLM technology (38% of members)
- Use of eID data to monitor growth, fleece weight, wool characteristics, reproductive traits (including pregnancy scan status) to make nutrition management and breeding/culling decisions (81% of members are using data for first time or expanding data use).

Producer Group membership was instrumental in the participating members being able to make these changes - only 5.8% identified that they would have made these changes without being a member of the Group, 60.8% would have made some of the changes but not all and 33.3% would not have made the changes at all.

The majority of members (90.7%) also identified that they will continue to implement what they have learned through being a Group member, with 20% planning to implement within a year, 50% within 1-2 years and 20% longer term (more than 2 years).

Adoption of eID and data-based decision making

Almost half of the 121 livestock businesses who are members of a Producer Group and provided a final survey identified that they had already adopted eID prior to joining the group (Table 10). Of these, about half will continue to use eID in the same capacity and half plan to implement eID further in their business. For the other respondents:

- 16.7% have adopted eID for the first time as a result of joining the Group
- 21.7% plan to adopt eID, but haven't done so yet
- 12.5% are still undecided or will not be adopting eID. The reasons for not adopting eID include:
    - Cost
    - Inappropriate for their business – primarily not cost effective due to the size of their business (e.g. pastoral or small scale, limited stock), not sufficient phone reception, no perceived gains for their business
    - Already capturing data manually
    - Need more information (still don't know enough) or not convinced yet.

Table 10. Level of eID adoption by Producer Group members

eID Adoption (through being a member of a Producer Group)	Percentage of responses*
Adopted eID prior to joining the Producer Group and plan to continue using eID technology in the same capacity	25.8
Adopted eID prior to joining the PTG, but plan to implement further in their business	23.3
Have adopted eID for the first time	16.7
Plan to adopt eID for the first time	21.7
Undecided on whether to adopt eID	11.7
Will not be adopting eID	0.8

*based on 121 final surveys

When asked whether they are using the data generated through PLM technology, including eID to make management decisions, 80% responded they are using data to make management decisions, of which almost half (49.5%) are doing this for the first time or have improved their use of data since becoming a member of a Group (Table 11).

Table 11: Use of data generated through PLM technology by Producer Group members

Use of data generated through PLM technology to make management decisions	Percentage of responses
Not yet using the data to make decisions	37.0
Using data to make management decisions for the first time in their business	20.6
Already applying data, and the use hasn't changed	12.4
already applying data, but they have improved the use	28.9
Require further information or capacity building to be able to use the data	1.0

When asked how they are using the data, responses included:

- Monitoring individual animals for weight, growth rates, fleece weight and wool micron/quality. To assist in making decisions e.g. when to sell animals, water stock requirements, supplementary feed requirements.
- Assist in animal selection - DNA flock profile and using results to buy rams, ewe hoggets, to increase maternal and fertility genetics, replacement breeders. Also assist in deciding which animals to cull.
- Improved management decisions including ewe fertility, feeding requirements, which animals to cull. With one mentioning that eID enables more frequent data collection and quicker data analysis leading to faster management decisions.
- Pregnancy scanning for identifying singles and twins
- Remote water monitoring (e.g. for time efficiencies)
- Assess carcass quality (genetics)
- Improving their business through improved data
- Pasture management.

Outcomes and benefits from the change

The opportunities presented by being a member of a Group (peer to peer learning, participation in activities, access to information and learning from experts) has increased Group member confidence in choosing technology that is right for their business (88.2% agree or strongly agree). It has also

increased their ability to use data generated from technology to make decisions (82.9% agree or strongly agree) and in the resilience of their livestock business (80.9% agree or strongly agree). This improves the ability (and probably likelihood) of these livestock businesses to adopt/continue to adopt technology and effectively use the data generated to improve their business.

Through the surveys, members outlined how technology adoption is benefiting or how they expect it will benefit their livestock business. More than 80% agreed that adoption of technology has, or will likely improve profitability, productivity, labour efficiencies, animal welfare, informed decision making and the sustainability of their business (Table 12). More than half of members agreed that other benefits include improved biosecurity planning and natural resource outcomes.

Group members reported that networking and peer to peer learning provided by the Producer Group approach was of great benefit (Table 13). Other additional benefits included increased knowledge and awareness of different technologies and also engagement of the next generation.

Table 12. Benefits (realised or expected to be realised) to livestock businesses from adopting livestock technology

Beneficial outcomes for Business	% Respondents who agree or strongly agree*
Improve the profitability of my livestock business	86.3
Increase productivity of my livestock business	83.3
Improve labour efficiencies within my livestock business	85.0
Improve my flock / herd (e.g. animal welfare)	89.0
Result in more informed (data based) decision making (e.g. breeding, marketing)	94.0
Improve the sustainability status of my enterprise	81.0
Improve biosecurity planning within my livestock business	56.0
Improve the natural resource outcomes of my livestock business (e.g. soil cover)	58.8

*based on 121 final surveys

Table 13. Additional benefits (realised or expected to be realised) to livestock businesses from adopting livestock technology

Other benefits realised	Examples of the comments provided
Networking and peer to peer learning	*"Great networking and seeing how others are doing things. Fantastic group discussions, very thought provoking."* *"Communication with other farmers who are on the same journey with eID and contact with others who are further along the way."* *"Benefit of being with like minded people seeking better ideas and technologies, hearing what other producers have employed."*
Knowledge, awareness, understanding, learning	*"Being aware of what is available in modern agriculture."* *"Have gained plenty of knowledge and greater understanding in technology. Will definitely continue."* *"Assisted in learning more about the tech options that are available and implications."*
Getting the next generation involved	*"Young son more involved in the livestock business."*
Other benefits	*"Time efficiency."* *"Traceability of cow families made easier."* *"Being able to monitor animals to meet consumer and processor requirements."*

5.2.2 Objective 2.2

Objective 2.2: At least 60% of livestock producers engaged in Producer Groups have improved awareness, knowledge and practical application of EID technologies for improved decision making and have the skills to use this information to identify gaps and opportunities to improve whole farm performance and sustainability.

Producer Group survey results show that 66% of those surveyed have made significant (16%) or slight (50%) changes and intend to implement further changes and 81% agree or strongly agree that their business is more resilient as a result of changes they have implemented.

Producer Group members identified (self-rated as a score out of 10) an increase in knowledge, confidence and level of adoption of eID (Figure 3) and other PLM technology (Figure 4) from when they joined their Producer Group to May 2022. The largest increase was for the level of application of data generated to make management decisions for both eID (increase in average rating of 2.9 points from a baseline of 4/10 to 6.9/10 in May 2022) and other PLM technology (increase of 3.1 in average rating).

Producer Group surveys (n=104) showed that 77.8% of members reported an increase in their knowledge, understanding and awareness of eID technology, 71.2% reported an increase in their level of confidence in adopting eID and 66.5% reported an increase in their level of confidence in applying data from eID technology to make decisions.

The survey results also showed 76% of members increased their adoption of eID tech

Figure 3. The self-assessed average level of knowledge, confidence, adoption and use of eID technology (out of 10) for member, at the onset of their Producer Group (baseline, blue) and at the end of April 2022 (orange) (based on 104 baseline and final surveys)

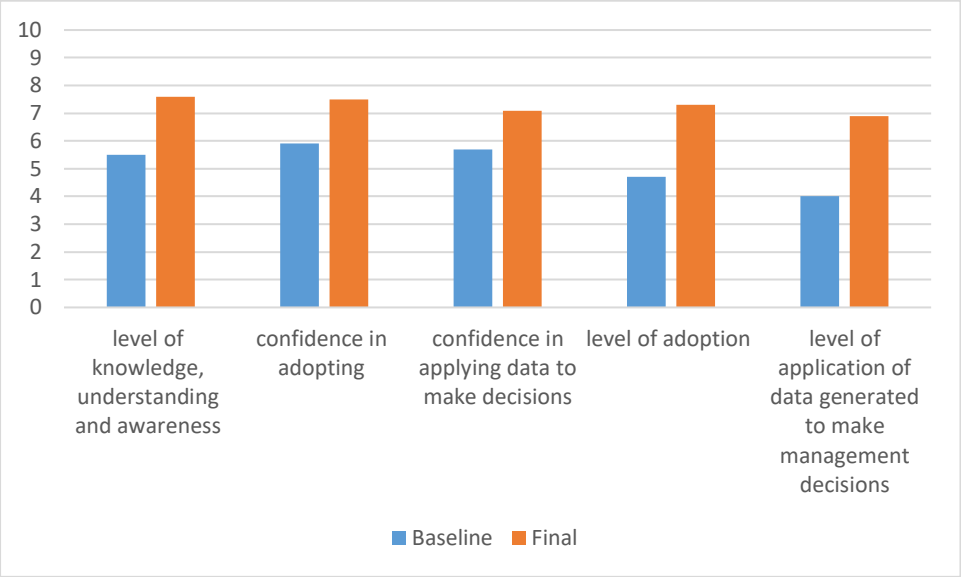
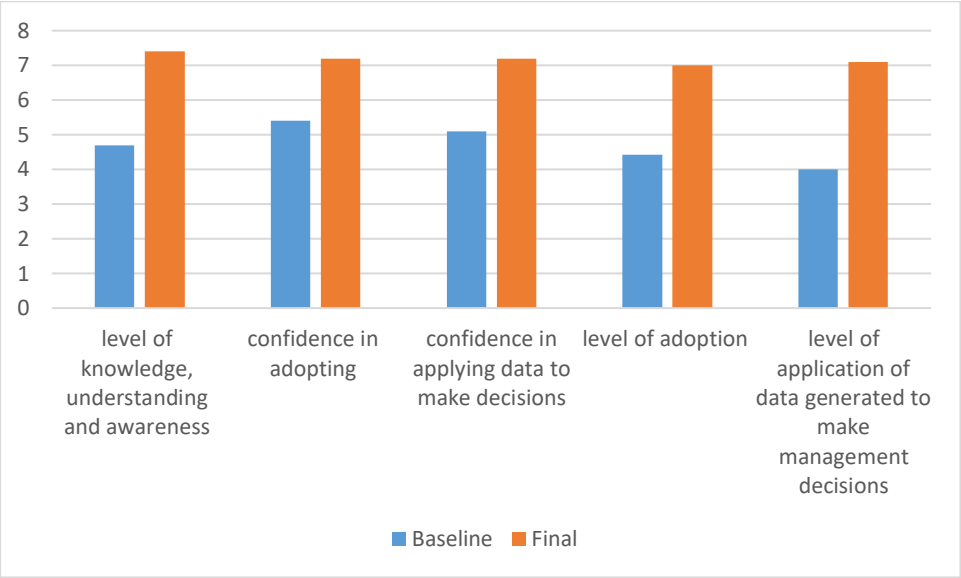


Figure 4. The self-assessed average level of knowledge, confidence, adoption and use of other PLM technology (out of 10) for member, at the onset of their Producer Group (baseline, blue) and at the end of April 2022 (orange) (based on 104 baseline and final surveys)



Producer group survey results show that 83% of those surveyed have increased confidence to recognise gaps in farm performance and opportunities for data based decision making to improve productivity and profitability by choosing PLM technology that is right for their business.

Importantly Producer Groups were producer led with the format, content and delivery of the Group's activities tailored to suit Group members knowledge and skills. These knowledge and skill gaps and opportunities were explored by the Groups through various activities such as decision making framework for adoption of Ag Tech, SWOT analysis, stocktake of use of technologies, setting

and using breeding objectives, flock profiling, holding a Better Decisions for Business Success Forum, and Groups reviewed and reset their Group Plan. Hence all Group activities addressed knowledge and skill gaps and provided opportunities to improve productivity and profitability.

5.2.3 Objective 2.3

Objective 2.3: Expand the membership of these producer groups by another 50 members (to 340 members) and maintain engagement with existing participants.

A total of 11 Producer Groups (out a total of 15) renewed their grant agreement to hold additional meetings with members. Four Groups did not renew their grant agreement for reasons such as insufficient space in the regional event calendar to run additional events, and difficulties bringing groups of producers together post COVID.

Groups maintained membership where possible, noting that not all members could attend meetings/events. Membership of these groups expanded by 47 members from 293 members as at May 2022[2] to 340 members as at March 2023 (See Appendix Table 2.1 Producer Group member summary). Areas where membership increased included Northern and Yorke, SA Murray-Darling Basin, Eyre Peninsula, South East, and Adelaide and Mount Lofty Ranges NRM regions.

Groups grew their membership in a number of ways these included existing members inviting other producers to Group activities, advertising of Group activities (where suitable) to the broader agricultural community, and reengaging with producers which had only attended one activity. Groups were able to maintain their momentum and membership as Groups had formed, achieved social bonding, contributed to peer-to-peer learning, recognition of skills and strengths of other members and their enterprises, and trust with each other and the facilitator. Importantly there was consistency in funding for the Groups. Membership communication methods varied and included SMS, email, social media and messaging apps.

5.3 Demonstration Farms

5.3.1 Objective 2.4

Objective 2.4: Establishment of 13 Demonstration Farms across South Australia which will add value and sustainability to producer group outcomes under the guidance of service providers to drive the implementation of practice change. Demonstration Farms provided opportunities for producers to see the practical application of eID technology, biosecurity best practice and business planning demonstrated on-farm.

Thirteen Demonstration Farms were established in the main livestock producing areas of South Australia including the pastoral zone (Table 14 and Appendix Table 3.1). Property enterprises vary from sheep, cattle and a mix of sheep and cattle grazing a range of forage types including native grasses and shrubs, sown pastures, and crops/pastures. A total of 221 producers and 49 service

[2] One Producer Group reporting unable to be included

providers/other industry attended the 7 field days and 1 webinar (to replace a field day cancelled due to COVID 19) that were held.

Appendix Table 5. 2a-c contains details for downloads/views/ listens per month for the case studies, podcasts and videos featuring the Demonstration Farms.

Table 14. Summary of Demonstration Farms established, including location, size and on farm technology

Demonstration Farm Summaries
1) Kelvale
Location: Farrell Flat (Northern and Yorke) **Size**: 1,400 ha **On-farm technology:** eID, wool testing and weighing, pregnancy scanning, DNA testing, soil moisture monitoring.
2) Shepherds Way
Location: Bool Lagoon (Limestone Coast) **Size**: 1,400 ha **On-farm technology**: Utilising eID in cattle for improved management, yard design
3) McPiggery
Location: Lameroo (Murraylands and Riverland) **Size**: 19,425 ha **On-farm technology**: eID for collection of individual animal data, water monitoring
4) Coolaroo
Location: Field (Limestone Coast) **Size**: 1,000 ha **On-farm technology:** Farm management software, water telemetry, yard design
5) Keyneton Station
Location: Keyneton (Northern and Yorke) **Size**: 2,000 ha **On-farm technology**: eID for collection of individual animal data Attendance: 25 producers, 8 service providers and 1 other industry representative. Total 34 attendees.
6) Lampata
Location: Lameroo (Murraylands and Riverland) **Size**: 3,000 ha **On-farm technology**: eID for collection of individual animal data, eID equipment individual animal management software, telemetry for water and pasture yields.
7) Burnt Oak
Location: Mosquito Hill (Hills and Fleurieu) **Size**: 380 ha **On-farm technology**: Early stages of adopting eID tags and equipment.
8) Lymn Farms
Location Wudinna and Minnipa (Eyre Peninsula) **Size**: 4,000 ha **On-farm technology**: eID for collection of individual animal data.
9) Mentara Park
Location: Malinong (Murraylands and Riverland) **Size**: 6,000 ha **On-farm technology**: eID for collection of individual animal data, water telemetry, OHS software.
10) Mt Eba
Location: Mt Eba Station, Glendambo (South Australian Arid Lands) **Size**: 337,000 hectares **On-farm technology:** Pregnancy scanning in pastoral zone, water monitoring, eID tags and desalination.
11) Kirklands
Location: Furner (Limestone Coast) **Size**: 2,500 ha **On-farm technology:** eID tags, Tepari sheep handler
12) Wonga and Madura Plains
Locations: Broken Hill, NSW, and the Nullarbor Plain, WA **Size:** 800,000 ha (total property holding) **On-farm technology:** eID tags, wool testing, auto drafter, water system monitoring

Demonstration Farm Summaries	
13) Allandale Station	
Location: Oodnadatta (South Australian Arid Lands)	**Size**: 497,000 hectares
On-farm technology: Pregnancy scanning, eID panel and stick readers in conjunction with weigh scales, and remote water monitoring.	

5.3.2 Objective 2.5

Objective 2.5: Engage at least 100 producers in the demonstration and validation of AgTech and Translation of data into on-farm decision making through the demonstration farms.

Objective 2.5 has also been met with engagement of 372 people in Demonstration Farm Field days including 321 producers. Field Day activities included demonstration and application of AgTech on individual Demonstration Farms and how data is used to make management decisions (Table 15).

Field Days provided the opportunity for participants to increase their awareness of livestock technologies, improved farm productivity and profitability and labour efficiency. Topics for Field Days were based on what technologies the host had adopted in their business, and included:

- water telemetry
- farm software e.g. AgriWebb, Stockbook
- animal handling equipment
- Optiweigh
- eID equipment – wands, autodrafters and indicators
- use of Australian Sheep Breeding Values (ASBVs) and Estimated Breeding Values (EBVs) to select for productive traits
- use and understanding of industry tools: ram select and flock profiling
- remote pasture monitoring
- containment feeding technology, nutrition and set-up
- carbon farming
- AI technologies.

Across the field days 55% of participants who completed a survey (n = 86) identified that they would be making some technology and/or data use changes to their enterprises (including adoption of eID or increased use of eID) due to what they had learned at the field day. The specific nature of the change participants would be making was not surveyed.

A range of extension products – podcasts, videos and case studies for selected Demonstration Farms were developed and released on the Red Meat and Wool Growth Program website *(*See Appendix Table 5.2a - c for a summary of the downloads/views/ listens per month*).* Topic areas included

- eID for collection of individual animal data
- Use of ASBVs and genetic selection to improve production
- Pregnancy scanning
- Using eID panel and stick readers in conjunction with weigh scales
- Remote water monitoring
- Installing and using desalination equipment
- Individual animal management software

- eID, wool testing and fleece weights

This provided tools to support producers to further learn and implement practice change.

5.4 Service Provider Development

5.4.1 Objective 3.1

Objective 3.1: Upskill at least 60 service providers across the state in the use of EID to be able to support producers in developing and implementing actions from their Business and Technology Action Plan that result in a positive change to business and production.

Objective 3.1 has been achieved, with 132 service providers (see table 16) having attended a total of 16 upskilling events (see Objective 3.2 for more details). The potential reach of this enhanced support is 13,580 producers. The reach estimate is based on the number of producer clients these service providers regularly interact with over a 12-month period (based on information provided in surveys returned by 77 out of 99 livestock agents and wool brokers/buyers and 24 out of 33 consultants).

The most represented areas were Northern and Yorke (45% of participating stock agents and wool brokers/buyers have producer clients in this region) and Limestone Coast (44% of participating stock agents and wool brokers/buyers have producer clients in this region).

The percentage spread of the type of main enterprise of the producer clients and size of enterprise is included in Table 15.

Table 15. Percentage spread of service provider producer clients type of livestock enterprise and size

Client Enterprise Type and Livestock Numbers	Livestock agents and wool brokers/buyers (n=86) %	Livestock Consultants (n=24) %
Clients with cattle enterprises only	1.2	4.8
Clients with sheep enterprises only	24.4	19
Both clients with sheep enterprises and cattle enterprises	74.4	76.2
Enterprises with less than 1000 sheep	24.7	10.5
Enterprises with greater than 1000 sheep	74.1	89.5
Less than 150 cows	57.1	12.5
Greater than 150 cows	42.9	87.5

The 26 Service provider events covered a range of topics, with a particular focus on eID and associated technologies (Table 16).

