



Monitoring and Evaluation

The project set up a range of mechanisms to monitor the progress and evaluate the success of the project.

The project steering committee met on a six-monthly basis to review project progress and provide input to the progress reports being submitted to the Australian Government. They were also in constant contact via phone and email over the course of the project to deal with questions and issues from the project collaborators.

Collaborator workshops

Three workshops were held with project collaborators over the life of the project:

- Project initiation – Project collaborators were briefed in detail on expectations and processes for implementing the project
- Mid term – Project collaborators presented on their progress and reported and discussed any issues relating to
- End – Project collaborators presented on their achievements from bringing involved in the project

Baseline and end of project evaluation

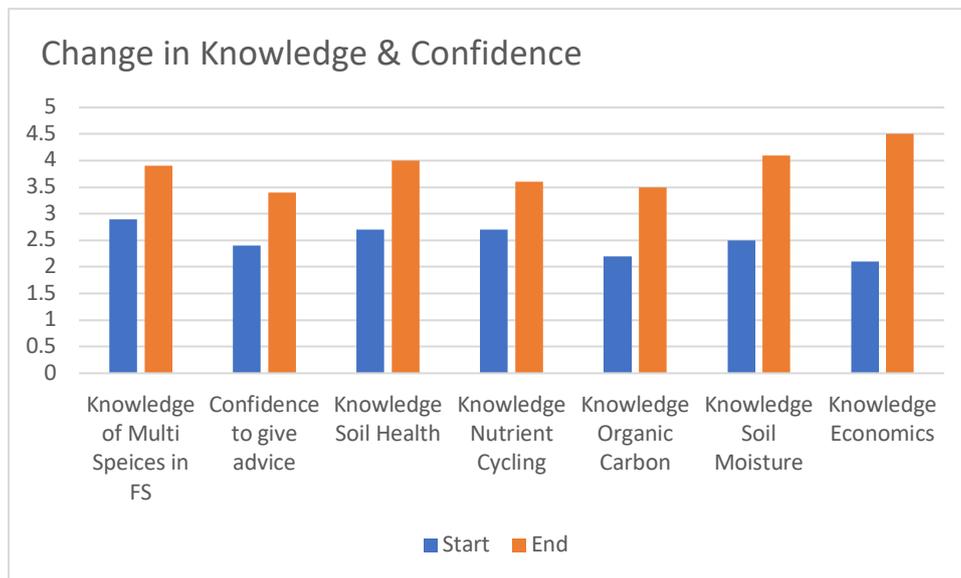
Baseline and end of project evaluation of knowledge and confidence relating to the science of mixed species cover crops and giving advice was conducted with representatives from the collaborating organisations. The eleven project collaborators have a direct influence on over 2,000 farm group members in south-eastern Australia plus social media connections with over 11,000 account holders.

The following questions were asked at the start and end of the project:

- Rate your knowledge of applying multi species cover crops in farming systems (1 – *Very poor*, 2 – *Below Average*, 3 – *Average*, 4 – *Above Average*, 5 – *Very Good*).
- How confident are you about giving advice to your peers and/or farmers about incorporating multi species cover crops in farming systems (1 – *Would not give advice*, 3 – *Confident to give some advice*, 5 – *Very confident to give advice*)?
- Rate your knowledge (1 – *poor*, 3 – *average*, 5 – *very good*) of the impacts of cover cropping on:
 - Soil health
 - Nutrient cycling and stratification
 - Organic carbon and fractions
 - Soil moisture
 - Economic benefits to following cash crops

Results of the evaluation are presented in table 1. For all of the project parameters being evaluated, there was an increase in knowledge and confidence.

Table 1



Project collaborators were asked at the start of the project their expectations and at the end of the project have their expectations been met. All the collaborators were satisfied that their expectations have been met. There was some consensus that there would be value in a longer project to better evaluate cover crops over a greater range of seasons. Some would also like to see further analysis of the trial work conducted over the life of the project. This work is likely to be in legacy of the project with the CSIRO wanting to do further analysis and interpretation of the large data set collected beyond the life of this project.

