



Office Use Only

Project Code	
Project Type	

FINAL REPORT 2022

Applicants must read the *SAGIT Project Funding Guidelines* prior to completing this form. These guidelines can be downloaded from www.sagit.com.au

Final reports must be submitted by email to admin@sagit.com.au as a Microsoft Word document in the format shown **within two months** after the completion of the Project Term.

PROJECT CODE	SPA119
PROJECT TITLE (10 words maximum)	
Supporting premier PA events: Precision Ag EXPOS and Symposiums	

PROJECT DURATION <i>These dates must be the same as those stated in the Funding Agreement.</i>			
Project start date	1/07/2019		
Project end date	1/06/2022		
SAGIT Funding	2019/20	2020/21	2021/22

PROJECT SUPERVISOR CONTACT DETAILS <i>(responsible for the overall project)</i>			
Title: Dr.	First Name: Rachel	Surname: Melland	
Organisation:	Society of Precision Agriculture Australia Inc		
ACN / ABN:	43 553 215 627		
Mailing address:	PO Box 120, Red Hill, ACT, 2603		
Telephone:	N/A	Email:	
Mobile:			

ADMINISTRATION CONTACT DETAILS <i>(responsible for all administrative matters relating to project)</i>			
Title: Dr.	First Name: Rachel	Surname: Melland	
Organisation:	Society of Precision Agriculture Australia Inc		
Mailing address:	PO Box 120, Red Hill, ACT, 2603		
Telephone:	N/A	Email:	
Mobile:			

PROJECT REPORT: Please provide a clear description for each of the following:

Executive Summary (200 words maximum)

A few paragraphs covering what was discovered, written in a manner that is easily understood and relevant to SA growers. A number of key dot points should be included which can be used in SAGIT communication programs.

Summary

SPAA is grateful that across the period 2019 to 2022 SAGIT has provided foundational funding enabling SPAA to hold Expos and Symposia for the benefit of South Australian, and indeed Australian growers. These events have been disrupted by the Covid19 pandemic, as have so many aspects of life across 2020 to 2022. SPAA has shown resilience and held some events online, and made a strong come back to in-person events in September 2022 with the 25th Australasian Precision Agriculture Symposium. Whilst the 25th APAS was technically outside the period of this project funding contract, this key Australian Precision Ag event functioned in 2022 as a combined Expo and Symposium.

The SAGIT logo and/or hashtag attribution has been used widely across the funding time period to promote the SPAA Expo and Symposia events.

Given the below list of SPAA Expo and SPAA Symposium events held across 2019 – 2022, and key SPAA publications, SPAA has fulfilled its stated objectives for SAGIT Project 119.

Project objectives

A concise statement of the aims of the project in outcome terms should be provided.

Project Objectives:

Continuing with project SPAA116, the project objective is to provide ongoing support and education to farmers and advisors of the triple bottom line benefits (productive, environmental and social) in the application of precision agricultural (PA) technologies on farm through showcasing tools and technologies through supporting growers at major PA events. South Australian producers will be selected to share their PA journeys and inter and intrastate forums, along with interstate PA champions being welcomed into SA.

Expected outcomes:

These major events will demonstrate that the application of precision agricultural tools and techniques is a viable and economically rewarding means of lifting productivity, by providing land managers with the confidence and skills to undertake sustainable farm practices. Specifically, the project will;

- Increase awareness of production and sustainability issues associated with grains production across SA through application of appropriate inputs (seed, chemical and fertiliser) for each identified land zone,
- Increase adopting of best practices via operation of precision agriculture methodologies and concepts,
- Provide advice on identification of problem soils in attempt to avoid further soil degradation and declining productivity,
- Showcase new innovations applicable to our farming systems that aim to improve on-farming efficiencies
- Provide advice to manage and protect cropping land from erosion using better targeted, strategic applications of farm inputs and techniques.
- Increase landholder knowledge and accountability in land management.

Overall Performance

A concise statement indicating the extent to which the project objectives were achieved, a list of personnel who participated in the Research Project including co-operators, and any difficulties encountered and the reasons for these difficulties.