Table 16. Summary of Service Provider Development Event topics

Service Provider Development Event Summaries
Consultant Event 1 **Date: 7 May 2020** Zoom 18 participants Introduction to eID and Why and how to implement eID
Consultant Event 2 **Date: 2 August 2020** Zoom 11 participants

Service Provider Development Event Summaries
Decision making on farm
Consultant Event 3 **Date: 12 November 2020** Roseworthy 16 participants Trouble shooting/exploring common problems with equipment, errors and data associated with eID
Consultant Event 4 **Date: 17 June 2021** Zoom 9 participants Software for managing data
Consultant Event 5 **Date: 11 November 2021** Struan 14 participants Understanding genetic tools
Consultant Event 6 **Date:5 May 2022** Fullarton 14 participants Business Professional Development - creating efficiencies and systems for the business
Consultant Event 7 **Date: 24 March 2023** Adelaide 8 participants Advanced Genetics (inc. ASBV's and developing breeding objectives with clients)
Consultant Event 8 **Date: 10 May 2023** Nuriootpa 15 participants Business Professional Development - creating efficiencies and systems for the business. Part II
Wool Buyers and Brokers (WB/B) Event 1 Date: 26 February 2020 Reedy Creek 11 participants Build the capacity of Wool Buyers and Brokers in applying PLM technologies, particularly in regard to individual animal eID.
Stock Agent Event 1 **Date: 14 December 2020** Clare 10 participants Build agents' capacity in the use of eID, to better support your producer clients in implementing actions from their Business and Technology Action Plan, and PLM technologies successfully.
Stock Agent Event 2 **Date: 15 December 2020** Keith 19 participants Build agents capacity in the use of eID, to better support your producer clients in implementing actions from their Business and Technology Action Plan, and PLM technologies successfully.
Stock Agent Event 3 **Date: 17 March 2022** Kangaroo Island 8 participants Understanding the latest technology to facilitate more productivity and profit on your clients' sheep farm
Stock Agent Event 4 **Date: 24 February 2023** Keith 19 participants **Spence and Dix** Using eID for traceability, recording and using data for individual animals, NLIS and eNVD systems and accurate record keeping.
WB/B and Stock Agent Event 1 Date: 10 June 2021 Bordertown 28 participants Understanding clients' breeding objectives and the integration of precision livestock management technology, to make informed decisions to support your clients' productivity and profitability into the future (Sheep focus)
WB/B and Stock Agent Event 2 Date: 11 June 2021 Willalooka 36 participants Understanding clients' breeding objectives and the integration of precision livestock management technology, to make informed decisions to support your clients' productivity and profitability into the future (Cattle focus)
WB/B and Stock Agent Event 3 Date: 11/12 May 2022 Burra 27 participants Using performance data to help clients make more informed decisions

Analysis of Service Provider surveys (n=153) found that the knowledge and/or skills gained at the events will enable them to support their producer clients more confidently in developing and implementing actions from their Business and Technology Action Plan that result in a positive change to business and production, in particular in the use of eID (Table 17)

Table 17 – Impact of upskilling events on the improvement of knowledge and the ability to support producers in eID and PLM adoption

Statement about impact of events attended	Proportion of 108 Livestock Agents/Wool brokers who agree or strongly agree with statement	Proportion of 33 Livestock Consultants who agree or strongly agree with statement
Improved my knowledge and understanding of eID tech and its application to producers	88.0%	94.6%
Improved my knowledge and understanding of why and how to effectively implement eID	NA*	89.2%
Enabled me to more confidently engage with my producer clients about PLM, including eID	95.3%	94.6%
Enable me to better support my producer clients wanting to adopt and use eID	89.7%	97.2%
Enable me to better support my producer clients wanting to apply data to make decisions	92.5%	100%
Enable me to better support my producer clients in implementing actions that will drive positive change to their business and production	NA	97.5%
Improved my knowledge, understanding and awareness of the application of data to make decisions for business and farm management	94.5%	NA
Improved my knowledge, understanding and awareness of Precision Livestock Management (PLM)	91.7%	NA
* NA = This question was not included in the survey for this category (different wording used between agents/broker surveys and Livestock Consultant surveys)		

5.4.2 Objective 3.2

Deliver 16 industry service provider events, to build service provider capability with eID technologies to enable them to better assist producers and the producer groups they service and tailor their services to meet the diversified needs of their clients.

A total of 16 industry service provider events were held including 8 for livestock consultants, 4 for livestock agents, 3 for wool brokers/buyers and stock agents and 1 for wool buyers and brokers.

To gain an understanding of the needs of Livestock Consultants in relation to upskilling/development a survey was sent to 19 Livestock Consultants at the beginning of the Program. Similarly, the needs of Livestock Agents and Wool Brokers and Buyers were identified through selected consultation

occurred with service providers in the north and southern regions of SA, this consultation informed event planning.

The topics of upskilling events held, including topics, locations and numbers of participants are summarised in Table 16.

One additional service provider event was planned with a Wool Broker company however it did not proceed due to timing.

A summary of the impact that upskilling events have had on participants ability to better assist producers and the producer groups they service (Table 16).

Service Providers were also able to participate in other workshops and events run by the Program to contribute to their upskilling and have access to the resources being developed by the Program.

5.4.3 Objective 3.3

Objective 3.3: At least 30 Service Providers (75% of those engaged) have increased awareness, knowledge, and skills in available EID technologies, to drive implementation of outcomes that result in a positive change to business and production.

A total of 132 Service Providers were asked prior to attending their first upskilling event, what they consider to be their current level of knowledge, understanding and awareness of PLM, eID and its use and the application of data to make decisions for business and farm management. In all cases the highest proportion of Service Providers identified their baseline level as 'reasonable' (between 44.4% and 50% of responses).

Surveys were completed after each upskilling event. Livestock Consultants and Livestock Agents/Wool brokers reported that the impact of upskilling events on the improvement of knowledge and the ability to support producers in eID and PLM adoption as follows:

- 97.2% Consultants and 89.7% of Livestock Agents/Wool brokers agreed or strongly agreed with statement that Upskilling events enabled them to better support my producer clients wanting to adopt and use eID
- 100% Consultants and 92.5% of Livestock Agents/Wool brokers agreed or strongly agreed with statement that Upskilling events Enabled them to better support my producer clients wanting to apply data to make decisions
- 97.5% Consultants agreed or strongly agreed with statement that Upskilling events enabled them to better support my producer clients in implementing actions that will drive positive change to their business and production (Table 17).

Surveys completed by participants indicate that the events were positively received and of value to service providers. Average value and satisfaction ratings (out of a possible 10) were 8.7 for Wool Brokers/Buyers and Livestock Agents and 8.0 for Livestock Consultants, indicating service providers found the events useful and a worthwhile time commitment for their business.

Livestock Agents have made a few suggestions that will be considered for future events, such as including clients in the event or holding client information day. Some of the positive feedback received from Service Providers:

"*Very clear and informative session. Up to date information that is relevant to current beef industry"*

"Focused on the future, good ideas to help clients move forward to breed more lambs"

"Highly informative. Helped clarify anything that I previously may have not fully understood. Our speaker/host was very knowledgeable, and I enjoyed being able to listen and learn"

5.5 Co-innovation Officer

The Co-innovation Officer is responsible for the extension and demonstration of the value proposition of the technology installed on the livestock Best Practice Demonstration Farm (BPDF) at Struan and Kybybolite and contribute to the broader AgTech extension across the Program's components such as Producer Groups, Demonstration Farms and Livestock Technology Expos.

This included technology implementation and data management activities, and, in collaboration with SARDI and farm staff, assisting to identify any additional best practice technology currently commercially available to producers, which may be of benefit to install on the BPDF as well as engagement activities and delivery of events.

In total 33 precision ag technologies from 20 suppliers have been implemented onto the Best Practice Demonstration Farm.

Identification of potential technologies for the BPDF were via an open EOI on the PIRSA website[3] for any interested tech provider to submit an application. Direct discussions between tech suppliers and Program staff or Elders staff (BPDF partners) were also used to identify opportunities for installation of tech on the BPDF.

Selection of technology for implementation and demonstration is based on the following criteria:

- Providers need to agree to the sharing of data generated/processed by the technology
- The technology needs to be commercially available (not experimental)
- The technology and support needs to be provided to the farm 'free of charge' including installation.

The EOI is assessed by Senior Agtech Extension Officer, Elders staff and the Struan Farm Manager for the benefit it can provide to the BPDF.

5.5.1 Objective 4.1

Objective 4.1: Deliver two Field Days at the Livestock Best Practice Demonstration Farm per annum and participate in the Livestock Technology Expos (2 per year).

A total of 9 Best Practice Demonstration Farm (BPDF) Field Days have been held, attended by 219 people including 118 producers, 81 service providers and 20 other/industry representatives (see Table 19).

[3] https://www.pir.sa.gov.au/research/agtech/demonstrate_agtech_products

The Program for each field day was decided by Senior Agtech Extension Officer, Co-innovation Officer and Elders staff, mindful of topics (e.g., virtual fencing and climate change) of interest to producers and the AgTech installed on the Farm.

Producers were engaged to attend Field Days through newspaper advertisements (both local and the Stock Journal), social media, text messages directly to producers within the Limestone Coast region, emails to producers who have previously attended events and agreed to be contacted again, flyers within the local post office boxes and radio adverts.

Some Field Days (1 and 4) talks were filmed so that the information from the day was available to a wider audience (Appendix Table 5.2a – c - Number of views).

Field Day 9 included a workshop into the program as it was felt that working through problems producers were seeking solutions to, in a structured manner, they are more likely to find appropriate solutions as a result of attending the event.

Table 18: Summary of Best Practice Demonstration Farm Field Days

Field Day Event Details	Producer attendees	Service Providers attendees	Other industry representative attendees	Total attendees
Field Day #1 (28 April 2021) - to assist producers to understand AgTech and management solutions in use on farm, what AgTech solutions are suitable to their enterprise, the value proposition of AgTech solutions, and to help producers make informed AgTech adoption decisions.				
Attendees	44	51	6	101
Field Day #2 (25 June 2021) - water monitoring Field Day but also visited the area 'reefinated' a few weeks after sowing, the Optiweigh, LoRaWAN Gateway and weather stations				
Attendees	3			3
Field Day #3 (30 September 2021) - the effectiveness of the Reefinator to crush limestone rock to increase soil depth and water holding capacity. Also included a paddock walk of four different ryegrass varieties				
Attendees	32	9	1	42
Field Day #4 (28 April 2022) - learn about AgTech and management solutions in use on BPDF farm, suitability of AgTech solutions for your enterprise, the value proposition of those solutions and making informed decisions regarding AgTech adoption. The Field Day talks were filmed so that the information from the day was available to a wider audience. N.B. Field Day #4 was originally planned for 2 February 2022 but was postponed due to COVID-19.				
Attendees	18	20	8	46
Field Day #5 (25 October 2022) – "Future proofing with AgTech" with a focus on soil amelioration, on-farm connectivity, optimising irrigation, and water management as well as the benefits of collecting your own weather data on-farm.				
Attendees	6		1	7
Field Day#6 (27 October 2022) - "Future proofing with AgTech" with a focus on soil amelioration, on-farm connectivity, optimising irrigation, and water management as well as the benefits of collecting your own weather data on-farm. Numbers were lower than expected due to the wet weather.				
Attendees	1	1	1	3
Field Day#7 (1 November 2022) - "Future proofing with AgTech" with a focus on soil amelioration, on-farm connectivity, optimising irrigation, and water management as well as the benefits of collecting your own weather data on-farm.				

Field Day Event Details	Producer attendees	Service Providers attendees	Other industry representative attendees	Total attendees
Attendees	4		2	6
Field Day #8 - 3 November 2022 "Future proofing with AgTech" with a focus on soil amelioration, on-farm connectivity, optimising irrigation, and water management as well as the benefits of collecting your own weather data on-farm. Numbers were lower than expected due to the wet weather.				
Attendees	3			3
Field Day/Workshop #9 - 18 May 2023 AgTech producer workshop and virtual fencing tour. AgTech Extension Officers will work closely with producers to identify AgTech opportunities and purchasing considerations specific to your business challenges. Topics covered include: virtual fencing, soil amelioration, on-farm connectivity, irrigation and water management, water monitoring and data solutions.				
Attendees	7		1	8
	Producer attendees	Service Providers attendees	Other industry representative attendees	Total attendees
Total attendees	**118**	**81**	**20**	**219**

Survey responses (63 total) indicate that approximately 54% of attendees will be making slight (49.2%) or significant (4.9%) changes as a result of attending a Field Day. Approximately 33% were unsure whether they'd be making any changes and will consider the information further before deciding.

The Co-innovation Officer had trade displays at 7 Livestock Technology Expos attended by 695 people including 379 producers. These events provided exposure to producers to promote the Best Practice Demonstration Farm. The number of producers attending each Expos is provided in Table 19.

Table 19: Summary of Livestock Technology Expos attended by Co-innovation Officer

Expo Location	Date	Producer attendees	Total attendees
Hawker	16 February 2021	54	89
Wudinna	18 February 2021	40	89
Karoonda	9 March 2021	94	150
Keith	8 March 2022	50	94
Kapunda	10 March 2022	46	95
Penola*	11 November 2022	38	84
Hawker*	21 March 2023	57	94
		379	**695**

(* Livestock Technology Expos run by Sheep Connect SA)

5.5.2 Objective 4.2

Objective 4.2: Host 5 groups of producers per annum to the Best Practice Demonstration Farm

Hosting of producers at the BPDF commenced in June 2021 after a technology set-up phase and easing of COVID restrictions. In the 2 years since then 16 groups of producers (108 in total) toured both Struan and Kybybolite farms. In addition to producers, a further 84 other (agents, consultants, students etc) visitors have attended the Best Practice Farm (See Table 20 for details).

Table 20: Summary of groups of producers hosted by Co-innovation Officer at Best Practice Demonstration Farm

Visit Number	Date	Group Name (if applicable)	Producer attendees	Other attendees	Total attendees
1	10 August 2021	NA	3		3
2	7-8 September 2021	Farm managers from across state	8		8
3	13 September 2021	NA	2		2
4	11 November 2021	South Australia Livestock Consultants Group	4	8	12
5	10 February 2022	MacKillop Farm Management Group	6		6
6	22 February 2022	Sheep Connect SA Producer Panel	7	1	8
7	22 June 2022	NA	2		2
8	3 March 2022	NA	1		1
9	15 March 2022	Fleurieu Beef Group	16		16
10	17 June 2022	Australian Grains	8	1	5
11	21 June 2022	Murray Plains Producer Group	5		5
12	17 November 2022	NA	1		1
13	22 November 2022	University of Adelaide Tour Group	2	14	16
14	14 February 2023	Ukraine Tour Group	4		4
15	7 March 2023	Limestone Coast Producer Group	9		9
16	6 June 2023	Perennial Pasture Systems Group	30		30
		Total	**108**	**24**	**128**

Other groups hosted at the BPDF, included:

- 11 Naracoorte High School students with a particular interest in AgTech and gave them a tour of the farm on 4 June 2021.

- 18 Grant High School students visited on 6 July 2022. The majority of the students were from a farm with cattle and/or sheep production.
- 12 Urrbrae agricultural high school students- What is AgTech day, 9 November 2022.
- 9 people from TAFE SA visited on 14 April 2023
- 8 staff from Limestone Coast Landscape Board visited on 15 February 2022
- 2 service providers from Agtech Pro visited on 28 February 2023.

5.5.3 Objective 4.3

Objective 4.3: Establish demonstration mechanisms at the Best Practice Farm and on-line for the technology installed on the Best Practice Farm.

A number of demonstration mechanisms have been established to increase awareness and adoption of the AgTech installed on the Best Practice Farm, a range of approaches including online mechanisms and more traditional resources e.g. Fact sheets have been used to optimise engagement by providing different levels of information to cater for producers preferred learning styles and access to suitable internet speeds.

The Virtual tour is regarded as a particularly effective engagement mechanism as the Tour is available 24/7 for producer to view the technology 'on the farm' with the information available for producers.

Virtual tour

The Virtual tour of the BPDF is an immersive virtual reality experience of the farm, the technologies in use, and information about the products and their capabilities. The Virtual tour had a total of 1,146 unique users, with an average engagement time of 4 minutes, 19 seconds and a total of 56,295 clicks on hotspots, panoramas and maps. An example of clickable content from one of the tech products that is included in the virtual tour is shown in Figure 5. Figures 6 and 7 show usage by month. Where possible we have loaded live data into the virtual tours. Link to the virtual tour: https://farmvr.com/virtual-tours/pirsa-bpdf/.

Figure 5. Example of 'clickable' tech display and information accessible from the Virtual tour

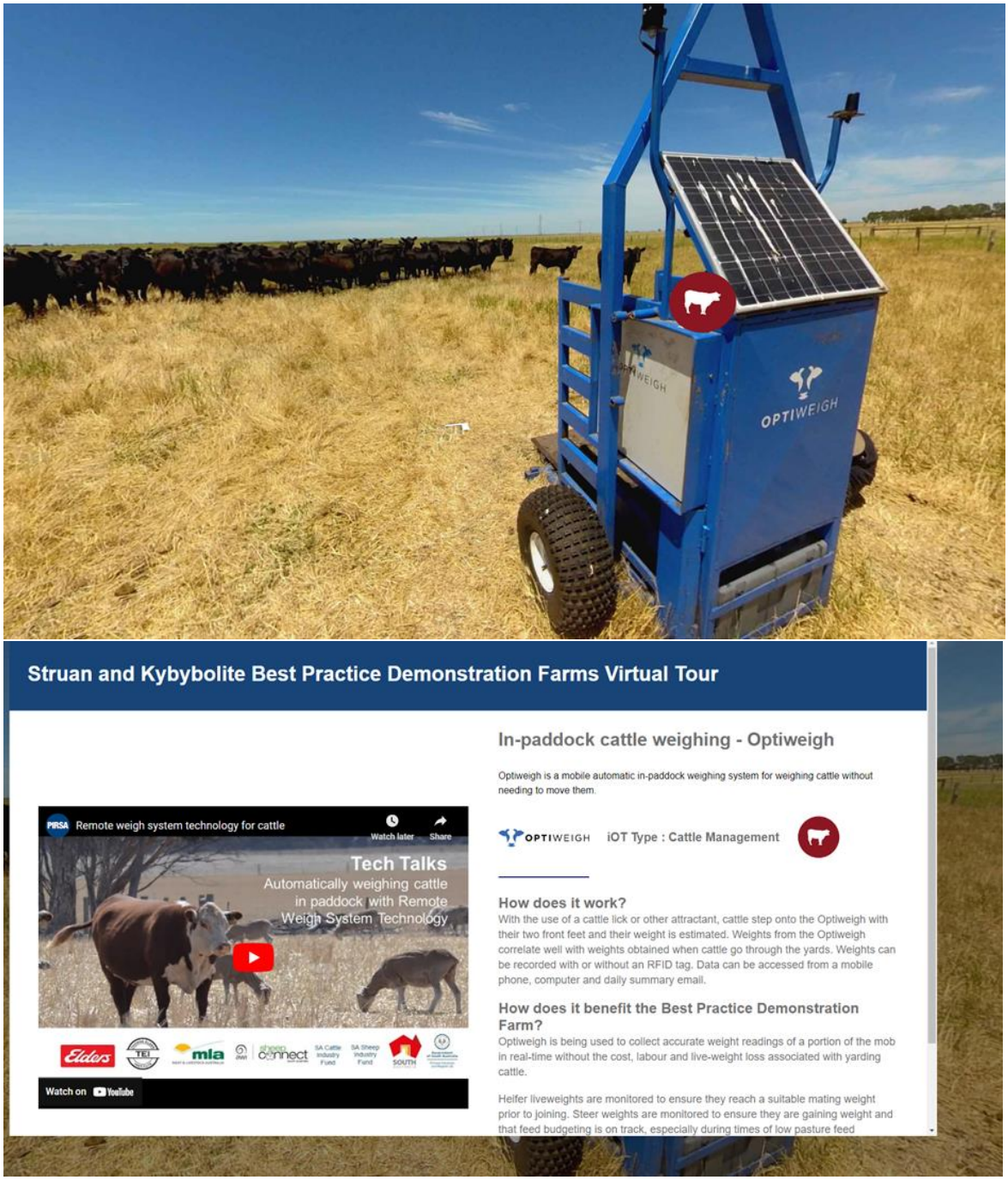


Figure 6. Users per month for the BPDF Virtual Tour April 2021 to May 2022

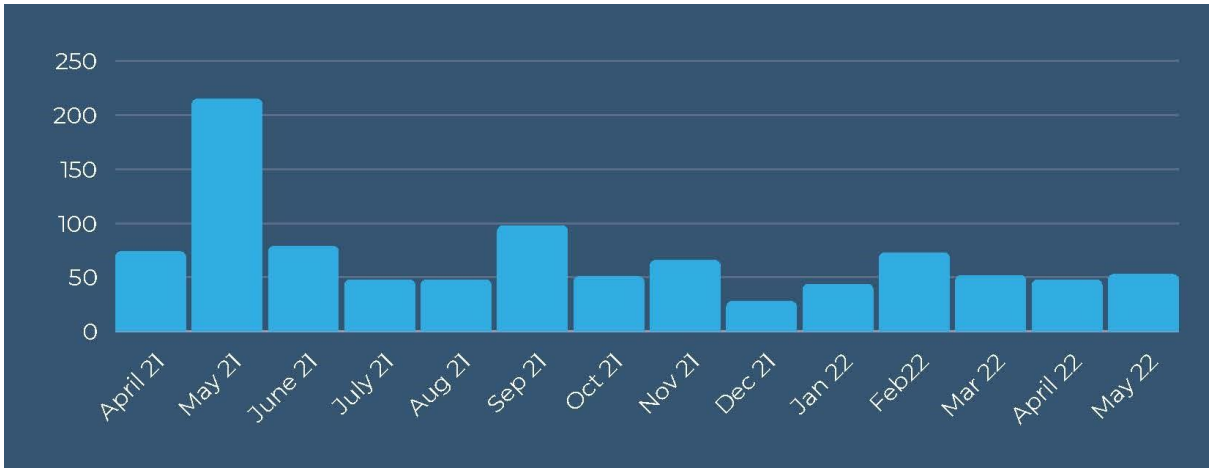
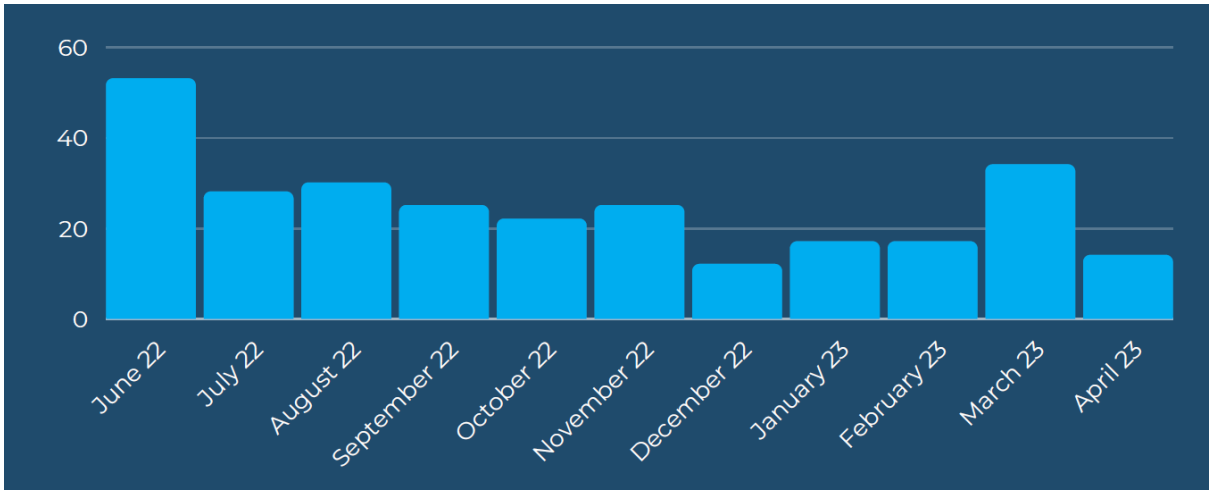


Figure 7. Users per month for the BPDF Virtual Tour June 2022 to April 2023



Technology installed on BPDF – further information

There is information about each of the technologies installed on the BPDF such as how the AgTech works, benefits to the BPDF, connectivity requirements, installation and power requirements and pricing model on the BPDF webpage[4]. This information includes 8 videos of 2021 Field Day, 11 videos of the technology installed at the farm and 8 videos of the 2022 Field Day. Details on number of views (where available) are included in Appendix Tables 5.2a-c.