Your expectations from being involved in this project?

- Science based information for farmers to make decisions on growing cover crops. Economics of using cover crops in farming systems.
- Support this project and assist in 'spreading the word' to other group. Increase my knowledge and confidence.
- Build knowledge (robust, statistically significant data) on cover crops and their long term effect on farming systems (livestock, soil health, following crop) particularly regarding profitability/sustainability. Be able to advise farmers on likely species and their effects, per climatic region with confidence due to results.
- I know a lot of theory but will be good to get practical results from our environment.
- Exciting to see what benefits cover crops might have in MFMG's area. Expectation is to increase knowledge of cover cropping by end of project!
- Provide knowledge to farmers in high rainfall zone on cover crops by incorporating in various farming systems.
- Test the cost benefit of diverse plant production system – reduce chemical inputs by increased biodiversity.
- To get a package developed that will create "rule of thumb" to achieve a successful crop but this will also create an increased level of knowledge of the benefits of cover cropping.
- Clear quantified evidence of benefits – production/profit/environment to facilitate practice change and adoption. Knowledge sharing, good organisation and communications.
- Look forward to strong scientific data coming out of the project. Thus giving confidence in giving advice and recommendations to growers to adopt.
- Additional info to challenge current belief in monoculture and duo culture systems which are failing due to disease, fertility and need for high inputs. Greater emphasis on profitable, low risk farming systems.
- Improved understanding of what has been mentioned above and pass information on to farmers.

How has the project met your expectations?

- Yes.
- It has raised my knowledge of comparative regional trials and a range of evaluated approaches - this is valuable and, in my mind, a critical first step towards improving collective understanding of the cover crops system.
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- Project made good progress given vagaries of challenging seasons and COVID limitations.
- It's been challenging at times due to bushfire disaster. Have been surprised and encouraged by the results on Kangaroo Island. I like the slogan "choose your weed".
- Project has produced tangible data that shows the specific pros and cons based on location, system, rainfall, etc.
- Not quite yet- would be keen to see legacy doc and final results. And then we can do more specific extension to growers.
- Much more work to do in this space - longer term trials would be great.
- Difficult to draw conclusions consistent for each area/region/zone. However, doesn't look good for mixed cover crops in low rainfall mallee. Trials would need to be run over many years and seasons to approach a more consistent message.
- Yes definitely.
- The project has met expectations well. I think it's unfortunate that cover cropping is so seasonal though and some sites do only have 1-2 years of data. There's a lot of data to be interpreted, I think it's important to convert these results to a grower & agronomist
- I feel like I have learned enough to be confident about giving advice. Confident to give some advice initially and further more detailed advice would be inclined to pass on contact details. More knowledge now than prior to the project.

Collaborator Reporting

The eleven project collaborators provide six monthly progress reports and a final project report to the project steering committee over the course of the project. These provided detail on project progress against contracted activities, which gave the steering committee confidence that the project was on target and where necessary issues relating to delivery were dealt with early.

Collaborator Support

The project collaborators have been provided with a range of tools to assist them in managing their contributions to the project. These reside on a dedicated Google Drive. In addition a six monthly e-news was sent out to collaborators that summarised project progress so that all collaborators were equally informed.

Table 2 summarises the achievements of the project, including the trials conducted, events held, publications produced and project support.

Table 2 Summary of project achievements





Achievements




Extension & Communications:

- 55 events;
- 1,600 attendees
- 73 social media post;
- 11,066 reach
- 43 publications;
- 3,010 reach

Project website maintained:
<https://research.csiro.au/mixedcovercrops/>

Collaborator Support:

- 15 project updates
- 3 project forums
- Google Drive
- SANTFA on-ground support

Trials & demonstrations (61):

- 20 demonstration trials
- 5 species evaluation trials
- 9 termination trials
- 27 invertebrate trials / assessments
- Data analysis









Project Proponents



Project Funders



Government of South Australia
 Department for Environment and Water