SPAA Expo and Symposium events held across 2019-2022 during Covid19 induced disruption to in-person events, and holding of successful online events:

SPAA Symposia 2019 - 2022

SPAA has held two in person Symposia, in 2019 (Launceston, Tasmania) and 2022 (Adelaide Oval, Adelaide, South Australia) which have bookended two online symposia, in 2020 and 2021. All were well attended and had in depth programs with speakers ranging from SA growers, to researchers, industry personnel, PA service providers and others. The 2019 program is attached with this report, as is the 2022 program and abstracts booklet. Also listed below are the online links below for the 2020 and 2021 online symposia.

SPAA Expos 2019 - 2022

The SPAA Expo was postponed in 2020 and 2022 due to Covid19, however an Expo was held in Loxton in 2021.

SPAA 2020 Symposium – held online

Watch the 2020 Virtual Symposium via the 2021 Symposium page:

<https://spaa.com.au/events/2021-precision-ag-symposium-save-the-date/>

2021 SPAA Symposium online webinar, 13 Sept 2021, 1-4pm

SPAA website information re SPAA 2021 Symposium: <https://spaa.com.au/events/2021-precision-ag-symposium-save-the-date/>

Recording of SPAA 2021 Symposium: <https://www.youtube.com/watch?v=yhy5lunxp4w>

2022 SPAA 25th Australasian Precision Agriculture Symposium, 6&7 September, Adelaide Oval, Adelaide.

In 2022, the March Expo was cancelled due to the Omicron Covid19 wave in South Australia at the time. The Symposium and Expo events were combined for 2022. See 25th APAS event and speakers description list in 'technical information' below.

KEY PERFORMANCE INDICATORS (KPI)

Please indicate whether KPIs were achieved. The KPIs **must** be the same as those stated in the Application for Funding and a brief explanation provided as to how they were achieved or why they were not achieved.

KPI	Achieved	If not achieved, please state reason.
Host PA EXPO in SA 2020 Northern Mallee 2021 Yorke Peninsula 2022 TBA	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Due to Covid19 pandemic, either held online or combined with in-person or online symposium.
Host PA symposium 2020 Either WA or Vic or Tas – to be determined at 2019 expo 2021 Either WA or Vic or Tas 2022 SA	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Due to Covid19 pandemic 2020 & 2021 SPAA Symposia held online. In 2022, in person 25 th Australasian Precision Agriculture Symposium held at Adelaide Oval, Adelaide, 6&7 Sept, 2022.
2 SA Farmer case study featured in SPAA Precision Ag News per year	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Social media: twitter	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Reporting	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	

TECHNICAL INFORMATION (Not to exceed **three** pages)

Provide sufficient data and short clear statements of outcomes.

SPAA 2020 Symposium – held online

Watch the 2020 Virtual Symposium via the 2021 Symposium page:

<https://spaa.com.au/events/2021-precision-ag-symposium-save-the-date/>

2021 SPAA Symposium online webinar, 13 Sept 2021, 1-4pm

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Recording of SPAA 2021 Symposium: <https://www.youtube.com/watch?v=yhy5lunxp4w>

Speaker and event summary from October 2022 SPAA e-news, for the 25th Australasian Precision Agriculture Symposium and combined 2022 SPAA Expo (see also attached program):

“Thank you to the sponsors and delegates of the 25th Australasian Precision Agriculture Symposium! #ausPASym22

Building on the noisy networking at this event, SPAA looks forward to seeing you at the SPAA Expo & PA Workshop, 1&2 March 2023 in Crystal Brook, SA!

SPAA also held a warm and entertaining special 20th Anniversary Dinner, at the Adelaide Oval, on Tues 6th September. Special thanks to Robin Schaefer and Michael Eyres for making this event so memorable and fun.

The SPAA Committee was thrilled to be back seeing people face to face at the recent SPAA 25th Australasian Precision Agriculture Symposium, on 6&7 September 2022. This symposium remains the key event in the precision agriculture calendar, and topics cover the depth and breadth expected of cutting-edge research and technological advances in this ever progressing technology and Agtech space. SPAA has long been in the business of linking Agtech developments with the wide array of other knowledge and skill sets used in precision ag. SPAA increased it’s representation of PA in a wide range of production industries at this symposium, and will continue to do so at future events, as well as in our premier publication, SPAA’s ‘Precision AG News’, and in our R,D&E projects.