[4] https://www.pir.sa.gov.au/primary_industry/agtech/attend_demos/struan_kybybolite_demo_farms

Resources

A total of 24 Fact Sheets, including a producer story with their experiences of use of the technology (where available) have been developed for AgTech installed on farm. Details on the range of products and number of views are included in Appendix Tables 5.2a - c.

Three Decision tools have been developed on Water Monitoring, Weather Stations and Soil and Temperature Probes, these are available to producers on USB. The Decision tools compare the same technologies from different suppliers on the types of connectivity, power source, communication, installation, cost, ongoing subscriptions and any considerations when purchasing the technology.

The decision tools break down the important information producers need to know. These tools were developed for technologies for which there are many options, making it easier for producers to line up which ones are worthwhile for them. Decision tool content includes connectivity, how installation is done (by producer or company), how the technology is powered, what the communication of the information is (text message, alert, email), the cost of the technology and ongoing subscription charges, the return on investment (only on the water monitoring technologies) and any other considerations.

Webinar

A webinar series *AgTech: Innovating agriculture* in partnership with Elders was held on 11 and 18 May 2022. Topics included: Digital software-based systems and decision-making tools (Webinar 1) and Sensor and device-based tech being used on farm (Webinar 2). The series had 169 registrations.

The webinar series was designed to provide tech companies involved at Struan with an opportunity to give a presentation on what their technology is and the benefits it provides to producers.

5.5.4 Objective 4.4

Objective 4.4: Engage at least 200 producers over the life of the Program in the demonstration and validation of AgTech and translation of data generated to on-farm decision making.

A total of 231 Producers have been directly engaged in events and activities delivered on the BPDF (Table 22). Producers were also engaged in demonstration mechanisms including virtual tours; videos of the 2021 and 2022 Field Days, videos of the technology installed at the farm, Fact Sheets, decision tools, and Webinar series. However, the number of producers engaged in each of these demonstration mechanisms cannot be determined due to data collection limitations. The visitor area was capable of seating 4 or 5 people to meet with the Co-innovation Officer, the areas was equipped with TV Screens to show visitors the technologies in use via the Virtual tour or technology dashboards.

Table 21. Summary of direct engagement by producers, service providers and other industry representatives at the Best Practice Demonstration Farm

	No. Producers	No. Service Providers	No. other industry representatives	Total attendees
BPDF Field Days	118	81	20	219
Hosting producer groups to BPDF	108		84	192
Visitor Area	5			5
Total	231	81	104	416

Survey results show that 54% of producers who participated in the Field Days described they would be making slight or significant changes as a result of what they learned during their visit to the Best Practice Demonstration Farm (n=61) and 48% of the survey respondents who participated the BPDF tours reported that they would be making slight or signification changes on their farm (n=23). Visitors highly rated the value and satisfaction of their experiences attending the BPDF (Table 23).

Table 22. Value and satisfaction ratings for visitors to the BPDF

	Value	Satisfaction	Number of surveys
Field Days	8.0/10	8.2/10	61
Hosting producer groups to BPDF	8.3/10	8.2/10	23

A representative selection of comments from producers engaging in various BPDF activities is provided below.

Comments - Field Days

"ROI calculations and value propositions clearly explained and validated."

"The farm tour and the virtual fencing was great."

"Definitely going to investigate water tank tech, weather stations and financial recommendations further."

"Hands on practical decision-making using farm data."

Comments - Hosting producer groups to BPDF

"Awesome session, can't wait to go home and be able to collect the data correctly."

"Great day, we will be doing things differently, now we know what we are doing."

"Great, very informative, will be showing the virtual tour to our team back home."

Additional producers have been engaged with the BPDF through other avenues including:

- Trade displays at regional events
    - Livestock Technology Expos – see Objective 4.1 for further details
    - AdvanceAg (Adelaide), 18 October 2021
    - The South East Field Days, 18-19 March 2022

  - Upper North Farming Systems "Tools, Technology and Transformation" event on 14 July 2022 at Melrose. The Co-innovation Officer held a trade display and presented to the audience.
  - South Australian Livestock Consultants conference on 10 November 2022.
  - At the Barossa Improved Grazing Group, 15 February 2023, the Co-innovation Officer held a trade display.
  - At the Kingscote (Kangaroo Island) Tools and Tech Field Day on 2 March 2023. Trade display and presented to the audience.
  - The South East Field Days, 17-18 March 2023, the Co-innovation Officer held a trade display and presented to the audience on the BPDF on both days.

- Presentations delivered by the Co-innovation Officer to a wide variety of audiences on the activities and technologies installed on the BPDF, including:

  - SA Livestock Consultants Conference, 29 July 2021 providing an update on the progress and activities of the BPDF
  - Naracoorte High School Careers night, 23 August 2021 to give an overview of the use of technology in agriculture and activities at the BPDF
  - Lochaber Ag Bureau (15 producers), 9 February 2022 providing an update on all the technologies demonstrated at the BPDF
  - Limestone Coast Producer Group (6 producers), 21 March 2022 were provided an update on the use of Genomic selection in a commercial beef herd and an overview of water monitoring solution used at the BPDF
  - AgTech MeatUp Group (27 individuals/ businesses ranging from technology suppliers, innovators, industry representatives to producers), 29 April 2022 were provided with an update on all the technologies demonstrated at the BPDF.
  - Naracoorte Crop Science Investigators Field Day, 18 May 2022 to give an overview of the use of technology at the BPDF and how the innovation of technology can boost productivity to over 100 students from the region.
  - 11 Naracoorte high school students studying technology, 4 July 2022.
  - Growing the Future conference on 11 August 2022.
  - Naracoorte High School careers night 22 August 2022.
  - 12 Urrbrae Agricultural high school students – What is Agtech day, 9 November 2022.
  - At the Nuriootpa Research Centre the Co-innovation Officer presented to primary producers on the BPDF on 9 November 2022.

- Promotion of the BPDF activities and technologies at the following events:

  - Elders Keith Field Day, 4 June 2021, the Elders, AgTech Development Officer presented and promoted the BPDF
  - Naracoorte Show (theme AgTech), 16 October 2021, the Co-innovation Officer, in conjunction with Thomas Elder Institute, held a trade display including demonstration of the Optiweigh
  - PIRSA and Elders held a collaborative producer event prior to the EvokeAg Conference on 20 February 2023. The event was titled 'Bridging the Gap – What

producers need and want from AgTech'. The event attracted 102 people. Attendees were a mixture of producers, government (local, national and international), industry representatives and start-up companies.

- The Co-innovation Officer attended the EvokeAg Conference and held a trade display (in conjunction with the AgTech Team) on February 21 and 22, 2023. The BPDF was also mentioned in the speech given to the conference audience by the Minister for Primary Industries and Regions.
- On 13 April 2023 the Co-innovation Officer presented to the audience at a SA Drought Hub Producer Workshop focussing on weather monitoring.
- On 25 May 2023 the Co-innovation Officer presented to the Agricultural Teachers Association of South Australia to discuss the BPDF, resources and virtual tours. Discussions were also had with PIEFA to include a link on their website to resources and the virtual tour.

5.5.5 Objective 4.5

Objective 4.5: Assess best practice technology and management innovations to transfer appropriate knowledge and skills to demonstrate changes to producer groups.

Assessment of the best practice technology and management innovations are ongoing for the following technologies:

- AgIntel remote monitoring - through the use of physical pasture cuts undertaken in 2021, AgIntel developed algorithms to evaluate kg/DM/ha (Food on Offer). There has been an ongoing process in evaluating the accuracy of this algorithm using additional pasture cuts and the results found to date have been negligible for extrapolating that data into a Food on Offer.
- AgriWebb – A Fact Sheet and producer case study have been developed and an AgriWebb workshop is planned for delivery in late 2023.
- All weather monitors and soil moisture probes – Fact sheets and producer case studies have been developed. Decision tables for soil probes and weather stations have been created.
- Sheep in the uDOSE trial are being weighed and condition scored regularly, but there has been no significant difference between the weights of the two groups. Plans were made to collaborate with Dr Colin Trengove (University of Adelaide) to perform liver biopsies to identify the difference in nutrient uptake between the uDOSE and control mob however this activity was unable to be implemented due to circumstances beyond our control.

A soil amelioration trial is ongoing, comparing the Reefinator trial site established in 2021 to a dozer trial established 2022. This trial was implemented based on feedback from attendees at the September 2021 Field Day. Particularly as the dozer is able to rip and crush rock up to depths of one metre compared to 30-40 cm with the Reefinator. Soil samples from before and after the dozer have been taken for analysis. Both trial sites were sown with a ryegrass mix in May 2022.

5.6 Program engagement activity and delivery approach evaluation

A range of review activities were undertaken to assess the effectiveness of engagement activities in the key areas of numbers of producers and industry service providers engaged and the impact of the engagement. Major review activities followed a formal structured approach using surveys. Minor reviews and evaluation were undertaken following individual events and activities through discussion with event organisers, facilitators, presenters, and participating producers.

Results of the short-cycle evaluation of the LEP approach identified some improvements. This included improved clarity to Action Plans, with goals needing to contain further detail and become 'smart goals'. Individual Action Plans needed to include actions which contribute to their farm business not just eligibility for the Livestock AgTech Adoption Rebate. These improvements were incorporated by ProAdvice Pty Ltd into LEP delivery.

The Producer Group short-cycle evaluation indicated that the Group approach is attractive to producers. Outcomes of the evaluation assured Program staff that the approach was working well. All attending Group facilitators shared their experiences, the topics and speakers they have used or were planning to use for Producer Group activities.

ProAdvice Pty Ltd evaluated the LEP Process at the conclusion of the sessions. Their assessment was that the LEP workshop approach – tell, show and do – was an effective model for teaching. They received feedback from many producers that showed they were very appreciative of the 'coaching time input' both at the workshop and after hours to complete plans. ProAdvice reflected that the greatest achievement of LEP for producers was in communicating the importance of "profit design" in their business and the simple ways to analyse profit (Overheads, Turnover and Gross Margins) that directs them to what needs improving.

The mid-Program evaluation provided confidence to the Program delivery team in both the delivery approach being used and the ability of the Program to meet its' expected outcomes and objectives. Key findings relating to this MLA project from the mid-Program evaluation were:

- Delivery was evaluated as being highly successful, with significant progress on development and implementation of the engagement activities, and progress overall assessed as being 'on track' for all activities except for the Co-innovation Officer. For the Co-innovation Officer, progress delivery was identified as being limited (due to a delay in appointing the Officer) but delivery milestones and objectives anticipated to still be met (assessed as low risk).
- Activities have been well received by producers and broader industry. Level of uptake and reach of activities as well as feedback received suggest that they are appropriate to industry needs and their promotion and delivery has been effective.
- Any challenges encountered have been appropriately addressed and potential future risks identified, and mitigation options identified.
- All Program expected outcomes were rated as 'outcome is expected to be achieved'. The intermediate outcome pathways within the theory of change/program logic are progressing as predicted. For outcomes not yet achieved, evidence and Program Pillar lead input suggests that they will be.

As part of the mid-Program evaluation, a summary document outlining delivery and outcome progress was developed, a copy of which has been submitted at Milestone 5a.

Overall, the Program was successful in engaging producers and service providers using the suite of different approaches during the life of the Program. The single exception was the LEP Review activity which fell short on achieving its goal of 140 producers participating. The Program team have identified that the low number of participants is likely due to the following factors:

- A general reluctance of producers to engage in business planning activities as experienced in several other Programs (drought and fire recovery) over the past 10 years that have targeted this type of outcome.
- A lack of incentive (financial/practical incentive) to entice producers to engage (for example the original LEP sessions were incentivised by making them a pre-requisite for applying for an up to $10,000 (GST exclusive) Livestock Agtech Adoption Rebate).
- The short timeframe over which the LEP review was available to producers (due to commencement of this activity quite close to the end of the RMW Program).
- Time elapsed between development of original Business and Technology Plan and undertaking a review of the Plan was short for some participants.

Some specific feedback from participants about the Program includes:

Livestock Enterprise Planning

'A really worthwhile program that has accelerated the uptake of AgTech in our enterprise to drive labour efficiency and collect individual animal data to make our flock as healthy and productive as possible.'

'Very beneficial in gaining knowledge about building a financially healthy business.'

'All of the areas were relevant to our business and will definitely be implementing our learnings.'

Producer Groups

"*A very interesting group who stimulate discussion with top quality input from experts*"

"*Has been a very beneficial program. Good to network with like-minded producers that are wanting to improve their livestock enterprises*."

"*Great group. Talk to other producers and network while gaining practical knowledge that can be implemented to benefit our livestock enterprise.*"

Demonstration Farms

'*Very valuable to see key trends/new technologies and to catch up with people'*

'Very informative with up to date valid knowledge'

'Always love seeing the tech in action'

Service Provider Development

'The underlying conversation about sheep EID backed by discussion on livestock performance opportunity really resonated. Jason's delivery reflected understanding of the agency audience and speaking to most they gained some real insight into how they can open conversations with existing clients. Tags and technology to improve performance.'

'Very effective in bringing new technology & management ideas to the cohort of young industry agents.'

'Very beneficial'

Co-innovation Officer

"Seeing the tech in action on farm!"

"Good to understand the range [technology] that's out there".

5.7 Communications

There were four communication objectives included in the Communications Plan for the Program:

1. Communicate clearly to producers, industry bodies and other stakeholders the benefits of being involved in the various activities of the project
2. Increase awareness of benefits associated with utilising technology for data-based decision making and improved production outcomes
3. Build confidence and engagement in the project with producers, industry bodies and other key stakeholders, encouraging these external stakeholders to act as advocates for the project and the broader Red Meat and Wool Growth Program
4. Communicate the connections with other priority programs, both within South Australia, including AgTech in SA, One Biosecurity and Growth State, and within MLA and how these support growth of a more productive livestock sector.

A summary of the communication activities contributing towards these objectives is included in Appendix Table 5.1. Objectives 1-4 have been achieved, as evidenced by:

- Communications activities driving engagement in Producer Groups, Service Provider Development and Livestock Enterprise Planning, have been executed with a highly targeted approach, nurturing existing relationships within industry and between PIRSA staff and producers and service providers. Communications tactics for these engagement activities have been highly effective and have helped the Program achieve its' Program objectives targeted at engagement statistics, and in some cases exceed them (e.g. Producer Group membership and LEP).
- Communications supporting Demonstration Farms has also been very successful. Key achievements include integration of the resources developed for the Farms onto the website, which have received much interest from producers and other industry representatives (see Appendix Table 5.2a - c); two feature articles in Feedback Magazine promoting the benefits of AgTech adoption for decision making at Coolaroo Demonstration Farm - Summer 2021 and Lymn Farms Demonstration Farm – Autumn 2022 (see Appendix Table 5.1).
- Best Practice Demonstration Farm communications have focused on driving attendance to Field Day events and highlighting AgTech solutions demonstrated on farm; article in Feedback Magazine promoting the benefits of AgTech at the Best Practice Demonstration Farm – Spring 2022; and videos and case study integration and website updates have also occurred.

- Media releases have been used effectively throughout the Program to increase awareness of services and events. Whilst media attention over the last year have been largely pointed at broader aspects of the Program (i.e. Cattle Diseases Guide, Sheep Emergency Animal Diseases Augmented Reality tool), coverage has been strong and effective in driving interest towards activities and resources developed by the Program. Broader communications activities has returned 59 favourable news stories. Program web pages have received 17,136 unique visits since the launch of the updated website and web pages in March 2021 (see Appendix Table 5.2).
- AgTech in SA, One Biosecurity and Growth State connections have been integrated in Program communications to create cross-promotional impact. AgTech has been supported via Focus Farms (Demonstration Farms) promotion and through promotion of producer workshops and AgTech tours at Struan BPDF.
- Collaboration with One Biosecurity to upgrade the member portal blog alert function and engagement opportunities with producers has been completed.
- The Sheep and Cattle Disease Guides have been developed/updated, to prevent, diagnose and treat cattle and sheep diseases and promoting benefits of One Biosecurity to producers and industry. The new Diseases guides were promoted in MLA 'The Weekly', 19 May 2023.

The Red Meat Wool web pages are currently undergoing review by the Program and new content mapping is being considered to ensure the suite of resources developed by the Program will be accessible to producers, service providers and industry stakeholders beyond the life of the Program.

6 Conclusion

6.1 Key findings

There was a strong interest by producers and service providers to be involved in the opportunities being offered by the Program. This is a testament to the delivery approach being used (as supported by the short-cycle and mid-Program evaluations and feedback from participants) and the Communications strategy:

- Producer Groups membership was higher than expected
- Additional LEP sessions were provided due to demand
- Attendance at Field Days held at the Demonstration Farms and Best Practice Demonstration Farms were well attended, as well as the Service Provider Development events
- Events across all engagement activities met participant expectations and were identified as of value to them and their business, receiving and average rating of 8.2/10.

A total of 1,789 people were directly engaged in Program events/activities including 1,294 producers and 367 service providers[5]:

- 418 producers (284 livestock businesses) completed Livestock Enterprise Planning
- 340 producers (240 businesses) are members of a Producer Group
- 321 producers, 51 service providers attended Demonstration Farm Field Days
- 132 Service Providers attended upskilling, regularly interact with 13,580 producer clients
- 118 producers attended BPDF Field Days, 108 producers undertook tours at the Best Practice Demonstration Farm.

Approximately 21% of participating livestock businesses are cattle enterprises, 55% sheep enterprises and the remaining 24% are mixed sheep and cattle enterprises (n=509 businesses).

Engagement and learning also occurred through resources developed for the Program which have received 17,136 downloads/views/listens:

- Demonstration Farm Resources have been accessed 1,910 times, including podcasts (1,157 listens), videos (458 views) and case studies (295 downloads). Case studies have also been distributed at Program Field Days and other events
- Best Practice Demonstration Farm resources include Field Days videos (96 views) and videos on the technology installed on the farm (90 views).

These engagement activities delivered great outcomes for participating producers/livestock businesses including an increase in awareness, knowledge and skills as well as confidence in their capability to apply these learnings, to all aspects of their business:

LEP participants reported:

[5] Remainder are other industry representative (66), students (58) or they didn't provide this information (4)

- Improved knowledge and skills around profit and finance indicators, productivity measures to improve profit, risk management and resilience, people and business and the use of PLM technology for data-based decision making
- Increased confidence in numerous aspects of their business including identifying what technology is right for their livestock business (87.5%), using data generated from PLM technology for decision making (75%), and implementing change within their business (100%)
- 83% are likely to implement the actions within their Business and Technology Action Plan. A total of 228 of the 284 businesses (80%) that completed LEP have applied for the Livestock AgTech Adoption Rebate to facilitate implementation of actions

LEP Review participants reported improved knowledge and awareness of eID and other PLM, and improved skill and confidence in financial literacy/business acumen and adopting and using eID.

Producer Group members reported:

- The learning opportunities - peer-to-peer learning, participation in activities, access to information and learning from experts as a result of being a member of a Producer Group increased members confidence:
    - in choosing technology that is right for their business (88.2% agree or strongly agree),
    - in their ability to use data generated from technology to make decisions (82.9% agree or strongly agree)
    - in the resilience of their livestock business (80.9% agree or strongly agree).
- Increased adoption of eID, with 16.7% adopting eID for the first time as a result of joining the Group, and 21.7% plan to adopt eID, but haven't done so yet. Noting that 50% of members had adopted eID before joining the Group.
- Using data to make management decisions by 80% of the 97 members, of which almost half (49.5%) are doing this for the first time or have improved their use of data since becoming a member of a Group.
- That they will continue to implement what they have learned through being a Group member (90.7%), with 20% planning to implement within a year, 50% within 1-2 years and 20% longer term (more than 2 years).

Facilitated Discussion participants reported:

- Installation of new technology on their farm has reduced travel time, labour/staffing costs and the amount of physically demanding work (48.8%).
- The Program improved their decision-making abilities due to the availability of more accurate data (73.2%).
- The Program improved farm efficiencies (63.4%), particularly through being able to better utilise on-farm resources, and improved farm management skills.
- Approximately two-thirds of participants (63.4%) intend to further improve their farm business particularly through better planning, budgeting, and benchmarking, increasing stock rates, improving use of feed, focusing on fertility and better succession planning.

Across Program engagement activities, 69.6% of participating producers identified that they were likely to implement change as a result of what they have learned.

The Service Provider Development was successful in ensuring support is available to producers to drive change, with Service Providers identifying:

- an increase in knowledge and understanding of PLM (91.7% agreed or strongly agreed), eID and its use (88%) and the application of data to make decisions for business and farm management (94.5%)
- Increased confidence to engage with their producer clients about PLM, including eID (>90%)
- Increased ability to provide direction/better support their producer clients wanting to adopt and use eID, apply data to make decisions and in implementing actions that will drive positive change to their business and production (>90% for all).

6.2 Benefits to industry

The Program has increased knowledge, understanding, skills and confidence of both producers and service providers, to drive change within their livestock businesses/or with the clients they work with, particularly in the areas of business resilience, AgTech and data-driven decision making.

The Program has driven improved capacity and practice change specific to the needs of the individual livestock businesses. This in turn will increase the productivity and profitability of individual enterprises and build resilience within the sector.

Additional benefits flowing from the activities of the Program have included:

- Increased engagement of the next generation in the planning of livestock enterprises and through the increased uptake of AgTech and data-based decision making.
- The broader benefits derived from the peer-to-peer learning opportunities and the sharing of ideas and learning from other producers' experiences.
- The change in conversation around the adoption of eID by producers and service providers and how it can be used for productivity gains.

7 Future research and recommendations

The Program adopted five very successful activities for engagement of producers and their advisors in the areas of improved business acumen and adoption of AgTech. These activities - Livestock Enterprise Planning, Producer Groups, Demonstration Farms, Co-innovation Officer at the Best Practice Demonstration Farm and Service Provider Development should be reviewed for suitability for any new extension/adoption-based programs.

It is recommended that future Programs include the following elements:

- Provide follow up sessions with attendees of LEP (or similar) to assist with 'barriers to implementation' of their Plan, the opportunity to review and update their Plan and keep momentum and motivation in implementing their plan
- Continue to support the Community of Practice formed through this Program
- Where producer practice change is anticipated, having advisors that have the knowledge and skills to help facilitate change in livestock businesses
- Demonstration of AgTech in 'commercial' settings on both producers' properties and research properties where the value proposition of AgTech can be validated and how it is used in data-based decision making
- A strategic approach to communications
- A dedicated M&E person, to ensure the success of Program M&E, particularly for measurement of practice change.

Inclusion of measurement of practice change is imperative for extension/adoption programs such as implemented in this Program. However, recognising that simple practice change may occur over a short time period, but complex practice change is more involved and occurs over a longer time period. Designing programs that provide on-going (or over a longer period) information, support and motivation to continue to implement practice change will assist with this. Along with resources to implement M&E over this longer period to measure practice change.

To further aid measuring practice change, development of a tool for producers (and service providers) to self-assess and establish a base line or current state in key areas (e.g. business, banking, land, enterprises, people and technology use) would be hugely beneficial.

The recommendations suggested here aim to ensure the networks established through this Program and the motivation for change are not lost, but rather continue to build, ensuring long-lasting practice change and a greater positive impact (productivity and profitability) in the individual livestock businesses and the broader industry, contributing towards a strong, resilient red, meat and wool sector.

8 Appendix Summary

Appendix 1: Livestock Enterprise Planning

Appendix Table 1.1. Summary of Livestock Enterprise Planning session and attendance.

Appendix Figure 1.1 Example Farm AgTech Adoption Plan

Appendix 2: Producer Groups

Appendix Table 2.1 Producer Group member summary.

Appendix Table 2.2 Summary of Producer Group Goals, outcomes and activities held, June 2020 – 31 December 2021.

Appendix 3: Demonstration Farms

Appendix Table 3.1 Summary of Demonstration Farms established, and Field Day activities and resources developed.

Appendix 4: Monitoring and Evaluation

Appendix 4.1 Facilitated Discussions questions

Appendix 5: Communication Analytics

Appendix Table 5.1 Summary of Communication activities undertaken against objectives and measures within the Communications Plan, for the whole Program delivery period.

Appendix Table 5.2 Analytics for downloads and views for Program resources

Appendix Table 5.3. Analytics for website views

Appendix Table 5.4. Analytics for Eblasts

Appendix Table 5.5. Analytics for Social media

8.1 Appendix 1: Livestock Enterprise Planning

Appendix Table 1.1. Summary of Livestock Enterprise Planning session and attendance

LEP session	Date	Number of participants	Number of businesses
Original contract			
Adelaide - 1	6/07/2021	13	11
Adelaide - 2	7/07/2021	18	12
Adelaide - 3	20/07/2021	3	1
Clare	10/02/2021	17	10
Cleve	9/03/2021	23	14
Mt Compass - Fleurieu Beef Group	23/02/2021	11	9
Jamestown	9/02/2021	19	14
Karoonda	17/03/2021	28	19
Keith	2/02/2021	26	16
Kingscote	11/12/2020	13	11
Mt Barker	3/02/2021	19	13
Mt Gambier	16/02/2021	20	15
Mt Pleasant	8/12/2020	21	15
Naracoorte	12/08/2020	20	10
Parndana	10/12/2020	18	15
Pastoral Zoom Group 1	10/11/2020	8	5
Pastoral Zoom Group 2	2/11/2020	4	2
Strathalbyn	2/03/2021	24	15
Tanunda	11/02/2021	13	11
Wudinna	10/03/2021	26	16
Zoom session	19/10/2021	2	1
Total, original contract		**346**	**235**
Variation (additional sessions)			
R2 - Adelaide	16/02/2022	13	9
R2 - Clare	10/02/2022	23	13
R2 - Cleve	23/02/2022	10	6
R2 - Keith	30/11/2021	10	7
R2 - Meningie	28/01/2022	7	6
R2 - Strathalbyn	1/12/2021	6	5
R2 - Zoom	3/03/2022	3	3
Total, variation		**72**	**49**
TOTAL		**418**	**284**

Appendix Figure 1.1 Example Farm AgTech Adoption Plan

Farm AgTech Adoption Plan

Name of Business: [redacted] Date of Livestock Enterprise Planning session: [redacted]
Business Entity: [redacted] Land Entity: [redacted]
Business participants: [redacted] Business location: [redacted] Total area managed: 36ha
Business description (include number and type of livestock): grazing sheep approx. 1148hd

Strategic Imperative (Goal)	
1. Business	Continue to run poll merino stud improving gross margins by improving individual animals' performance. As per target below by FYE 22/23 & 24.
2. Banking	Finish succession plan which will be enabled by securing RIC loan by end of FY23.
3. Land	Pasture improvements, 20ha per annum to increase stock performance and increase hay production. Reduce the risk of purchasing feed.
4. Enterprises	Property to operate under the best gross margins. Managing feed input using grain feed trailer and hay feed cart.
5. People	Continue to get succession plan advice and finish succession plan. All key people to have adequate insurance and strategy for adverse events.
6. Technology use	BY EoFY24, EID in whole flock. Utilising breed elite, upgrading software, load bars, scale heads, stick reader. To cover technology, collapse all data in cloud.

Key risks	Rating
Bank backing and interest rate	A3
Key person	D5
Drought	C3
Fire	C3
Technology Collapse	D5
Livestock and wool price drop	B3

Business and Technology Actions (How will the strategic imperative/goal be implemented?)	**Responsibility** (Who is responsible for implementation?)	**Timeline** (When will implementation be?)	**Budget** (Estimated budget required?)	**Quantify the Benefit** (e.g. $ return, efficiency, time)	**Priority** (High / Medium/ Low)
1. Analyse gross margins, continue with breeding objectives to increase wool and meat production on individual animals.	[redacted]	March 2022	2 days (Consultant $3600). AgTech Advice	Increase gross margins and revenue. Identify underperforming animals to cull.	Medium
2. Organise all financial information and succession strategy and get information to bank.	[redacted]	March 2022	2 days (Consultant $3600). AgTech Advice	Savings in lower interest rates and reduced risks to business.	High
3. Assistance from agronomist on pastures	[redacted]	May 2022	2 days (Consultant $3500). AgTech advice/training	Better pastures turning into reduced cost of feeding.	Medium
4. Analise information to get best gross margins. Plan feed rations budgeting.	[redacted]	March 2022	2 days (Consultant $3600). AgTech Advice	Increase gross margins and reduced feed costs	Medium
5. Utilising Lynton Keen from RBS, and seek other succession and insurance advice	[redacted]	March 2022	2 days (Consultant $3600). AgTech Advice	Good succession plan experience for family and future risks covered.	Medium
6. Continue with EID and software. Continue to upgrade software and components. Breed elite, Pedigree Match Maker upgrading software, load bars, scale heads, stick reader, fleece weigh system, water monitoring.	[redacted]	March 2022	5 days ($15k on tech. AgTech rebate)	Increased returns on individual animals for improved gross margins. Labour efficiency and increased animal welfare	High

Monitoring (what will success look like?)

1. Increase in gross margin and better performing individual animals; 2. Succession plan completed and RIC loan in place; 3. Improved pastures in place to reduce feed costs and improve gross margins; 4. Gross margins improved; 5. Succession plan finished and insurance in place; 6. Continue using EID and all technology in place and upgraded where required.

	Now: 16/02/2022			
		Targets	**FY20**	**FY21**
Business efficiency ratios	ROA%	>5%	-2.1%	2.4%
	Overhead	<35%	82.5%	58.0%
	Turnover	>15%	16.2%	20.7%
	Gross Margin	> 70% grazing	71.6%	67.7%
Banking ratios	Equity%	70%	57.9%	55.1%
	Finance (& land leases)	<15%	11.7%	7.5%
	Interest coverage	>2x	-1.46x	2.26x
	Debt : Income	<3x	2.14x	1.86x
Land description	Soil fertility (pH, %OC, soil P)	Variety soil types pH range from 5-8	PH 5-8	PH 5-8
	Land type (%): % Dryland arable (improved pasture: unimproved pasture : crop) % Unarable (veg : non arable) & % Irrigation	95% arable 5% unarable	85% arable 15% unarable	90% arable 10% unarable
Enterprises	Description	Poll Merino Stud selling 100 rams per annum 500 ewes		
	#DSE	1500	1500DSE	1500DSE
	Lambing%	120%	100%	105%
	# bales wool	45	40	40
People	Description	Family Farm 2 owners (2FTE) Father part time		
	#DSE/FTE	Sheep: 8-10000 Cattle: 10000	1500/2FTE =750DSE/ FTE	1500/2FTE =750 DSE/FTE
	Time off/year (# weeks)	4 weeks	2 weeks	2 weeks
	Business succession & estate planning reviewed	Yes Yes	No No	No No
	$ turnover/FTE	>$600k/FTE	$315k/2FTE 157k/FTE	$420k/2FTE =$210k/FTE
	Days Professional Development/year	>0!	0 days	0 days
Tech use	Current	EID tags; Pedigree Match Maker; Autodrafter; Stick reader; Breed Elite		

	Where are you going? 30/06/2024			
	Targets	**FY22**	**FY23**	**FY24**
Business efficiency	>5%	3.5%	4%	5%
	<35%	45%	40%	35%
	>15%	25%	27%	30%
	> 70% grazing	71%	72%	73%
Banking ratios	70%	57%	60%	65%
	<15%	7.5%	7.5%	7.5%
	>2x	2.3x	2.3x	2.3x
	<3x	1.8x	1.8x	1.8x
Land description	Variety soil types pH range from 5-8	PH 5-8	PH 5-8	PH 5-8
	95% arable 5% unarable	90% arable 10% unarable	92% arable 8% unarable	95% arable 5% unarable
Enterprises	Poll Merino Stud selling 100 rams per annum 500 ewes			
	1500	1500DSE	1500DSE	1500DSE
	120%	110%	115%	120%
	45	35	40	45
People	Family Farm 2 owners (2FTE) Father part time			
	Sheep: 8-10000 Cattle: 10000	1500/2FTE =750DSE/FTE	1500/2FTE =750DSE/FTE	1500/2FTE =750DSE/FTE
	4 weeks	2 weeks	3 weeks	4 weeks
	Yes Yes	Yes Yes	Yes Yes	Yes Yes
	>$600k/FTE	$600k/2FTE =$300k/FTE	$650k/2FTE =$325k/FTE	$700k/2FTE =$350k/FTE
	>0!	1 day	2 days	2 days
Tech use	Upgrading software and AgTech items	Upgrade Stick reader and fleece weigh system	Water monitoring	Full genomic testing

8.2 Appendix 2: Producer Groups

Appendix Table 2.1 Producer Group member summary

Noting 7 producers are a member of two groups

Producer Group	Number of Members		Number of Businesses	
	As of May 2022	As of March 2023	As of May 2022	As of March 2023
AgKI	18	18	11	11
Barossa Improved Grazing	12	12	11	11
Burra	19	29	8	17
Central Eyre	11	23	8	10
Coorong	28	28	17	17
Fleurieu Beef	31	34	29	33
Limestone Coast	19	28	19	24
MacKillop FM - Lakes	12	13	10	10
MacKillop FM - SE	22	22	15	15
MacKillop FM - MacKillop	13	13	11	11
Mallee Sustainable Farming	14	14	13	13
Mid-North HRZ	23	23	16	16
Murray Plains	24	34	14	24
Outback Lakes	19	19	7	7
UNFS	28	30	22	21
Total	**293**	**340**	**211**	**240**

Appendix Table 2.2. Summary of Producer Group goals, outcomes and activity summary

Producer Group	Group goals and outcomes	Activity summary
Ag KI	Goal: To quantify the economic gains possible using eID and objective measurements of wool, growth, and fertility traits within wool flocks to make more informed breeding and selection decisions. • EID and objective measurement of hoggets - what are the genetic gains and is this economically worthwhile. Goal achieved: Yes Outcomes achieved: Two case studies were developed and presented: *1) "Using eID technology to collect data on ewe & wether hoggets in a self-replacing wool flock: a case study"* *2) "Selecting ewe & wether hoggets in a self-replacing wool flock using objective data: a case study"* The case studies demonstrated that prior to investing in technology to support new practices, an understanding of what Return on Investment those practices will yield is crucial before assessing the most efficient method of conducting those practices. The use of eID technology to collect data on ewe and wether hoggets in this scenario was not economically justified. Whilst the case studies on the use of eID didn't show overwhelming evidence for being cost-effective in the sheep enterprise, the discussions within the group	Session 1 - 3 March 2020 Stocktake of current use of Ag Technology within the group. Development of group plan Session 2 - 17 June 2020 Investigate economic value of eID use in sheep enterprises and the use of smart shepherd collars, plus information on the 'efficient ewe program' Session 3 - 3 September 2020 Host farm visit - pasture and remote water sensing technology used within the group and decision-making framework for adoption of Ag Technology. Session 4 - 23 March 2021 Host farm visit - use of eID for selection of Merinos based on economically important traits. Use of auto-drafter, auto-jetting for flies and lice. Recent selection for bare breech and ceased mulesing on proportion of flock. Session 5 - 27 July 2021 Development of a case study on the use of eID technology on ewe and wether hoggets in a self-replacing wool flock using objective measurements in one wool business in the group. Session 6 - 15 November 2021 Host farm visit – hosts breeding objective for their Merino flock is to become non-mulesed and they are purchasing rams with ASBV's for low breech wrinkle, along with other economically important wool traits from a stud that has already made significant progress in this area. Session 7 - 23/24 March 2022 Host farm visits - the practical application, ease of use and cost effectiveness of the various technologies used on the properties. Presentation "Where will technologies work in your livestock business" Session 8 - 1 December 2023 Strategies to improve business financial performance through financial benchmarking session with peer-to-peer learning and guest presenter.