The symposium commenced with discussions with our fantastic trade stand sponsors and a coffee, followed by an Opening & Welcome by *Philip Honey (SPAA President)*. The symposium then started with a retrospective and future needs ‘PANEL Session: SPAA History – Where have we come from and where to next’, *chaired by Steve Carn (Grower/SPAA Treasurer)*. *Phil Honey (SPAA President)* then chaired a session *where Tom Bishop (USYD PALab) spoke on ‘Comparing data for developing on-farm soil maps’, Mark O’Connell (AgVic Research) described the latest in ‘Sensors for summer fruit’, Lyndsey Jackson (Platfarm) detailed the latest in community collaboration and advances in ‘Mapping for PA in viticulture – how to get started in Agtech for PA’. We heard from Andrea Koch*

(NFF) on the in-depth work that has gone into finding seven key important words that are the foundation of the 'NFF Farm Data Code'.

Following *lunch & trade displays*, *Rachel Melland (SPAA EO)* chaired *Tom Giles (GRDC)* who provided a thorough 'GRDC Precision Ag R&D update'. We heard from *Tom Andrews (Connected farms)* on the complex and vital issues surrounding 'Farm-wide connectivity – why it's needed and what's out there', and *Frank D'Emden (LivingFarm)* who spoke from the WA perspective on 'Satellite imagery in viticulture and research trials: experiences from Western Australia'. With the future needs so far heard at the symposium in mind, the event heard from *Philip Honey & Dale Kirby (SPAA President & Vice-president)* on the SPAA Strategic Plan. *Phil Honey* also had the great pleasure to announce that the SPAA Lifetime Membership Award for outstanding work in PA for 2022 was awarded to *Associate Professor Brett Whelan of PA Lab at the University of Sydney*. A huge congratulations go to Brett Whelan! Finally in this session we heard the latest in 'Industry news – John Deere' from *Benjamin Blevin*.

That was only partway through day one! The afternoon session saw *Dale Kirby (SPAA Vice-Pres)* chair 'Industry News – Case IH' by *Sean O'Connell, Rob Bramley (CSIRO)* speaking on the potentially industry changing topic of 'Precision Viticulture at regional scale: rethinking the terroir zoning paradigm', followed by *Edward Scott (Soil and Land Co.)*, digging into the hot topic of 'Soil sampling for PA'. Ed stimulated and ran a great discussion on soil sampling methods that continued well into break times and further discussion panels. This was an example of the type of discussion the SPAA symposium is all about – the cutting-edge needs, research and implementation of PA for growers. *Emma Leonard (UNE)* followed this with more game changing research that is likely applicable in everything we do regarding PA adoption and implementation of change, 'Change management and its use for family farming businesses when adopting digital agriculture'. We then heard the latest technological advances for 'AgriTrakker: a user-controlled data sharing platform', by *Jon Medway (CSU)*.

The networking evening commenced with the ever popular '*PA Connections Networking Event @ Trade Displays*', followed by the '*SPAA 20th Anniversary Symposium Dinner, in the Ian McLachlan Room, Adelaide Oval*'. SPAA would like to say a huge thank you to Robin Schaefer for MC'ing the SPAA Past Presidents and Founding Members sharing of many lighthearted reflections on SPAA's foundation and journey at the dinner. SPAA would like to extend a massive thank you as well to *Michael Eyres (Injekta Field Systems)* for his insightful and entertaining talk, leading many to speak of the great success of this SPAA dinner – a wonderful night was had by all, it was a great celebration of the PA community. *Rachel Melland (SPAA EO)* welcomed delegates to the start of day two of the symposium, with *Julie O'Halloran (SPAA Committee/QDAF)* then chairing *Si Yang Han (USYD PALab)* speaking on 'Predicting sugarcane yield for nitrogen fertiliser management', *Karl Vanderlinden (IFAPA)* giving a Canadian perspective with 'Soil ECa and NDVI time series as an indicator for soil-crop effects', *Brett Whelan (USYD PALab)*, speaking on the long-term project 'Future Farm: the value in data-driven decisions', *Anand Pothula (USQ)* detailing 'Common sensor platform for real-time variable-rate nitrogen application', and *Rohan Rainbow (Crop Protection Australia)* updating delegates on the all-important (and SPAA supported project) 'Autonomy Code of Practice - Stage 2'.