Producer Group	Group goals and outcomes	Activity summary
	were that the economic proposition would be more favourable when eID becomes mandatory in sheep.	Session 9 – 9 March 2023 Better Decisions for Business Success Forum – Decision making processes, risk management and new livestock research and carbon considerations (joined Coorong and Murray Plains Group meeting). Session – 10 March 2023 Host farm visit - practical application, ease of use and labour efficiencies of the various technologies used within the feedlot, and how eID technology has been used within the business. Session on how to do partial budgets for investment analysis to improve their business decision making ability (joint meeting with MacKillop FM – Lakes and MacKillop FM - SE).
Barossa Improved Grazing	Goal: Improve profitability and reduce labour on sheep and beef (stud and commercial) enterprises. • Implement labour saving equipment – yard design, handling equipment, remote monitoring, and automatic weighing. • Improve production and stud recording using EID, individual weighing, parentage recording, DNA and livestock recording program and apps. Goal achieved: Yes Outcomes achieved: • The producers that were able to, have implemented new handling equipment / yards etc. Other producers have implementation of equipment for labour saving in their planning for down the track. • Some producers have implemented eID, others will do so over the next few years. • Some of the producers in the Group could not see the value of pasture monitoring in what is a mostly	Session 1 - 22 September 2020 Introductory session – introduction to technologies, presentation by a stud merino producer covering remote water monitoring, EID, Apps and Shepherd parentage collars. Producer surveys and technology plans completed for each producer. Session 2 - March 2021 Producer bus trip to look at sheep handling equipment, individual identification, data management and apps. Session 3 – 9 March 2021 Attend the Karoonda Technology Day exposure to implementing technologies, sheep handling equipment, EID and remote technologies. Session 4 – 22 September 2021 Remote monitoring information session including remote water monitoring and set up, remote pasture monitoring and DNA parentage and flock profiling. Session 5 – 11 November 2021 Feed Budgeting Workshop – understanding and practice at creating a feed budget for the following summer / Autumn Session 6 - 18 March 2022 Bus trip to Fleurieu Peninsula (with Mid North High Rainfall Zone) to inspect and evaluate a range of AgTech including implementation of eID, auto drafters, handlers, farm software, yards and remote monitoring of pastures

Producer Group	Group goals and outcomes	Activity summary
	a cropping region. Some members of the Group have installed water monitoring infrastructure.	Session 7 - 1 September 2022 Zoom workshop with Cibo Labs for remote pasture monitoring. Session 8 – 15 February 2023 BIGG Conference: From the ground up – topics include next generation in wool harvesting, ewe containment, carbon accounting, and optimising heifer development.
Burra	Goal: Increase profitability of sheep enterprises through adoption of new technology: • Make more informed management decisions through increased adoption and implementation of eID data collection. • Management and labour efficiency improved through adoption of technologies. Goal achieved: Yes Outcomes achieved: • Producers learnt how to and set breeding objectives for their enterprise; and explored methods to collect data related to wool traits, weight gains, and reproductive traits for decision making. Some members adopted eID, and others expanded how it was used in their business e.g. scanning to select replacement ewes. • Producers explored technologies – eID equipment, handlers, yard design for containment feeding and farm software. Some members adopted new technologies and others gained greater confidence in using the technologies. Members found that the Group was invaluable for peer-to-peer learning, and to encourage adoption of	Session 1 - June 2020 Meeting to explore technologies related to wool testing and weighing. Session 2 – 23 February 2021 Bus trip to visit a number of local properties and demonstrate use of a range of different sheep handling systems and yard designs. Session 3 – 10 March 2021 Attend Kellock Farms Field Day – using farm software, remote pasture monitoring, technology for containment feeding and using eID equipment. Session 4 – 24 February 2022 Implementing AgTech and improving productivity and profitability including lamb survival and mating ewe lambs. Session 5 - 23 September 2022 Sticky Beak Day to inspect containment feeding and pasture technologies at 3 properties (postponed from 27 June due to facilitator having COVID). Session 6 – 22 March 2023 Meeting on pasture selection: how to select for pastures for your environment: soil type, rainfall, feed demand, monoculture or mixed plantings; and Genetics: why use breeding objectives, setting breeding objectives, using flock profiles and using ASBVs. Session 7 – 28 March 2023 TFI Tour to inspect Lobethal Abattoir. Understanding of use of eID in hook tracking, supply chains, feedback on carcase data and downgrades as a result of underlying animal health issues (joint meeting with Central Eyre Group)

Producer Group	Group goals and outcomes	Activity summary
	AgTech by building confidence through increased knowledge and understanding.	
Central Eyre	Goal: Increased understanding of livestock technology for profitability and productivity • Increased understanding of livestock technology and how it can be used on farm. • Increased confidence to implement livestock technology for productivity and profitability. Goal achieved: Yes Outcomes achieved: • The Group, through peer-to-peer learning and learning from experts, allowed members to explore, share experiences and knowledge with likeminded producers. Members have a greater understanding and confidence in the technologies available. Some members have adopted eID and other on farm technologies for the first time, other members are investigating greater adoption or use of technology in their business. • The Group also investigated factors influencing their productivity and profitability such as ram health, visual classing of sheep and sheep diseases and the associated use of technology such as auto feeders, eID, auto drafters variable drench guns.	Session 1 - 28 August 2020 Introduction to eID equipment – using Sheep Handlers and Auto Drafters. Session 2 - 4 February 2021 PLM and sheep nutrition, and types of eID equipment Session 3 - 29 June 2021 Attend Lymn Farms Field Day - ASBVs to help reach your breeding objective, using and understanding industry tools - Ram Select and Flock profiling Session 4 – 25 February 2022 Implementing AgTech and improving productivity and profitability through mating ewe lambs, containment feeding and improving lamb survival. Session 5 – 15 March 2022 Latest yard and shearing shed design – property visits. Session 6 - 20 June 2022 Practical ram workshop including practical understanding of ram health, how to inspect your own rams and how to undertake visual classing of sheep, and how to record information using eID. Session 7 – 24 February 2023 Attend Shearing and sheep handling innovation and demonstration day – exploring wool handling alternatives, handler and yard design, shed design and shed safety. Session 8 – 28 March 2023 TFI Tour to inspect Lobethal Abattoir. Understanding of use of eID in hook tracking, supply chains, feedback on carcase data and downgrades as a result of underlying animal health issues (joint meeting with Burra Producer Group). Session 9 – 5 April 2023 Management and prevention of common sheep diseases and use of technology workshop.

Producer Group	Group goals and outcomes	Activity summary
Coorong	Goal: Investigate adoption of technology to aid in the improved data collection, decision making and increasing enterprise profit. • Better collection, collation, and utilisation of eID data to make more informed management and breeding decisions. • Technology to support sustainable grazing systems. • Finding the right technologies to improve group pain points [problems being experienced] • Assessing return on investment for different technology options. • How to find and utilise technology to improve welfare and sustainability status of enterprises. • Work out the pain points for each business and measure the impact of AgTech. Goal achieved: Yes Outcomes achieved: The Group members considered a number of different topics to achieve the Group goal. In particular, sessions on eID to collect data, management and use of eID data, and data in decision making. Other sessions on technology for pasture assessment and management were also held. Workshops on pain points and ROI included technology for decision making, using eID tags effectively, improving lamb survival/welfare, management of data and risk management. The producer tour and Focus Farm Field Day explored options for implementation of	Session 1 - 21 September 2020 Introductory session covering: • Group introductions and getting to know each other • Group planning • Introduction to the use of eID and what information can be collected • Use of water monitoring technology, including livestock medicating thru water system • Cattle yard design Session 2 - 2 December 2020 Management and use of individual animal ID data. Session 3 - 17 June 2021 Pasture assessment and management with CiboLabs. Session 4 – 22 February 2022 Implementing and use of AgTech (eID use and data management) and improving productivity and profitability including lamb survival Session 5 – 25 March 2022 Attend Coolaroo Focus Farm Field Day on AgTech and business management strategies including carbon. Session 6 – 21/22 June 2022 Producer tour to the Best Practice Demonstration Farm, Jigsaw Farms and Paradoo Prime with a focus on carbon neutrality, precision lambing and welfare, data in decision making and best practice technology. Session 7 – 9 March 2023 Better Decisions for Business Success Forum – Decision making processes, risk management and new livestock research and carbon considerations.

Producer Group	Group goals and outcomes	Activity summary
	sustainability including carbon and business management.	
Fleurieu Beef	Goal: Increase the profitability of red meat enterprises through the adoption of new technology • Group members will make more informed management decisions through increased adoption and implementation of new technology. • Group members will gain confidence in evaluating and applying new technology to their businesses Goal achieved: Yes Outcomes achieved: Appreciation of the role of technology in increasing profitability and making farm tasks easier increased, although this varied considerably between members. It is anticipated that the financial benefits of tech adoption will take 5-7 years to become apparent on individual farms. • Making more informed management decisions through increased adoption and implementation of new technology: Speakers in sessions covered this topic and the bus trip in March 2022 further reinforced this outcome. • Gain confidence in evaluating and applying new technology to their businesses: This was a highlight of the program as most of our members had very little experience of technology and had never considered it.	Session 1 - 21 July 2020 Complete Base line surveys and group SWOT analysis Session 2 - 15 September 2020 Using NLIS data to access individual animal beef carcase meat quality feed back Session 3 – 16 February 2021 Pasture monitoring using satellites and grazing recording software. Session 4 – 20 April 2021 Improving on farm internet connectivity Session 5 – 15 June 2021 Pasture monitoring using satellites and grazing recording software Session 6 - 19 October 2021 Using estimated breeding value tables to select bulls/semen Session 7 - 15/16 March 2022 Bus trip to inspect and evaluate a range of beef (and livestock) technologies being used in practise on farms (Best Practice Demonstration Farms at Struan and Kybybolite and Demonstration Farm Shepherds Way - a commercial beef farm) Session 8 - 19 April 2022 Attend Demonstration Farm Field Day at Burnt Oak to inspect technology being used on farm and guest speakers on other technology including Optiweigh, Datamars and genetic improvement using AI. Session 9 - 17 May 2022 Guest speakers - soil carbon, dung beetles and soil limitations to productivity, and an opportunity for members to reflect on tech group activities since the first group meeting 21 July 2020. Session 10 – 20 February 2023 Meeting to learn how to analyse and use data generated through precision livestock technology to make best use of genetic resources to improve beef profitability.

Producer Group	Group goals and outcomes	Activity summary
		Session 11 – 21 March 2023 Meeting focused on learning how to access and use the Australian Feed base monitoring program on the MLA web site for on farm pasture budgeting using group members own tablets and MLA login.
Limestone Coast	Goals: 1. Establish a network to share learning about precision livestock management technologies that are available for implementation on-farm, to improve productivity, efficiency and profitability in group members' farm businesses. 2. Improve group members' confidence in making good, considered decisions about the implementation of precision livestock management technology. • Group members are able to identify and understand the problems they have in their farm businesses. • Group members are supported to explore a diverse range of precision livestock management technologies solutions that are available to them to implement on-farm to address these problems and improve the productivity, efficiency and profitability of their businesses. • Group members are able to make good, considered decisions about the implementation of precision livestock management technology. • Group members are engaged as a network, able to share their knowledge, experiences and learning and support each other to make good, considered decisions.	Session 1 - 29 October 2020: Introduction to EID: farm visit, demonstration of basic EID tech and Q&A with the host producer. Session 2 – 11 March 2021 Sheep yard, shearing shed and paddock design; and Remote monitoring: weather, water infrastructure and pasture. Session 3 – 28 June 2021 Attend Struan Best Practice Demonstration Farm Field Day Session 4 – 26 June 2021 Visit to Locmaria Farms to see a transitioning digital farm (use of eID, sheep handlers, techno grazing) Session 5 – 21 February 2022 Implementing AgTech and improving productivity and profitability Session 6 – 21 March 2022 Water monitoring, genomics and sheep and cattle yard design Session 7 - 24 June 2022 eID data management workshop/training on how to manage data from eID using excel to make decisions. Session 8 – 7 March 2023 Workshop on using individual animal management data (collected using eID) to make informed decisions and maximise productivity.

Producer Group	Group goals and outcomes	Activity summary
	Goal achieved: Yes Outcomes achieved: The Group of up to 28 members came together to establish a producer network to learn about precision livestock management technologies. Improving the Groups confidence in implementing and utilising AgTech was achieved through farmer-to farmer learning, engaging experts and supporting producers to gain a greater understanding of AgTech how to implement it in their business. The Group undertook sessions on a range of topics including implementation of individual animal management with eID, eID equipment, management of data using excel and using individual animal management data to make informed decisions and maximise productivity. The Group explored a range of other technologies including remote monitoring of weather, water infrastructure and pastures; sheep handlers, yard design and use of genomics.	
MacKillop FM-Lakes	Goal: To quantify the economic gains possible using eID and objective measurements of growth rates, and fertility within beef and sheep flocks to make more informed breeding and marketing decisions. • Use of eID in cattle and lamb to monitor growth rates for target markets, compliance to consumer specifications and analysis of feedback (feedlot, processor – carcase and MSA);	Session 1 - 5 March 2020 Stocktake of current use of Ag. Technology within the group. Development of group plan Session 2 - 11 June 2020 Benefits of the use of eID in sheep production systems, including Optiweigh – walk over weighing system (Beef); current research into "Pastures from Space"; App technology adoption; and farmer (Alistair Just) snapshot of the range of technology used on-farm. Session 3 – 1 September 2020 Host farm visit - decision making framework for adoption of Ag Technology.

Producer Group	Group goals and outcomes	Activity summary
	• Use of eID to monitor pregnancy rates in beef and sheep (including pregnancy status, CS, calf performance); • To look at the merits of other novel labour-saving technology, walk-over-weighing and remote pasture and water monitoring throughout the 2-year period. Goal achieved: Yes Outcomes • Two case studies were developed: ○ "Utilisation of eID as a management tool to improve beef operation productivity: a case study from Deepwater property" The use of an Optiweigh paddock weighing system for cattle was shown to be useful for the early detection of animal health or nutritional issues within a mob throughout the year (without the need to muster and individually weigh animals). This allowed for early management or treatment of animals before significant weight loss occurred and a greater ability of animals to meet target liveweights for marketing or reproduction. ○ "Using eID & Autodraft technology to manage ewes in a prime lamb system: a case study from producer Alistair Just". The case study on the use of prime lamb autodrafter showed improvements in labour efficiency.	Session 4 - 9 March 2021 Host farm visit - decision making framework for adoption of Ag Technology related to overhead irrigation setup and containment pens and future automation of these systems to reduce labour requirements. Session 5 - 8 June 2021 Host Farm Visit - the practical application, ease of use and cost effectiveness of the various technologies (including Te-Pari autodoser and autodrafter). Merits of labour and cost saving technology such as soil moisture probes, water monitoring and leak detection units. Session 6 – 22 September 2021 Host Farm Visit - cost effective use of eID can be within a beef business: "Utilisation of eID as a management tool to improve beef operation productivity: a case study." Session 7 – 29 November 2021 Host Farm Visit - producers to discuss the practical application, ease of use and cost effectiveness of the various technologies within the participating business. Session 8 – 23/24 March 2022 Host farm visits - the practical application, ease of use and cost effectiveness of the various technologies used on the properties. Presentation "Where will technologies work in your livestock business" Session 9 - 29 November 2022 Meeting to demonstrate the potential production and financial gains to group members of using technology and build producer skills in financial benchmarking. Session 10 - 9 March 2023 Better Decisions for Business Success Forum – Decision making processes, risk management and new livestock research and carbon considerations (joined Coorong and Murray Plains Group meeting). Session – 11 March 2023 Host farm visit - practical application, ease of use and labour efficiencies of the various technologies used within the feedlot, and how eID technology has been used within the business. Session on how to do partial budgets for investment

Producer Group	Group goals and outcomes	Activity summary
	• The case studies demonstrated that where the financial case for eID was not strong, that they should carefully consider what other benefits it would give their business (i.e. lack of errors) before investing in the technology. • Importantly, discussions around the use of eID concluded that data collection alone does not necessarily translate into increased profitability; it only assists with the decision process, however the value proposition changes once eID becomes mandatory in sheep in Jan 2025. • The partial budgeting skills and tools workshop has better equipped members to conduct their own analysis of return on investments for technology and other capital expenditure. • Sharing of information on the 'good, bad and the ugly' of the technologies being utilised by members was deemed more useful than having a sales rep promoting their piece of equipment. The pros and cons of each technology could be discussed, and producers were encouraged to follow up specific technologies of interest in between group sessions. • Producers were introduced to a decision framework process, and the importance of managing risk within the business and using history and data within a 'decision matrix / framework' to help make better (less risky and more profitable) business decisions.	analysis to improve their business decision making ability (joint meeting with MacKillop FM – Lakes and MacKillop FM - SE).

Producer Group	Group goals and outcomes	Activity summary
MacKillop FM-MacKillop	Goal: To further group members' knowledge on current and emerging ag technologies that enhance their business, to maximise overall profitability. • Increase group member technical skills for using technology that enables them to better capture, store and utilise basic data i.e. Excel, cloud storage programs etc. • Better understanding the profit drivers and compliance standards of their business in order to capture and analyse appropriate data. • Have a better understanding of data management programs available to them and how to use these i.e. AgriWebb • Learn about the new and emerging technologies that have recently or will soon be on the market that aid processes on farm Goal achieved: Yes Outcomes • Each of the sessions worked to focus on a different part of technology, helping the group members to gain an understanding of how they can implement technology more effectively in their own businesses. • The group developed excellent rapport and learned just as much from each other as they did from any expert speakers. • A review about what members had learned and the possibility of moving forward as a group, focussing on more technology upskilling. The group felt that they had developed enough	Session 1 - 17 September 2020: Online workshop - Initial introduction and planning session. Session 2 - February 2021 Workshop - Technical skills for using technology to enable better data capture and utilisation. Session 3 - 8 February 2021 Livestock Enterprise Planning session and Ag Tech Rebate. Session 4 - 12 February 2021 Technical skills for using technology to enable better data capture and utilisation. Session 5 - 10 February 2022 Best Practice Demonstration Farm tour – New and emerging technologies and tools Session 6 - 22 March 2022 Data management programs workshop Session 7 - 19 May 2022 Identifying profit drivers workshop.

Producer Group	Group goals and outcomes	Activity summary
	knowledge of technology through being part of the group, and that they were all now going to proceed to the next stage of technology implementation on farm, and/or focus on a different part of their business. A great outcome indicating that they got what they needed out of participating in the group.	
MacKillop FM-SE	Goal: To quantify the economic gains possible using eID and objective measurements of growth rates, and fertility within beef and sheep flocks to make more informed breeding and marketing decisions. • Use of eID in lamb to monitor growth rates to target markets, compliance to consumer specifications and analysis of feedback (feedlot, processor – carcase and MSA). • Use of eID to monitor pregnancy rates in beef and sheep (including pregnancy status, CS, subsequent performance). • To look at the merits of utilising other novel labour-saving technology and remote pasture and water monitoring throughout the 2-year period. Goal achieved: Yes Outcomes Multiple labour-saving technologies for remote pasture and water monitoring, remote technologies for irrigation and electric fencing, as well as technologies for livestock handling, monitoring growth rates and animal health were assessed throughout the group activities. Several producers within the group discussed how they are utilising Livestock Data link	Session 1 - 5 March 2020 Stocktake of current use of Ag. Technology within the group. Development of group plan. Session 2 - 27 May 2020 Benefits of the use of eID in sheep production systems and use of telemetry. Session 3 – 20 August 2020 Host farm visit - decision making framework for adoption of Ag Technology. Session 4 – 16 March 2021 Host farm visit - using AgriWebb for financial and production recording to be monitored. Recent succession and loss of long-term staff from the business has increased the need to utilise labour saving technologies. Session 5 – 23 June 2021 Host farm visit - merits of using stock containment and methods of feeding to reduce labour during autumn; use of eID for Merino selection program and demonstration of Te-Pari autodrafter. Session 6 – 10 September 2021 Host farm visit – use of AgriWebb software, use of eID to monitor pregnancy rates in sheep and cattle and use of VE machine for sheep (portable-on wheels) for use where properties are spread out. Session 7 – 24 November 2021 Host farm visit - merits of using stock containment and methods of feeding to reduce labour during autumn; addressing connectivity i.e. technology that doesn't require having good service.

Producer Group	Group goals and outcomes	Activity summary
	and myMSA online data platforms to access and analyse carcass data to look at compliance to market specifications (including accessing carcass feedback from livestock sent to beef feedlots). • The addition of autodrafters were highly beneficial to all livestock enterprises to save labour, as well as making the job easier and better for staff OHS&W and potentially improve with the attraction and retention of farm staff (including family members and husband and wife teams!). • The case studies developed for MacKillop FM - Lakes Group on the use of eID didn't show overwhelming evidence for being cost-effective in the prime lamb enterprise currently but was worthwhile in cattle where eID tags are already mandatory. Likewise, the use of individual eID in lambs for carcase feedback is unlikely to be readily adopted until individual hook tracking is implemented in the processing sector. The discussions within the group were that the economic proposition for eID use in prime lamb systems changes if sheep eID becomes mandatory. • Producers within the Group are using eID technology for genetic selection decisions within their Merino enterprises. Producers found that whilst there was not a clear economic proposition (as shown in the AgKI case study), the job has been made easier for staff and more 'fool-proof' with less errors and increased accuracy. Members who are doing it the 'old-fashioned way' (e.g.	<u>Session 8 - 23/24 March 2022</u> Host farm visits - the practical application, ease of use and cost effectiveness of the various technologies used on the properties. Presentation "Where will technologies work in your livestock business". <u>Session 9 - 28 November 2022</u> Meeting to demonstrate the potential production and financial gains to group members of using technology and build producer skills in financial benchmarking. <u>Session 10 - 9 March 2023</u> Better Decisions for Business Success Forum – Decision making processes, risk management and new livestock research and carbon considerations (joined Coorong and Murray Plains Group meeting). <u>Session – 11 March 2023</u> Host farm visit - practical application, ease of use and labour efficiencies of the various technologies used within the feedlot, and how eID technology has been used within the business. Session on how to do partial budgets for investment analysis to improve their business decision making ability (joint meeting AgKI and MacKillop FM - SE).

Producer Group	Group goals and outcomes	Activity summary
	using visual tags) are likely to adopt eID technology in their sheep enterprises in the future to assist with culling decisions of Merino ewes from their wool enterprise to their Dual-purpose enterprise.	
Mallee Sustainable Farming	Goal: Manage the data better to make better production decisions • Producers that have been collecting data for a while learn how to manage it better, and • Producers new to sheep tech learn what works and what doesn't when starting out Goal achieved: Yes Outcomes • The group came together to look at a range of different sheep technology issues, with peer-to-peer learning helping with adaptation and implementation of different practices. Group members with experience were able to comment what worked well and what didn't to help generate discussion and help less experienced members understand what their potential issues may be. • The Group spent a lot of time on data management and some members commented that getting external support was the best way forward. This has been useful for some to come to this realisation that there was efficiency in outsourcing data processing. • New Sheep Technologies explored included weighing devices/ handlers, yard design and	Session 1 – 11 August 2020 Introductory session – identification of priority areas and group experience, Group plan established. Session 2 – 8 October 2020 Data management and on-farm visit to explore different technology set ups on farm. Session 3 – 9 March 2021 Sheep Tech Expo dinner – discussion to debrief and include any new options/technology of interest in remaining sessions. Session 4 – 1 July 2021 Farm visit to inspect sheep yard design at a group members property. Session 5 - 11 March 2022 Farm visit to look at different feeding systems to investigate options that could be implemented in their own feedlots and guest speaker from Feedtech.