Tom Bishop (USYD PALab) chaired the session following morning tea, where the symposium heard from *Allister Clarke (CSU)* on 'Using interpretive machine learning to predict Head Rice Yield in Australia', from *Wes Anderson (Croptimistic Technologies Australia)* on High resolution agronomy with SWATMAPS', and from *Dale Kirby (NSW LLS)* on 'In-field weighing and electronic identification - the implications for improved livestock management'. Delegates then became immersed in discussion in the 'GRDC Trends and opportunities in Precision Ag: an interactive panel discussion', run by *Liam Ryan*

and Tom Giles (GRDC) and farming panel members. Many thanks to all growers and other who provided their expertise on this and all discussion panels.

Following lunch and trade displays Phil Honey (SPAA President), chaired Mikaela Tilse (USYD PALab) speaking on 'Mapping cotton fibre quality to better understand variability', Elders Industry News from Beth Humphris, an important talk leading into the afternoon panel session on 'Advances in agricultural machinery automation for PA' by Rob Johnson (Agtecnic), 'PA in tropical crop management' by Julie O'Halloran (DAF), and 'PA needs in vegetable production' by Steve Carn (Grower / SPAA Treasurer). The final and again highly thought provoking 'PANEL: What does SPAA need to do for PA across sugar, cotton, grain, rice, livestock, horticulture, viticulture and other production industry needs now in Australia? Including automation and robotics', was chaired by Rohan Rainbow (Crop Protection Australia). Philip Honey then closed the thorough 25th APAS, and encouraged delegates to further network over afternoon tea and trade displays.

SPAA would like to sincerely thank all speakers and delegates who came together in such an interactive spirit for the 25th APAS – it was great to be back post-Covid and we look forward to seeing you all again in 2023!

Rachel Melland, SPAA EO

The 25th APAS was hosted by SPAA, Society of Precision Agriculture Australia, with program collaboration from the University of Sydney's Precision Agriculture Laboratory at the Sydney Institute of Agriculture."

2021 SPAA Expo – Loxton, 25 March 2021 FB promotion using @SAGITFund

facebook

 **Society of Precision Agriculture Australia - SPAA is on Facebook.** To connect with Society of Precision Agriculture Australia - SPAA, log in to Facebook.

Log in

or

Join

SPAA presents
SA PRECISION AG EXPO

THURSDAY MARCH 25TH 2021 1-5PM REGISTER 11.45AM LUNCH 12PM LOXTON HOTEL 45 EAST TCE LOXTON SA 5333

A practical workshop to share precision ag information between advisers, farmers and researchers, across many ag sectors

Highlights...
Farmer speakers Joe Koch & Wade Nickolls, plus updates on NDVI & VR, Mallee mesonet

ENTRY: MEMBERS \$20, NON-MEMBERS \$30 (incl LUNCH AND AFTERNOON TEA)
Register online at www.spaa.com.au
For more information, call Nicole 0437 423000 or Sandra 0488 356760

LEARN - SHARE - CONNECT - BE INSPIRED!

 **Society of Precision Agriculture Australia - SPAA**
#SPAAexpo21Have you registered yet? - <https://mailchi.mp/e97dac0a2f8f/pa-symposium-2020have-you-registered-yet-3779934> Only 1 week to go so have you booked your tix now <https://spaa.com.au/events/precision-ag-expo/> @MRLandscapeSA @SAGITFund @MSFMallee

Timeline photos · 17 Mar 2021 ·

SPAA 2020 Expo – Loxton – postponed due to Covid19

<https://spaa.com.au/events/precisionagexpo2020/>

Expo contents and promotion of SAGIT logo with thanks attribution below



It is with regret that we advise that this event is now POSTPONED due to the COVID-19 situation.