Producer Group	Group goals and outcomes	Activity summary
	automated feeders with some members planning to purchase automated feeders once they can afford it.	
Mid-North High Rainfall Zone	Goal: To improve the profitability and reduce labour on sheep properties, especially over multiple properties. • Implement labour saving equipment – improved yard design and handling equipment. • Implement EID, individual drench application and weighing. • Implement remote water and pasture monitoring. Goal achieved: Yes Outcomes • The Goals of the Group evolved over time, with extra topics and learnings on pasture and genetics. • The producers that were able to have implemented new handling equipment / yards. Other members are planning for implementation of labour-saving equipment. • Some producers have implemented EID, others will do so over the next few years. Peer learning about what worked and what didn't with eID was very valuable. • Not all members could see the value of pasture monitoring in what is mostly a cropping region. Some members have installed remote water monitoring infrastructure. • Mentoring of individual producers allowed for individual outcomes more suited to their farm.	Session 1 - 22 September 2020: Introductory session – introduction to technologies, presentation by a stud merino producer covering remote water monitoring, EID, Apps and Shepherd parentage collars. Producer surveys and technology plans completed for each producer. Session 2 – February 2021 Producer bus trip to look at sheep handling equipment and yard design. Session 3 – 9 March 2021 Attend the Karoonda Livestock Technology Expo exposure to implementing technologies, sheep handling equipment, eID and remote technologies. Session 4 – 16 June 2021 Remote pasture monitoring, individual lambing in pens, pregnancy scanning and combi clamp demo. On farm visit to inspect new set of yards. Session 5 – 14 September 2021 Bus tour to inspect handling equipment, shearing sheds and learn about utilisation of eID equipment. Session 6 - 18 March 2022 Bus trip to Fleurieu Peninsula (with Barossa Improved Grazing Producer Group to inspect and evaluate a range of AgTech including implementation of eID, auto drafters, handlers, yards, farm software and remote monitoring of pastures. Session 7 - 11 August 2022 Workshop on genetic selection, virtual fencing and pasture trials. January – May 2022 Individual producer mentoring to allow business outcomes e.g. eID assistance, genetic selection or upskilling in nutrition

Producer Group	Group goals and outcomes	Activity summary
Murray Plains	Goal: Due to the resurgence of interest in livestock as a risk management tool in tough years, producers want to sort AgTech hype from farm-ready tech, including: • Pregnancy scanning in sheep (and managing ewe nutrition) • Sheep handling equipment • Farm management software • Other AgTech (water monitoring, pasture monitoring, yard design) • Drought lotting/feed lotting design Goal achieved: Yes Outcomes The group achieved its goal through various activities to improve their knowledge and confidence in using AgTech through peer-to-peer learning, hands on demonstrations and learning from experts. Session topics included: • eID implementation, equipment and data management • making genetic gain • use of auto drafters and sheep handlers • setting business objectives • assessing what tech you need for your business • decision making and risk management all contributed to producers increasing their knowledge and awareness in using AgTech.	Session 1 - 18 September 2020: Introduction to eID, individual animal management and pregnancy scanning of ewes, Michelle Cousins. Session 2 – 2 January 2021: Ewe nutrition and bus tour of sheep yard design, containment feeding yards, auto drafters and sheep handlers. Session 3 – 1 September 2021 Genetic approaches to building a productive and profitable sheep flock. Session 4 – 23 February 2022 Implementing and use of AgTech (eID use and data management), setting breeding objectives, and improving productivity and profitability including lamb survival. Session 5 - 2 June 2022 Genetics session with Mark Ferguson, neXtgen Agri on making better ram and bull buying decisions, strategies to improve female selectin and typical mistakes people make when it comes to genetics in their livestock. Session 6 – 9 March 2023 Better Decisions for Business Success Forum – Decision making processes, risk management and new livestock research and carbon considerations.
Outback Lakes	Goal: Demonstrate the cost: benefit of using eID tags to track individual animal reproductive performance in	Session 1 – September 2020 Initial group meeting. Guest speaker on extensive cattle industry tech options. Session 2 – December 2020

Producer Group	Group goals and outcomes	Activity summary
	a continuously joined flock; and explore other tech options relevant to the group members' enterprises. Goal achieved: Yes Outcomes The use of eID to track individual ewes in a continuously joined, extensively managed pastoral Dorper flock was successfully trialled. Information on the advantages and potential pitfalls and challenges along with the costs of implementing such a program was compiled. A number of low-cost on-line activities were organised to expose group members to relevant cutting-edge technology: • Using drones to help manage cattle herds • Tags and record keeping for management of cattle herds • virtual fencing • NLIS database management • Cibo Labs & MLA National Feedbase Project • Enterprise record keeping (Phoenix and Mobble) • Ceres Tags With some group members actively pursuing some of the technology options that they were exposed to, such as enterprise record keeping, satellite tracking tags and satellite pasture monitoring.	Guest speakers on virtual fencing and self-herding. Session 3 Feb 2021 Data collection and analysis from demonstration flock. Session 4 May 2021 Data collection and analysis from demonstration flock. Session 5 – 13 August 2021 Attend SA Arid Lands Bootcamp Field day - topics including Fiona Lake (internationally renowned for her knowledge of drone use) presenting about drone use on stations. Session 6 - 11 February 2022 Zoom session - NLIS Database Management Session 7 - 4 March 2022 Cibo Labs & MLA National Feedbase Project workshop with Al Rayner and Phil Tickle (Cibo labs) Session 8 - 16 May 2022 Zoom session - Enterprise data management with Mark Leahy from Agdata Session 9 - 23 May 2022 Zoom session – Ceres Tags with Lewis Frost (Ceres Tags) and Sarah and Craig Cook (Aileron Station).
Upper North Farming System	Goal: To learn how precision livestock technologies can be used in our livestock enterprises to improve productivity and profitability.	Session 1 – 29 September 2020: Paddock to plate - how technology can be used in assessing and achieving sheep meat quality. Session 2 – 19 March 2021

Producer Group	Group goals and outcomes	Activity summary
	• To have a greater knowledge and be better equipped to adopt precision livestock technologies in our livestock enterprises. Goal achieved: Yes Outcomes: Group members were provided with many opportunities to learn about the different precision livestock technologies available and it was always linked with how adoption of those technologies can improve productivity and profitability in livestock enterprises. • Group members adopted precision livestock technologies during the program directly after workshops were run. • Engagement of members during workshops and discussion generated also suggests a significant increase in knowledge as a result of the program.	EID's and its applications – tools and technologies available, data collection systems. Session 3 – 30 June 2021 Yards, shearing sheds and water infrastructure – improving efficiency in your sheep enterprise through technology adoption. Session 4 – 9 July 2021 Flock profiling Session 5 – 6 October 2021 Confinement feeding and water telemetry Session 6 – 21 October 2022 Session to provide information and demonstrations of EID technology and how it can be implemented and utilised in sheep enterprises. Session 7 – 23 February 2023 Workshop to provide a hands on demonstration by presenter and farmer on how to incorporate technology into containment yard design as well as implementation of eID's on farm for efficiency and productivity outcomes.

8.3 Appendix 3: Demonstration Farms

Appendix Table 3.1: Summary of Demonstration Farms established, Field Day activities and resources developed

Demonstration Farm Summaries
1) Kelvale
Location: Farrell Flat **Size**: 1,400 ha **Enterprise Description:** Cropping, self-replacing merino flock, lamb feedlot **Number of Employees**: 3 FTE **Average annual rainfall**: 440 mm **On-farm technology:** eID, wool testing and weighing, pregnancy scanning, DNA testing, soil moisture monitoring. **Resources:** Video, Podcast and Case study **Field Day:** 10 March 2021 Purpose: Increase awareness of a range of livestock technologies (e.g. AgriWebb, remote pasture monitoring, containment feeding technology, eID equipment and water telemetry) and how they can be implemented to improve farm productivity and labour efficiency. Attendance: 15 producers, 1 service providers and 1 other industry representative. Total 17 attendees
2) Shepherds Way
Location: Bool Lagoon **Size**: 1,400 ha **Enterprise description**: 1550 composite ewe's mated to Border Leister and White Suffolk rams. 260 Herford cows approximately 85% mated to Hereford and 15% to Angus targeting the feeder market. Contract hay and seeding. **Number of employees**: 3 people (2FTE) **Average annual rainfall**: 640 mm **On-farm technology**: Utilising eID in cattle for improved management, yard design **Resources:** Podcast and Case study **Field Day:** No field day held
3) McPiggery
Location: Lameroo **Size**: 19,425 ha Enterprise description: Cropping, piggery, self-replacing merino flock, Angus cattle **Number of employees**: 3 FTE **Average annual rainfall**: 325 mm **On-farm technology**: eID for collection of individual animal data, water monitoring **Resources:** Video, Podcast, Case study and Webinar **Field Day I:** 30 Oct 2020 Purpose: Promote and demonstrate technologies (e.g. eID equipment and water telemetry) adopted on McPiggery. Note: RMW Program partnered by sponsoring a technical talk Attendance: 100 producers. Total 100 attendees **Field Day II:** Field Day organised for 24 September 2021, cancelled due to COVID-19 risk. A Webinar was delivered instead on 13 October 2021, attended by 41, including 29 producers, 9 service providers (in partnership with SA Merino Sire Evaluation Trial and SheepConnect SA). Attendance: 29 producers, 9 service providers and 3 other industry representatives. Total 41 attendees
4) Coolaroo
Location: Field **Size**: 1,000 ha Enterprise description: Merino ewes joined to Border Leicester rams, Limousin and Lim-Flex seedstock business and prime cattle production. **Number of employees**: 2 FTE **Average annual rainfall**: 450 mm **On-farm technology:** Farm management software, water telemetry, yard design **Resources:** Podcast, Case study and featured in MLA Feedback magazine (February 2022) **Field Day:** 25 March 2022

Demonstration Farm Summaries
Purpose: Explore AgTech and business management (e.g. Agriwebb, Stockbook, carbon farming, water telemetry) and strategies being used at Coolaroo Attendance: 18 producers, 3 service providers. Total 21 attendees.
5) Keyneton Station
Location: Keyneton **Size**: 2,000 ha **Enterprise description**: Self-replacing Merino flock with some ewes also mated to Border Leicester rams. **Number of employees**: 2 FTE **Average annual rainfall**: 400-500 mm **On-farm technology**: eID for collection of individual animal data **Resources:** Podcast, Video and Case study **Field Day:** 10 June 2022 Purpose: Explore AgTech, use of ASBVs and genetic selection and strategies to improve production (e.g. pregnancy scanning, containment feeding and ewe health). Attendance: 25 producers, 8 service providers and 1 other industry representative. Total 34 attendees.
6) Lampata
Location: Lameroo **Size**: 3,000 ha **Enterprise description**: Mixed crop/livestock with 2000 self-replacing Merinos **Number of employees**: 4 FTE including casual employees and labour **Average annual rainfall**: 350 mm **On-farm technology**: eID for collection of individual animal data, eID equipment individual animal management software, telemetry for water and pasture yields. **Resources:** Video, Podcast and Case study **Field day:** 23 March 2022 Purpose: Increase awareness of containment feeding and the role AgTech (e.g. containment feeding technology, selecting productive traits, flock profiling and containment feeding set up and nutrition) can play in improving your productivity and profitability Attendance: 15 producers, 3 service providers and 1 other industry representative. Total 19 attendees. Note: Field Day was scheduled for 10 February 2022, however due to COVID-19 the Field Day was rescheduled
7) Burnt Oak
Location: Mosquito Hill **Size**: 380 ha **Enterprise description**: 250 mainly Angus joined to Angus bulls, cattle trading, depending on season and feed availability. **Number of employees:** 2-3 FTE **Average annual rainfall:** 700 mm **On-farm technology**: Early stages of adopting eID tags and equipment. **Resources:** Case study **Field Day:** 19 April 2022 Purpose: Increase awareness of how AgTech and other best practice methods (e.g. Optiweigh, eID technology, pasture monitoring, and Genetic selection and AI technology) are being used to increase profitability in a grass-fed beef enterprise. Attendance: 40 producers, 2 service providers and 2 other industry representatives. Total 46 attendees.
8) Lymn Farms
Location Wudinna and Minnipa **Size**: 4,000 ha **Enterprise description**: Self-replacing Merino ewe flock and 2000 ha wheat, barley and oats **Number of employees**: 2 FTE including casual employees/contractors **Average annual rainfall**: 270-300 mm **On-farm technology**: eID for collection of individual animal data. **Resources:** Video, Podcast and Case study **Field Day:** 29 June 2021

Demonstration Farm Summaries
Purpose: Increase awareness of a range of livestock technologies (e.g. water telemetry, farm software, animal handling equipment, eID equipment, using Australian Sheep Breeding Values (ASBVs), ram select and flock profiling) and how they can be implemented to improve farm productivity and labour efficiency Attendance: 15 producers. Total 15 attendees.
9) Mentara Park
Location: Malinong **Size**: 6,000 ha **Enterprise description**: Mixed crop livestock operation with 3200 head Merino ewes joined to Merinos and Border Leicester rams, and a cropping program focussed on wheat, barley, legumes and hay. **Number of employees**: 2 FTE **Average annual rainfall**: 425 mm **On-farm technology**: eID for collection of individual animal data, water telemetry, OHS software. **Resources:** Podcast and Case study **Field Day:** 3 June 2022 Purpose: Promote and demonstrate technologies (e.g. for collection of individual animal data and water telemetry) adopted on Mentara Park. Field Day held in partnership with SA Merino Sire Evaluation Trial. Attendance: 64 producers, 3 service providers and 12 other industry representatives. Total 79 attendees.
10) Mt Eba
Location: Mt Eba Station, Glendambo **Size**: 337,000 hectares **Enterprise description**: 13,000 Self replacing merinos, 150 cows **Number of employees**: 4 FTE **Average annual rainfall**: 150 mm **On-farm technology:** Pregnancy scanning in pastoral zone, water monitoring, eID tags and desalination. **Resources:** Video, Podcast and Case study **Field day:** No Field Day held
11) Kirkland
Location: Furner **Size**: 2,500 ha **Enterprise description**: 8,500 maternal composite ewes **Number of employees**: 4 FTE **Average annual rainfall**: 600 mm **On-farm technology:** eID tags, Tepari sheep handler **Resources:** Podcast and Case study **Field day:** No Field Day held
12) Wonga and Madura Plains
Locations: Broken Hill, NSW, and the Nullarbor Plain, WA **Size:** 800,000 ha (total property holding) **Enterprise description**: 30,000 Merino ewes **Number of employees**: 30 FTE **Average annual rainfall**: 220 mm **On-farm technology:** eID tags, wool testing, auto drafter, water system monitoring **Resources:** Video[6], Podcast and Case study **Field day:** No Field Day held

[6] Video published by MLA, analytics unavailable.

13) Allandale Station	
Location: Oodnadatta Track, Oodnadatta **Size**: 497,000 hectares **Enterprise description**: 7,500 beef cattle **Number of employees**: 3.8 FTE **Average annual rainfall**: 175 mm **On-farm technology:** Pregnancy scanning, eID panel and stick readers in conjunction with weigh scales, and remote water monitoring. **Resources:** Podcast and Case study **Field Day:** No Field Day to be held due to remote location	

8.4 Appendix 4: Monitoring and Evaluation

Appendix 4.1 Facilitated Discussions questions

Participation, Change, Impact

1. Why did you want to become involved in the Program?
2. What Program activities have you participated in? (Have a list available – see Appendix 6)
3. What actions have you implemented, or changes have you made as a result of what you learned through attending these activities?
    a. Would you have made all of these changes without being involved in the Program?
    b. How did the Program contribute to or enable you to do them?
4. What has been the resulting impact on your business and/or you?
    a. Where there any unexpected outcomes or impacts?
5. What has been the most significant change and why?
6. What has been the biggest challenge or barrier to you implementing change?
7. Do you plan to implement any other changes to your farm business as a result of what you have learned through participation in the Program?
    a. If not, can I ask why?
    b. If so, what are you planning to implement or change and are there any barriers to doing so?

8.5 Appendix 5: Communications Analytics

Appendix Table 5.1 Summary of Communication activities undertaken against objectives and measures within the Communications Plan, for the whole Program delivery period

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
Communication Objective 1: Communicate clearly to producers, industry bodies and other stakeholders the benefits of being involved in the various activities of the project						
1a. Achieve media coverage in key titles	Tech Group comms has been managed by group facilitators as the groups are at capacity. Comms promoting relevant Program initiatives are shared with Tech Group facilitators for circulation.	Promotional flyers and social media tiles supplied for targeted circulation and promotion of Upskilling Agents workshops held in Kangaroo Island on 17/3/22 and Burra on 12-13/5/22. Promotional flyers supplied for targeted circulation and promotion of Upskilling Agents workshop held in Adelaide on 24/3/23. Video series being produced by service providers	18/9/21: *Stock Journal online article* promoting LEP and AgTech Adoption Rebate to producers 'Agtech adoption schemes an opportunity for Australian farmers'. Eblast promoting LAAR for LEP participants: 25/4/22 (Table 5.4) Eblasts re feedback from LEP participants: 25/2/22, 4/3/22, 4/4/22, 14/4/22, 21/4/22 (Table 5.4)	1/9/21: *Livestock SA newsletter article* promoting new Focus Farm Tech Talks podcasts about practical application of AgTech, biosecurity and business planning to manage livestock. 1 Oct 21 - *Livestock SA newsletter article* promoting new Focus Farm Tech Talks videos about individual animal selection, the benefits of eID technology and much more 15/2/22: SE Voice article featuring Schulz Focus Farm (AgTech focus) 7/4/22: Stock Journal article featuring Keyneton Focus Farm (AgTech focus) 2/4/22: Stock Journal article featuring Keyneton Focus Farm (AgTech focus) Pitched Focus Farm case studies to feature in MLA Feedback Magazine:	3/6/21: *Stock Journal general news article* about benefits of eID 'Data capture easier with eID'. 13/6/21: *Ministerial media release* new funding to SA agriculture with reference to AgTech Adoption Plan Rebate and BPDF '$18.7 million more support for SA agriculture'. 23/8/21: *Ministerial media release* new funding to RMW Program from Sheep and Cattle Industry Funds 'Industry funds inject $5 million into sheep and cattle industries'. 1/9/21: *Plains Producer general news article* new funding to RMW Program from Sheep and Cattle Industry Funds 'Millions support sheep and cattle industry projects'.	3/5/21 – *Naracoorte Herald online article* raising awareness for Struan BPDF virtual tour launch 'Virtual tour shows off AgTech demonstration farms in Struan and Kybybolite'. 6/5/21 – *Naracoorte Herald general news article* 'Struan on show, virtually'. *SE Voice general news article* 'Technology reach grows'. 19/10/21 – *Ministerial media release* announcing new AgTech hubs and promoting Struan BPDF 'Start-up hubs giving AgTech a regional boost'. 22/11/21: *OnePIRSA news article* (AgTech hub/Struan BPDF) 27/4/22: *PIRSA media release* (Struan BPDF Field Day) 28/4/22: *Ministerial media release* promoting BPDF Field Day Press advertising for BPDF Field Day: 31/3, 14&21/4: Stock Journal 15/4/22: Border Watch 12&19/4/22: SE Voice Radio

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
		to extend upskilling resources with consultants, agents and producers - in May 2023. This series of videos will be promoted via social media, eblasts and newsletters to share with industry groups.		*Summer 2021*: Schulz Focus Farm feature *Autumn 2022*: Lymns Focus Farm feature Press advertising for Schulz Focus Farm Field Day: 9/3/22: Border Chronicle 10/3/22: Murray Valley Standard Press advertising for Higgins/ Fleurieu Beef Demo Farm Field Day 7/4/22: Victor Harbor Times Facebook advertising: 21-25/3/22: Schulz Focus Farm Field Day 8-18/4/22: Higgins/Fleurieu Beef Focus Farm Field Day Eblasts promoting registrations for Focus Farm Field Days (Table 5.4).	23/12/21: *OnePIRSA news article* covering milestone achievements of Program 1/3/22: *PIRSA media release* (Tech Expos) 9/3/22: Plains producer article promoting Tech Expos 12/3/22: Stock Journal article about Tech Expos/AgTech 16/3: Plains Producer article about Biosecurity summit 23/3/21: Murray Pioneer article promoting Livestock Forums 31/3/22: Stock Journal article about Tech Expos/AgTech 25/1/23: Get set for MeatUp & BeefUp 2023 | Meat & Livestock Australia (mla.com.au) 11/5/23: New guide is a must-have tool for farmers – Naracoorte Herald 10/5/23: New guide is a must-have tool for farmers – Border Chronicle 9/5/23: New Cattle Disease Guide launched for South	17-24/4/22: Flow FM southeast 17-24/4/22: Triple M Mt Gambier. Eblasts promoting registrations for Struan BPDF: 24/11/21, 13/1/22, 15/3/22, 14&26/4/22 (Table 5.4) Pitched article on BPDF to Feedback Magazine, scheduled for Spring 22 edition. Press advertising for May 2023 Struan BPDF workshops/tours: 4/5/23: Stock Journal 11/5/23: Stock Journal Press advertising for Struan BPDF producer tours: 2/3/23 - Stock Journal Press advertising for Struan BPDF at SE Field Days: 19/1/23 – Stock Journal Facebook advertising: May 2023: Struan BPDF 'Virtual fencing tour & workshop' Facebook advertising: May 2023: Struan BPDF 'eID & informed decision-making workshop' AgTech Fact Sheets and producer case studies distributed to producers attending SE Field Days (printed material & USB flash drives) – approx. 100 flash drives issued.

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
					Australian producers - Beef Central 5/5/23: Guide a must – The Border Watch 5/5/23: New Cattle Diseases Guide to assist SA farmers in dealing with livestock diseases - Australian Resources 4/5/23: Cattle diseases guide to help producers – Fleurieu Sun 4/5/23: Cattle diseases guide to help producers – The Eyre Peninsula Advocate 3/5//23: Magic931 - NEW LOOK CATTLE DISEASES GUIDE AVAILABLE 3/5/23: Ministers media release: New Cattle Diseases Guide is a must-have tool for farmers | Premier of South Australia 2/5:23: Cattle Diseases Guide launched to help SA producers | Stock Journal | SA 2/5/23: PIRSA media release: New Cattle Diseases Guide is	

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
					a must-have tool for farmers - PIRSA 8/3/2: Upper North educated on eIDs (streem.com.au) - Plains Producer 29/12/22: Date set for rollout of mandatory eID – Stock Journal 12/12/22: Aussie farmers using AR to spot sheep diseases (indaily.com.au) 5/12/22: Diseases can be detected with new app – Western Magazine 6/12/22: Best rural photographers, journalists recognised at Rural Media & Communicators SA/NT awards | Stock Journal | SA 4/12/22: Sheep diseases now detectable using augmented reality | Stock & Land | VIC (stockandland.com.au) 2/12/22: New app helps detect disease – Border Mail 30/11/22: New app helps detect disease – Stock & Land	

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
					30/11/23: Sheep diseases now detectable using augmented reality | The Land | NSW 30/11/23: Sheep diseases now detectable using augmented reality | Queensland Country Life | QLD 29/11/22: Sheep diseases now detectable using augmented reality | North Queensland Register | QLD 29/11/22: Sheep diseases now detectable using augmented reality | Farm Online | ACT 29/11/22: Sheep diseases now detectable using augmented reality | Stock Journal | SA 28/11/23: Aussie farmers using AR to spot sheep diseases (theleadsouthaustralia.com.au)	
1b. Website analytics	Analytics are included in Appendix Table 5.2a-c					

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
1c. Increase in subscriptions for eNews	The subscription list has been revised to include all stakeholders that have opted-in to receive Program specific comms as well as those who have registered for events managed by the Program. The original list included contacts who were inherited from a previous program and had not specifically opted-in. The current list is targeted to interested stakeholders and has 600 contacts.					
1d. Uptake in the project activities	All communications activities have been for the purpose of promoting the Program and Program activities to increase uptake. Number of participants in activities are outlined in the results section of this report for each component.					
Communication Objective 2: Increase awareness of benefits associated with utilising technology for data-based decision making and improved production outcomes						
2a. Increased click rates on project resources / information. Analytics are included in Appendix Table 5.2	24/3/23 - Facebook post mentioning the Producer Tech Group session in Burra.	Website updates to include Agent Upskilling events in KI and Burra 24/3/23 - Facebook post mentioning the 'Upskilling Service Providers' workshop for livestock consultants focusing on advanced genetics training	Website update re LAAR criteria expansion, promoted via industry network comms targeting relevant course providers in March.	Website updates/addition of Season 3 Tech Talks 'Demonstration Farms' series & resources (including 8 podcasts, 4 videos and 8 case studies*) (see Appendix Tables 5.2a-c and 5.3). Promoted via eblast, 25 Oct 21 (Appendix Table 5.4), social media posts on 13, 14, 21, 22, 25, 29 Oct 21 (Appendix Table 5.5) & Livestock SA newsletter (see 1a). *Case studies uploaded at end of October and further comms support to be delivered). Website updates to include 'Coopers Focus Farm' (podcast and case study) and 'Burnt Oak Focus Farm' (case study) (Appendix Table 5.2a-c) Social media promoting registrations for Focus Farm Field Days (Appendix Table 5.5)	Social media post on 28 Sep 21 promoting RMW AgTech resources at the Yorke Peninsula Field Day (Appendix table 5.5). Newsletter articles, social media content and promotional material is regularly shared with industry and community bodies including Livestock SA, MLA, Australian Wool Innovation, SheepConnect SA, Farming System Groups, LGAs.	Website updates on RMW page and PIRSA events promoting BPDF Field Day on 30/9/21 showcasing a Reefinator. Promoted via eblast on 22 Sep 21 (Appendix Table 5.4), social media posts on 17, 21, 23, 27, 30 Sep 21 (Appendix Table 5.5). Website updates to include event information and dates for Struan BPDF Field Day, video presentations from 2021 BDPF Field Day, AgTech provider videos uploaded (AgriWebb, Pairtree, AgIntel, Acroflex, DIT AgTech, Alpha Group, Farmbot, Farmo, Goanna Ag, Swan Systems, and Optiweigh (case study) uploaded. 6 water monitoring case studies have been awaiting third party approval before release. Newsletter articles, social media content and promotional material provided to industry/community for circulation.

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
2b. Uptake in the project activities	As per 1d					
Communication Objective 3: Build confidence and engagement in the project with producers, industry bodies and other key stakeholders, encouraging these external stakeholders to act as advocates for the project and the broader Red Meat and Wool Growth Program						
3a. Program achieves partnerships with industry				Communications for Tech Talks Season 3 including sharing/ reposting by industry partners (analytics in Appendix Table 5.2a-c and 5.3) and newsletter articles in Livestock SA newsletter (1a). 9/2/22: *MLA Weekly newsletter article* (Schulz Focus Farm/AgTech) Leveraged social media following and influence of Focus Farm producers to share posts promoting Tech Talks, case studies and Focus Farm Field Days (Penny and Jason Schulz). Website updates to include Mt Eba Focus Farm resources - podcast, video and case study (Appendix Table 5.2a-c) Website updates to include Kirklands Focus Farm resources - podcast and case study (Appendix Table 5.2a-c)	1/11/22: *Livestock SA newsletter* (biosecurity) 1/2/22: *Livestock SA newsletter* (Tech Expos) 9/2/22: Plains Producer & 17/2/22: Southern Argus articles advocating for RMW Program continuation post-election 1/3/22: *Livestock SA newsletter* (Livestock Forums) 1/5/22: *Livestock SA newsletter* mentions RMW Program Industry bodies consistently sharing social media content acting as Program advocates contributing to increased confidence and engagement with stakeholders: Livestock SA, Elders, SheepConnect SA, MLA, FSGs. Newsletter articles, social media content and	Six case studies exploring water monitoring technologies developed for in-person distribution at AdvanceAg and upcoming Field Days (also pending website upload and further comms/distribution). 1/12/22: *Livestock SA newsletter* (BPDF Field Day) 1/4/22: *Livestock SA newsletter article* promoting BPDF Field Day Website updates to include event information and dates for Struan BPDF workshops/tours in May 2023, and EvokeAG side program activities held at Struan BPDF in February 2023. 24 AgTech Fact Sheets and case studies have been uploaded to the website. (Appendix Table 5.2a-c) 24 AgTech Fact Sheets and case studies have been uploaded to branded USB Flash drives for distribution at Field Days and events targeting producers. Social media promoting registrations for Struan BPDF workshops/tours

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
				Website updates to include Coolaroo Focus Farm resources - video (Appendix Table 5.2a-c) Website updates to include Allandale Station Focus Farm resources -podcast and case study (Appendix Table 5.2a-c) Eblasts promoting Focus Farm resources for Mt Eba, Kirklands, Coolaroo and Allandale Station (scheduled) (see Table 5.4) Social media posts (Facebook, Twitterer) promoting Focus Farm resources and website clicks or Mt Eba, Kirklands, Coolaroo and Allandale Station (see Table 5.5) Newsletter articles, social media content and promotional material provided to industry/community for circulation (As per 1d). Industry bodies sharing social media content acting as Program advocates contributing to increased confidence and engagement with stakeholders: Livestock SA, Elders, Merino SA, SheepConnect SA, MLA, FSG (see Table 5.5).	promotional material is regularly shared with industry and community bodies including Livestock SA, MLA, Australian Wool Innovation, SheepConnect SA, Farming System Groups, LGAs.	including social media tiles for sharing (Table 5.5) Eblasts promoting registration for Struan BPDF workshops/tours (Table 5.4) Newsletter articles, social media content and promotional material provided to industry/community for circulation (As per 1d). 1/5/23: Livestock SA Newsletter (May 2023 Struan BPDF workshops/tours)

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
3b. High engagement on social posts	Analytics are included in Appendix Table 5.5.					
3c. website analytics	Analytics are included in Appendix Table 5.3.					
3d. Strong open rate on eNews/ eblasts	Analytics are included in Appendix Table 5.4.					
3e. Increase in follows on Social Media Platforms	Can't assign new follows to particular Programs. Therefore 'follow' data not necessarily relevant.					
3f. Increase in no. of mentions/ follow on articles of the project (media monitoring /google alerts					Relevant industry bodies are tagged in all social media posts and followed up with requests to share on their platforms. (Table 3) 11/11/21 & 15/11/21: *Stock Journal article* on Footrot/biosecurity	While is not possible to capture all third-party social media activity, some samples include: 7/6/21 – *InDaily article* about AgTech mentioning Struan BPDF 'Labour shortage fuels interest in robot pickers'. 12/8/21 – *Stock Journal online article* mentions AgTech Demonstration Farm 'Annual agtech survey to understand farmers priorities'. 18/8/21 – *Stock Journal online article* mentions AgTech Demonstration Farms 'Agtech adoption schemes an opportunity for Australian farmers'. 22/2/22: Shee*pConnect SA tweet about Producer Panel visit to BPDF* 18/4/22: *MFMG tweet BPDF Field Day* Elders shared all PIRSA posts leading up to BPDF Field Day

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
						29/4/22: *Michael Macolino from Tec Aus posted re BPDF Field Day* 7/5/22: *Grains Producers SA tweet BPDF Field Day* mentions Struan BPDF: 20/10/21: *Stock Journal online article* 20/10/21: *Naracoorte Herald online article* 21/10/21: Stock Journal general news article 21/10/21: SE Voice general news article 22/10/21: Border Watch general news article 23/10/21: *Pt Lincoln Times online article* 24/10/22: *Border Watch online article* 28/10/21: Naracoorte Herald general news article 3/11/21: Naracoorte Community News general news article 9/3/22: *The Advertiser article*
Communication Objective 4: Communicate the connections with other priority programs, both within South Australia, including AgTech in SA, One Biosecurity and Growth State, and within MLA and how these support growth of a more productive livestock sector.						
4a. Increase in website click behaviour to other priority programs as a direct result of	Milestone 5a - AgTech communications have commenced with cross promotion of the RMW Program being integrated throughout the comms. An eblast on 22 Sept 2021 promoting the AgTech 'Reefinator' Field Day achieved 32 clicks to BPDF webpage, 4 clicks to RMW Program webpage (refer Appendix Table 5.4). A number of cross-promotional media releases about AgTech and Growth State have resulted in media coverage (referenced in 1a and 3f) however there is no way to track website traffic as a direct result of media articles and campaign activities. AgTech in SA, One Biosecurity and Growth State connections have been integrated in Program comms during last period. Data measuring website click behaviour to indicate cross-promotional impact has been difficult to obtain.					

Measurement	Producer Technology Groups	Upskilling Service Providers	LEP	Demonstration Farms	Broader Comms	Co-innovation officer / BPDF Struan
campaign activities	Prior to the State election, where possible, social media posts included tags #ThrivingSA and #MakingADifference aligning the Program to the Growth State strategy (Table 5.5). This has now ceased with change of government. A focus on AgTech has been demonstrated through collaboration with Struan Best Practice Demonstration Farm to update a number of website resources including 2021 Field Day presentations, tech provider videos and printable recourses for producers including Optiweigh and water monitoring matrix and case studies. E-blasts, flyers, social media and press advertising has been delivered to promote the BPDF Field Day held in April 2022, Tech Expos held in March 2022 and Focus Farm Field Days with AgTech focus in March and April 2022.Videos covering the 2021 Tech Expos were provided as an additional resource made available via the website, totaling 232 views since Nov 2021. Currently working with One Biosecurity to upgrade the member portal blog alert function to improve the branding and engagement opportunities with producers. Work underway to update the Sheep Disease Guide including information promoting benefits of One Biosecurity to producers and industry.					

Appendix Table 5.2a-c. Analytics for downloads and views for Program resources May 2020 - April 2022

Season 1 – Podcasts

TT1 - Saving time and money with remote water monitoring – Mike Hayes (In2It)

TT2 - Learning from Carwoola: Digital Technologies for different rural environments – Darren Price (Price Consulting)

TT3 - Getting it right: Cattle and Sheep Yard design – Ben White (Kondinin Group)

TT4 - Benefits of adopting Electronic Identification (eID) for sheep and cattle – Nathan Scott (Achieve Ag)

TT5 - Enhancing Farming Capability through the Red Meat and Wool Growth Program – (former) Minister for Primary Industries and Regional Development Hon David Basham.

Season 1 - Videos (YouTube)

TT1 - Remote Water Monitoring

TT2 - Learning from Carwoola Digital Technologies for different rural environments

TT3 - Sheep Yard Design

TT4 - The benefits of adopting eID for sheep & cattle

Season 2 - YouTube (videos)

TT1 - Remote weigh system technology for cattle

TT2 - Capturing pregnancy scanning data through the use of eID

TT3 - Monitoring stock water with leak detection technology

TT4 - Using Electronic Identification (eID) with sheep

TT5 - Using Electrotonic Identification (eID) with cattle

TT6 - Measuring wool traits using Electronic Identification (eID)

TT7 - Sheep Electronic Identification: What's in it for me?

Season 3 – Demonstration Farm Podcasts

TT1 - Demonstration Farm - Kelvale

TT2 - Demonstration Farm - McPiggery

TT3 - Demonstration Farm - Shepherds Ways

TT4 - Demonstration Farm - Lampata

TT5 - Demonstration Farm - Lymn Farms

TT6 - Demonstration Farm - Keyneton Station

TT7 - Demonstration Farm - Mentara Park

TT8 - Demonstration Farm - Coolaroo

TT9 - Demonstration Farm - CC Cooper and Co

TT10 - Demonstration Farm - Kirklands

TT11 - Demonstration Farm - Mt Eba

TT12 - Demonstration Farm - Allandale Station

Season 3 - Demonstration Farm Videos

TT1 - Demonstration Farm - Kelvale

TT3 - Demonstration Farm - McPiggery

TT4 - Demonstration Farm - Lampata

TT5 - Demonstration Farm - Lymn Farms

TT6 - Demonstration Farm - Keyneton Station

TT8 - Demonstration Farm - Coolaroo

Season 3 - Demonstration Farm Case Studies

TT1 - Demonstration Farm - Kelvale
TT2 - Demonstration Farm - McPiggery
TT3 - Demonstration Farm - Shepherds Ways
TT4 - Demonstration Farm - Lampata
TT5 - Demonstration Farm - Lymn Farms
TT6 - Demonstration Farm - Keyneton Station
TT7 - Demonstration Farm - Mentara Park
TT8 - Demonstration Farm - Coolaroo
TT9 - Demonstration Farm - CC Cooper and Co
TT10 - Demonstration Farm - Kirklands
TT11 - Demonstration Farm - Mt Eba
TT12 - Demonstration Farm - Allandale Station
TT13 - Demonstration Farm - Burnt Oak

Best Practice Demonstration Farm - YouTube (videos) – Field Day 2021

Video 1 - 2021 Field Day
Video 2 - 2021 Field Day
Video 3 - 2021 Field Day
Video 4 - 2021 Field Day
Video 5 - 2021 Field Day
Video 6 - 2021 Field Day
Video 7 - 2021 Field Day
Video 8 - 2021 Field Day

Demonstration Farm - YouTube (videos)

AgriWebb
Pairtree
AgIntel DCAT
Acroflex
DIT Agtech
Alpha Group
Bushlinx
Farmbot - rain gauge
Farmo
GoannaAg - Go tank
Swan Systems

Appendix Table 5.2a. Analytics for downloads and views for Program resources July 2020 - June 2021 (NC = Not Created)

	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
Season 1 - Podcasts													
TT1	48	45	19	14	12	11	14	13	17	13	6	12	**224**
TT2	16	63	17	10	10	5	11	17	15	11	14	10	**199**
TT3	NC	84	26	18	19	8	11	24	16	12	15	15	**248**
TT4	NC	20	49	13	18	11	11	26	18	12	8	11	**197**
TT5	NC	NC	58	42	26	19	29	32	25	11	10	9	**261**
Season 1 - Videos (YouTube)													
TT1	4	9	9	3	85	17	8	10	8	20	8	6	**187**
TT2	11	52	12	4	11	6	11	20	4	8	4	1	**144**
TT3	6	30	12	6	175	41	4	9	10	17	24	30	**364**
TT4	5	2	39	5	15	12	3	7	4	12	12	6	**122**
Season 2 - YouTube (videos)													
TT1	9	221	38	4	13	10	19	30	32	29	68	69	**542**
TT2	NC	NC	NC	NC	1	0	0	3	2	1	1	1	**9**
TT3	NC	NC	NC	NC	1	0	0	4	0	2	1	0	**8**
TT4	NC	NC	0	0	3	0	0	10	6	4	0	2	**25**
TT5	NC	NC	0	0	1	0	0	4	0	1	3	0	**9**
TT6	NC	NC	NC	NC	0	0	0	5	5	3	1	1	**15**
TT7	NC	NC	NC	NC	1	0	0	8	0	1	8	1	**19**
Season 3 - Demonstration Farm Podcasts													
TT1	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	38	23	**61**
TT2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	25	36	**61**
Season 3 - Demonstration Farm Case Studies													
TT1	NC	NC	NC	NC	NC	NC	NC	NC	NC	53	35	0	**88**
TT2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0	**0**
TT3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0	**0**

Appendix Table 5.2b. Analytics for downloads and views for Program resources July 2021- June 2022 (NC = Not Created)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
Season 1 - Podcasts													
TT1	10	14	6	8	14	6	6	5	4	2	3	3	**81**
TT2	8	5	4	3	10	4	4	6	4	2	0	1	**51**
TT3	14	9	7	4	9	15	7	7	4	3	6	1	**86**
TT4	9	7	5	26	7	5	4	7	6	3	0	2	**81**
TT5	9	16	4	8	7	4	6	4	4	3	0	1	**66**
Season 1 -Videos (YouTube)													
TT1	4	3	7	6	12	2	2	8	2	7	4	1	**58**
TT2	2	15	4	3	4	0	1	4	0	1	0	1	**35**
TT3	27	31	42	53	55	38	43	40	51	75	111	50	**616**
TT4	14	8	8	8	2	5	2	4	7	7	12	6	**83**
Season 2 - YouTube (videos)													
TT1	50	55	51	54	49	53	95	56	43	33	42	37	**618**
TT2	1	0	13	7	3	1	2	3	1	2	1	4	**38**
TT3	0	0	5	5	3	5	1	2	1	2	2	1	**27**
TT4	1	1	7	13	7	4	10	11	13	10	13	13	**103**
TT5	0	0	9	9	9	2	8	17	11	9	12	12	**98**
TT6	3	0	6	24	4	1	2	8	5	0	8	5	**66**
TT7	0	0	7	10	3	2	0	5	3	0	0	5	**35**
Season 3 – Demonstration Farm Podcasts													
TT1	12	6	1	15	7	4	12	22	14	0	2	4	**99**
TT2	10	13	7	10	5	3	5	5	5	0	2	4	**69**
TT3	20	25	8	7	6	5	11	29	16	0	2	3	**132**
TT4	NC	15	13	12	8	11	6	5	7	0	4	3	**84**