Your safety is important to us. Whilst disappointing, rest assured, when possible we will bring an even better event to you!

The EXPO includes:

- Presentations and demonstrations from a wide range of growers and advisors using and studying PA technology, showing how PA can be used to improve the management of grains, horticulture, nut and other agricultural industries local to the region.
- Presentations highlighting how using PA reduces environmental impacts and maximises efficiency by precisely targeting crop inputs.
- Premium Sponsor Seminars and Trade Exhibits showcasing the latest DEVELOPMENTS in Precision Ag technologies.
- The Precision Ag EXPO provides a unique opportunity for all precision agriculture equipment manufacturers, sellers and service providers to showcase their products and services across a wide range of agricultural industries



LEARN- SHARE – CONNECT and BE INSPIRED

Event supporters

SPAA acknowledges the support from its Gold, Silver and Bronze tier partners who will be present at the event to network with. Opportunities for your business to exhibit are still open. Please download the link above.

Funding has also been made possibly from the generosity of the South Australian Grains Industry Trust (SAGIT).



Supporting Next Gen

SPAA is keen to support the development of next gen, and is offering all students **FREE** admission to the EXPO. Simply present your student card upon arrival.

CONCLUSIONS REACHED &/OR DISCOVERIES MADE (Not to exceed one page)

Please provide concise statement of any conclusions reached &/or discoveries made.

SPAA has continued to play its leading role in disseminating the latest research and on farm trial results, along with the latest in technology updates and uses for precision agriculture for the South Australian grains industry by presenting these SPAA Expos and Symposia, whether at in-person events when that has been possible, or flexibly, during online events during the Covid19 pandemic. The result continues to be that increasing numbers of growers, and importantly service providers, have learnt about a wide range of technology, research and grower trial results, and have been able to trial those precision agriculture practices themselves. The same can be said of the SPAA key publications. Significantly, recent feedback from the GRDC 'National Grower Network' has found many locations around Australia where there is grower demand for precision agriculture workshops, seminars, and other information. SPAA has continued to fulfill that grower need to the extent

possible across the 2020-2022 Covid19 pandemic years, and with SAGIT support, by actively creating relevant precision agriculture content, from satellite use information, to soil sampling best practice. SPAA has seen active engagement in lively discussions on precision agriculture topics at SPAA events.

INTELLECTUAL PROPERTY

Please provide concise statement of any intellectual property generated and potential for commercialisation.

SPAA publications IP. N/A for commercialization.

APPLICATION / COMMUNICATION OF RESULTS

A concise statement describing activities undertaken to communicate the results of the project to the grains industry. This should include:

- *Main findings of the project in a dot point form suitable for use in communications to farmers;*
- *A statement of potential industry impact*
- *Publications and extension articles delivered as part of the project; and,*
- *Suggested path to market for the results including barriers to adoption.*

Note that SAGIT may directly extend information from Final reports to growers. If applicable, attach a list of published material.

These SPAA Expo and Symposium events and online webinars were inherently communication events. They were promoted by email, social media and on the SPAA website, as well as through the websites of others. Notably for the 2022 combined Expo and Symposium, the event was promoted via the GRDC Events website page and emails to growers.

The flagship 'SPAA Precision Ag News' publication, and other key SPAA publications are accessible at spaa.com.au, and feature a large number of South Australian, and Australian grain growers as 'grower profiles', which enable other growers to read about and learn from the experiences, trials and results of growers either at the beginning or at an advanced level of implementing precision agriculture.

POSSIBLE FUTURE WORK

Provide possible future directions for the research arising from the project including potential for further work and partnerships.

The continued support of SPAA's Precision Ag events, publications and communication activities by and for the South Australian and Australian grains industry would be a worthwhile endeavor for SAGIT, and other organisations, due to the ongoing and increasing benefits of growers understanding and implementing precision and digital agriculture methods. This is especially the case given the ongoing increase in requirements for digital record keeping, inputs and emissions accounting, and the coming of autonomous machinery, all of which require foundational understanding of the digital technologies and methods that can build upon and make use of knowledge and implementation of precision agriculture techniques. SPAA continues to work to build grower capacity for the Australian grains industry.