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
TT5	NC	14	11	18	10	16	5	4	7	0	3	4	**92**
TT6	NC	20	17	27	6	14	5	7	6	0	4	2	**108**
TT7	NC	15	19	14	11	13	6	10	4	0	3	3	**98**
TT8	NC	25	34	46	12	11	7	8	5	1	3	3	**155**
TT9	NC	NC	NC	NC	NC	84	30	26	26	23	22	17	**228**
Season 3 - Demonstration Farm Videos													
TT1	NC	3	13	24	6	2	0	3	0	1	2	1	**55**
TT3	NC	3	6	21	4	4	4	3	1	4	5	6	**61**
TT4	NC	NC	NC	49	15	0	2	4	0	0	1	0	**71**
TT5	NC	NC	NC	232	37	4	3	6	3	1	5	5	**296**
TT6	NC	NC	NC	232	37	4	2	8	5	0	8	5	**301**
Season 3 - Demonstration Farm Case Studies													
TT1	17	0	18	56	7	4	0	1	2	0	0	4	**109**
TT2	1	0	4	6	2	1	0	1	2	0	0	0	**17**
TT3	1	0	6	8	1	0	0	1	5	0	0	0	**22**
TT4	NC	NC	NC	1	5	0	0	0	3	0	0	0	**9**
TT5	NC	NC	NC	1	2	2	2	0	1	1	0	0	**9**
TT6	NC	NC	NC	1	2	2	0	0	2	0	0	0	**7**
TT7	NC	NC	NC	0	4	1	0	1	3	0	0	0	**9**
TT8	NC	NC	NC	4	9	0	2	5	1	0	0	1	**22**
TT9	NC	NC	NC	NC	NC	5	1	1	1	0	1	0	**9**
TT13	NC	NC	NC	NC	0	0	0	0	0	0	0	0	**0**
Best Practice Demonstration Farm - Fact Sheet downloads													
Optiweigh	NC	NC	NC	NC	NC	NC	2	4	1	3	8	0	**18**
Best Practice Demonstration Farm - YouTube (videos) – Field Day 2021													
Video 1	NC	NC	NC	NC	NC	20	8	10	6	4	6	4	**58**

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
Video 2	NC	NC	NC	NC	NC	6	2	2	0	0	3	0	**13**
Video 3	NC	NC	NC	NC	NC	2	0	3	0	0	1	0	**6**
Video 4	NC	NC	NC	NC	NC	2	0	3	0	0	3	1	**9**
Video 5	NC	NC	NC	NC	NC	3	1	2	2	0	2	0	**10**
Video 6	NC	NC	NC	NC	NC	1	0	2	2	0	4	0	**9**
Video 7	NC	NC	NC	NC	NC	1	0	4	5	0	1	0	**11**
Video 8	NC	NC	NC	NC	NC	5	0	0	0	0	2	0	**7**
Best Practice Demonstration Farm - YouTube (videos)													
AgriWebb	NC	NC	NC	NC	NC	3	1	7	3	1	2	3	**20**
Pairtree	NC	NC	NC	NC	NC	1	0	2	1	0	4	0	**8**
AgIntel DCAT	NC	NC	NC	NC	NC	5	2	6	3	0	4	1	**21**
Arcoflex	NC	NC	NC	NC	NC	1	0	4	1	1	2	0	**9**
DIT Agtech	NC	NC	NC	NC	NC	3	2	3	2	2	2	0	**14**
Alpha Group	NC	NC	NC	NC	NC	1	0	3	0	1	5	2	**12**
Bushlinx	NC	NC	NC	NC	NC	0	3	4	1	0	3	0	**11**
Farmbot rain guage	NC	NC	NC	NC	NC	1	1	3	0	1	9	1	**16**
Farmo	NC	NC	NC	NC	NC	1	0	5	1	1	5	1	**14**
GoannaAg Go Tank	NC	NC	NC	NC	NC	2	0	2	0	0	2	1	**7**
Swan systems	NC	NC	NC	NC	NC	1	0	4	0	0	2	1	**8**

Appendix Table 5.2c. Analytics for downloads and views for Program resources July 2022 - May 2023[7] (NC = Not Created)

[7] Data from May 2023 to be provided

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total to Apr-23	TOTAL for all FY to Apr-23
Season 1 - Podcasts													
TT1	3	0	8	2	5	4	0	3	3	7		35	**340**
TT2	2	0	1	3	4	3	0	1	2	4		20	**270**
TT3	3	2	2	1	4	3	2	2	2	4		25	**359**
TT4	3	3	3	1	6	1	1	1	1	7		27	**305**
TT5	1	1	2	1	1	1	1	0	1	4		13	**340**
Season 1 - Videos (YouTube)													
TT1	2	3	7	4	2	0	3	3	3	3		30	**275**
TT2	0	1	1	0	2	0	1	0	1	1		7	**186**
TT3	60	30	38	25	24	13	12	13	12	9		236	**1166**
TT4	5	2	2	7	3	5	9	7	4	1		45	**250**
Season 2 - YouTube (videos)													
TT1	25	40	36	41	25	15	23	54	18	18		295	**1455**
TT2	3	1	0	0	1	1	0	1	0	1		8	**55**
TT3	1	1	2	3	3	4	3	1	1	0		19	**54**
TT4	20	13	13	13	15	17	30	27	63	9		220	**348**
TT5	2	1	3	7	3	6	5	7	6	3		43	**150**
TT6	4	9	4	4	5	0	10	2	6	0		44	**125**
TT7	1	0	3	1	1	0	2	1	2	8		19	**73**
Season 3 – Demonstration Farm Podcasts													
TT1	1	0	3	1	5	14	2	4	3	11		44	**204**
TT2	1	1	3	2	2	2	0	1	2	6		20	**150**
TT3	1	1	3	1	1	2	0	2	2	4		17	**207**
TT4	1	0	2	2	1	6	1	3	2	5		23	**107**
TT5	3	0	1	2	1	5	3	1	3	4		23	**115**
TT6	0	1	4	1	2	7	4	1	6	4		30	**138**

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total to Apr-23	TOTAL for all FY to Apr-23
TT7	4	3	4	1	7	8	3	3	5	5		43	**141**
TT8	1	2	1	1	11	10	2	3	3	5		39	**194**
TT9	17	15	25	22	19	9	10	5	5	4		131	**359**
TT10	NC	NC	NC	NC	43	94	29	19	24	38		247	**247**
TT11	NC	NC	NC	NC	40	60	23	11	10	11		155	**155**
TT12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		0	**0**
Season 3 - Demonstration Farm Videos													
TT1	0	1	0	0	1	0	1	1	7	3		14	**69**
TT3	4	3	0	0	4	1	4	3	2	8		29	**90**
TT4	0	2	0	0	3	3	2	0	3	4		17	**88**
TT5	5	5	0	6	6	2	1	0	0	1		26	**322**
TT6	4	9	4	4	5	0	10	2	6	0		44	**345**
TT8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		0	**0**
Season 3 - Demonstration Farm Case Studies													
TT1	0	1	1	0	4	1	3	0	3	0		13	**210**
TT2	0	0	1	0	2	0	2	0	2	1		8	**25**
TT3	0	0	1	0	1	1	2	0	1	1		7	**29**
TT4	0	0	1	0	2	0	2	0	0	0		5	**14**
TT5	0	0	1	0	4	5	3	1	0	0		14	**23**
TT6	0	0	1	0	3	0	4	0	3	2		13	**20**
TT7	1	0	1	0	1	2	4	0	0	0		9	**18**
TT8	0	1	2	0	3	1	1	0	1	0		9	**31**
TT9	0	0	1	0	1	0	3	0	0	0		5	**14**
TT10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		0	**0**
TT11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		0	**0**
T12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		0	**0**

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total to Apr-23	TOTAL for all FY to Apr-23
T13	0	0	1	0	5	0	1	1	0	0		8	**8**
Best Practice Demonstration Farm – Fact Sheet downloads													
Optiweigh	0	0	0	0	0							0	18
Best Practice Demonstration Farm – YouTube (videos) – Field Day 2021													
Video 1	3	1	2	2	4	1	4	0	0	0		17	**75**
Video 2	0	0	0	0	3	0	0	0	0	1		4	**17**
Video 3	0	0	1	0	1	0	0	0	0	1		3	**9**
Video 4	0	0	0	0	1	1	2	0	0	1		5	**14**
Video 5	0	0	0	0	1	0	1	0	0	0		2	**12**
Video 6	0	0	0	0	1	0	1	0	0	0		2	**11**
Video 7	0	0	0	0	1	0	1	0	0	0		2	**13**
Video 8	0	0	0	0	2	0	1	0	0	0		3	**10**
Best Practice Demonstration Farm - YouTube (videos)													
AgriWebb	1	6	2	1	1	1	1	0	1	0		14	**34**
Pairtree	0	0	2	0	1	0	0	0	0	1		4	**12**
AgIntel DCAT	0	0	2	2	1	0	1	0	1	0		7	**28**
Arcoflex	0	0	2	0	1	0	2	0	0	0		5	**14**
DIT Agtech	1	2	0	0	2	3	2	2	0	0		12	**26**
Alpha Group	0	0	0	1	1	0	0	0	1	0		3	**15**
Bushlinx	0	3	4	3	6	4	1	1	2	1		25	**36**
Farmbot rain guage	0	1	0	1	1	2	0	2	2	0		9	**25**
Farmo	2	1	0	3	2	3	3	1	6	0		21	**35**
GoannaAg Go Tank	0	1	0	0	1	1	0	0	0	0		3	**10**

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total to Apr-23	TOTAL for all FY to Apr-23
Swan systems	0	2	1	1	2	0	1	2	0	1		10	**18**

Appendix Table 5.3a. Analytics for website views July 2020 - June 2021 (Data are for the updated website and web pages that were not available prior to March 2021) **(NC = Not Created)**

	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	TOTAL
RMW home	-	-	-	-	-	-	-	-	258	271	296	284	**1109**
RMW Tech talks	-	-	-	-	-	-	-	-	90	121	85	64	**360**
AgTech Adoption Rebate*	-	-	-	-	-	-	-	-	54	34	23	42	**153**
Livestock Forums*	-	-	-	-	-	-	-	-	NC	NC	30	184	**214**
Livestock Enterprise Planning Workshops	-	-	-	-	-	-	-	-	97	49	68	72	**286**
All RMW pages	-	-	-	-	-	-	-	-	855	813	834	1045	**3547**

Appendix Table 5.3b. Analytics for website views July 2021- June 2022 (NC = Not Created)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
RMW home	247	204	212	188	1102	693	586	1113	1457	500	460	120	**6882**
RMW Tech talks	52	26	88	139	535	179	84	172	93	40	51	4	**1463**
AgTech Adoption Rebate*	38	20	35	25	29	33	71	141	241	56	26	4	**719**
Livestock Forums*	186	423	68	23	17	15	27	91	250	123	50	2	**1275**
Livestock Enterprise Planning Workshops	57	42	67	84	58	34	60	102	56	31	23	22	**636**
Struan and Kybybolite Best Practice Demo Farm	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	140	**140**

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	TOTAL
Demonstration Farms - Tech Talks Season 3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	35	**35**
All RMW pages	1047	1222	794	1091	1102	693	586	1112	1457	500	464	327	**10395**

Appendix Table 5.3c. Analytics for website views July 2022 - May 2023 (NC = Not Created)

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total to Apr-23	TOTAL for all FY to
RMW home	81	112	144	119	139	91	88	111	85	55		1025	**9016**
RMW Tech talks	22	20	37	26	84	43	36	27	28	15		338	**2161**
AgTech Adoption Rebate*	1	0	1	0	0	page archived						2	**874**
Livestock Forums*	15	27	27	19	34	14	15	34	31	19		235	**1724**
Livestock Enterprise Planning Workshops	10	17	14	3	page archived							44	**966**
Struan and Kybybolite Best Practice Demo Farm	73	133	106	156	124	62	164	206	164	79		1267	**1407**
Demonstration Farms - Tech Talks Season 3	4	10	34	15	64	55	65	12	14	10		283	**318**
All RMW pages	206	319	363	338	445	265	368	390	322	178		3194	**17136**

Appendix Table 5.4. Analytics for Eblasts (BPDF – Best Practice Demonstration Farm; DF – Demonstration Farms; LEP – Livestock Enterprise Planning; LAAR – Livestock Adoption Rebate; CTR% - Click-through rate)

Activity		Date	Recipients	Opens	Clicks	CTR %
BPDF	Save the date! Struan Best Practice Demonstration Field Day	24/11/21	613	798 (225 unique)	66 (21 unique)	3.4%
BPDF	Struan Best Practice Demonstration Field Day postponed	13/1/22	607	578 (309 unique)	61 (25 unique)	4.1%
BPDF	You're invited to the Struan Best Practice Demonstration Field Day	15/3/22	602	539 (220 unique)	36 (18 unique)	3%
BPDF	Register today for the Struan Best Practice Demonstration Field Day	14/4/22	600	432 (187 unique)	21 (11 unique)	1.8%
BPDF	Join us this Thursday at the Struan Best Practice Demonstration Field Day	26/4/22	600	367 (216 unique)	23 (11 unique)	1.8%
BPDF	Register for a future proofing farm tour at Struan Best Practice Demonstration Farm	17/10/22	584	643 (331 unique)	500 (75 unique)	12.9%
BPDF	SE Field Days – AgTech Centre	9/2/23	618	796 (328 unique)	78 (25 unique)	4%
BPDF	Producer AgTech workshop and virtual fencing tour at Struan	16/5/23	TBA	TBA	TBA	TBA
DF	Attend Keyneton Station Field Day, Friday 10 June	7/06/22	588	446 (244 unique)	56 (11 unique)	1.9%
DF	Kirklands Focus Farm - How AgTech adoption is supporting prime lamb production in a high rainfall zone	8/12/22	576	560 (390 unique)	78 (34 unique)	6%
DF	Mt Eba Focus Farm - Growing a profitable business with pregnancy scanning and other AgTech tools in the pastoral zone	1/1/23	572	571 (305 unique)	56 (26 unique)	5.1%
DF	Coolaroo Focus Farm - Increasing lamb survival rates, eID and water monitoring	12/5/23	568	568 (287 unique) (287unique)	604 (115 unique)	20.2%
DF	Allandale focus farm - using pregnancy scanning and eID data in a pastoral zone cattle enterprise	May 23	TBA	TBA	TBA	TBA
LEP	REMINDER: Livestock Enterprise Planning survey closes this week	21/4/22	214	155 (99 unique)	12 (4 unique)	1.9%
LEP	REMINDER: Livestock Enterprise Planning survey, share your experience.	14/4/22	214	162 (98 unique)	9 (5 unique)	2.3%
LEP	Livestock Enterprise Planning survey, share your experience.	4/4/22	216	162 (102 unique)	8 (5 unique)	2.3%
LEP	Last chance to share your key take aways from Livestock Enterprise Planning	4/3/22	232	174 (101 unique)	6 (3 unique)	1.3%

Activity		Date	Recipients	Opens	Clicks	CTR %
LEP	Tell us what you've implemented from Livestock Enterprise Planning	25/2/22	231	197 (110 unique)	8 (7 unique)	3%
LEP/LAAR	Livestock AgTech Adoption Rebate closing 31 March	25/4/22	220	174 (106 unique)	6 (5 unique)	2.3%
Various	Save the date: Red Meat and Wool Growth Program events	11/3/22	603	556 (208 unique)	40 (23 unique)	3.8%

Appendix Table 5.5. Analytics for Social media

Activity	Date	People Reached	Views	Link clicks
Twitter				
Great to hear from @deb_scammell and Dr Sean McGrath on #AnimalNutrition and #AnimalHealth at the #SA Arid Lands Landscape Board Pastoral Field Day in Pt Augusta last week	6/12/21	1525	30	0
Registrations are open for the Best Practice Demonstration Farm Field Day	15/12/21	4071	32	9
The Struan Best Practice Demonstration Farm Field day on Wednesday 2 February has been postponed.	11/1/22	1114	8	0
#RedMeatAndWool Tech Expos are coming to Keith/Kapunda on 8/10 March. Explore #AgTech	16/2/22	1198	18	2
Last chance to register for #RedMeatAndWool Livestock Tech Expos at Keith on 8 March and Kapunda on 10 March	3/3/22	1148	22	4
Join Jason & @pennyschulz on Friday 25 March for a #RedMeatAndWool #FocusFarm Field Day at Coolaroo.	14/3/22	914	23	0
Learn about containment feeding and the role of #AgTech in your livestock enterprise at #RedMeatAndWool #FocusFarm Field Day at Geranium	18/3/22	1079	10	0
Local producers and industry checking out new sheep yards and auto-hander demo today at Coolaroo, Schulz #FocusFarm Field Day	25/3/22	567	19	0
Register to attend the Best Practice Demonstration Farm Field Day on Thursday 28 April 2022 to explore the value AgTech can provide on farm.	28/3/22	2925	44	21
Have you booked? The Struan and Kybybolite Best Practice Demonstration Farm Field Day	5/4/22	1663	18	5
Visit the Higgins family's grass-fed beef Focus Farm 'Burnt Oak' in #Middleton	7/4/22	587	5	2
Last chance to register for the FREE Struan Best Practice Demonstration Farm Field Day tomorrow.	27/4/22	886	9	2
We're at the Struan BPDF Field Day today to learn about the exciting developments being made on farm	28/4/22	419	1	0
More photos from today's Struan BPDF Field Day including Megan Willis from SARDI …	28/4/22	610	40	0
Join us at Keyneton Station and learn about their use of #AgTech.	25/05/22	906	15	5
Calling #RedMeatAndWool 🐑 🐄 producers in the 🗺 south east. 🚜 Tour Struan Best Practice Farm	12/10/22	565	39	5

Activity	Date	People Reached	Views	Link clicks
Struan Best Practice Demonstration Farm were delighted to host Minister for Prim…	19/10/22	355	22	1
Tune in and discover how prime lamb producer Richie Kirkland is benefiting from #AgTech adoption on the #LimestoneCoast.	19/12/22	537	17	7
Congratulations to our Red Meat and Wool team for winning Rural Communicator of the Year!	2/12/22	738	7	0
Visit the AgTech Centre and learn about AgTech solutions at the SE Field Days…	15/3/23	300	10	6
The sun is shining today at the South East Field Days. Stop by the AgTech Centre and speak to PIRSA about the #AgTech being demonstrated at our research centres…	17/3/23	383	34	2
South east producers can register for an interactive #AgTech workshop at Struan….	8/5/23	451	6	2
Want to learn how Penny & Jason Schulz have improved lamb survival rates and labour efficiencies by adopting #AgTech…	10/5/23	284	6	5
Allandale Focus Farm	TBA			
Facebook				
Registrations are open for the Best Practice Demonstration Farm Field Day	15/12/21	763	4	13
Due to the current COVID-19 situation, the Struan Best Practice Demonstration.	10/1/22	187	7	0
Learn how #AgTech adoption has helped the Schulz family achieve success… (Focus Farm)	3/2/22	4	10	0
Jason and Penny Schulz are hosting a #RedMeatAndWool Focus Farm Field Day…	14/3/22	4837	118	140
We are excited to announce a new date for the Best Practice Demonstration	27/3/22	1024	24	7
Have you booked? The Struan and Kybybolite Best Practice Demonstration…	5/4/22	1	1	0
Tuesday 19 April, 9:30 am – 2 pm | Visit the Higgins family's grass-fed beef focus farm…	7/4/22	143	15	5
Join producers and industry representatives next Thursday 28 April at the Struan….	22/4/22	1046	5	1
Join us at Keyneton Station and learn about their use of #AgTech	25/05/22	371	16	0
Future proof your farm with AgTech Calling **#RedMeatAndWool** producers…Join us for a tour at Struan Best Practice Demonstration Farm	12/10/22	615	43	1
The team at Struan Best Practice Demonstration Farm were delighted to tour the Minister for Primary Industries	19/10/22	18	29	0
Struan Best Practice Demonstration Farm was recently featured in Meat & Livestock Australia's Feedback Magazine! Read the article	26/10/22	343	10	6

Activity	Date	People Reached	Views	Link clicks
Congratulations to the Red Meat and Wool Growth Program for winning the 🏆 'Best Rural Communications Award' at the 2022 Rural Media & Communicators SA/NT Awards.	9/12/22	979	47	30
🎧Tune in to a new episode of Livestock Tech Talks and discover how prime lamb producer, Richie Kirkland, is benefiting from #AgTech adoption in the high rainfall zone...	21/12/23	262	4	2
Discover how Mt Eba Station is using #AgTech solutions including 🐑pregnancy scanning to grow profits at their self-replacing Merino ewe enterprise in the pastoral zone	10/1/23	881	105	2
Save the date for the South East Field Days!	8/3/23	1231	38	24
Are you joining us at the South East Field Days? 📆 17 & 18 March 2023, Lucindale SA…	15/3/23	591	15	13
🌞The sun is shining today at the South East Field Days in Lucindale. The AgTech Centre has been abuzz with producers looking to learn more from AgTech businesses about farming solutions to reduce risks and costs on-farm…	17/3/23	1815	141	22
It's been a busy 7 days for the Red Meat and Wool Growth Program with activities stretching from the south east to the upper north…	24/3/23	809	60	8
Calling all livestock producers in the south east! Learn how to future-proof your business at our Struan Best Practice Demonstration Farm producer workshop.	8/5/23	879	37	7
Penny and Jason Schulz manage a high-performing Merino ewe flock on their livestock property, Coolaroo.	10/5/23	377	12	6
Allandale Focus Farm	TBA			