



SoilCQuest 2031

# ANNUAL REPORT 2021-22

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# SOILCQUEST VISION: THE WORLD'S FARMERS SIGNIFICANTLY MITIGATING CLIMATE CHANGE WHILE IMPROVING GLOBAL AGRICULTURAL SOILS.

## SOILCQUEST MISSION: DOUBLE WORLD SOIL CARBON BY 2031

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**Charity Name**

Soil C Quest 2031 Limited

**Australian Business Number**

98 616 013 284

**Australian Charities and Non-For-Profit  
Commission Activities Category**

Research, Science and Technology

**Status**

Public company limited by guarantee under the  
Corporations Act 2001 (Cth)

Australian Commonwealth Approved Research  
Institute

**Address**

12 Nancye Pl, Forbes, NSW, 2781

**SoilCQuest Values**

Committed to Scientific Integrity.  
Courageous, Audacious, Tenacious,  
Openminded, Collaborative, Genuine  
Resourceful and Action Focused  
Ownership. Stewardship.  
Purpose Over Profit

# About SoilCQuest

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**SoilCQuest 2031 is a grassroots research institute of scientists, farmers, agronomists, business, communication and engagement specialists. Our not-for-profit organisation has a vision for the future of a movement of farmers working to realise the global carbon drawdown potential of agriculture.**

To make this future a reality, we bring farmers & scientists together to research grower innovations that build soil carbon. We measure and validate these farming systems and practices through the three lenses of economic viability, soil carbon science and adoptability. Then we bring the research to the paddock to support farmers big & small to build soil carbon for resilience and productivity.

We are passionate about working with farmers to build resilience and profitability by building soil carbon. The SoilCQuest team work closely on the ground with landholders and understand the day-to-day farm culture and the drivers & barriers farmers face to innovate and change.

SoilCQuest has an audacious vision to help double the world's on-farm carbon stocks by 2031 so that farmers and our planet can thrive. We have a dedicated agenda of agricultural soil carbon sequestration, at speed, at scale. We are unapologetically ambitious towards fulfilling our quest.

The organisation was established in 2012 by Guy Webb (systems agronomist), Mick Wettenhall and Mark Shortis (farmers/graziers), driven by a desire to improve agricultural resilience and environmental outcomes.

Since then, a team of talented and committed scientists and agriculturalists from across Australia have joined,

increasing SoilCQuest's numbers and capacity to deliver on research goals for the organisation.

## **Our Values**

- Committed to scientific integrity.
- Courageous, audacious, tenacious.
- Open-minded, collaborative, genuine.
- Resourceful and action focused.
- Ownership, stewardship.
- Purpose over profit.

## **Our Vision**

A movement of farmers and scientists realising the potential of agriculture as a Gigaton Carbon Drawdown industry.

## **Our Mission**

Bringing scientists and farmers together for grassroots research and adoption of grower innovations that build carbon.

## **Our Goals**

**Goal #1:** Enable and advocate for farmer innovation by measuring and validating farming systems & practices that build carbon.

**Goal #2:** Increase adoption of scientifically-validated, economically-viable farming practices that build soil carbon.

**Goal #3:** Collaborate for productive science and farmer innovation partnerships

# SoilCQuest

## Current Focus

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### 2022- 2024 Research Program

SoilCQuest is focused on supporting ground innovation and adopting systems that protect and/or build soil carbon. As a research institute, we value a scientific evidence-based approach. We also value collaboration.

Through our research program, we are focused on researching, demonstrating and scaling methods & technologies that:

1. Have the potential to store carbon in soils
2. Reduce on-farm greenhouse gas emissions.
3. Increase farm profitability & resilience.

SoilCQuest is well-positioned to work directly with innovative farmers to research practices that have the potential to sequester carbon and have multiple on and off-farm benefits.

Our research mission is:  
Conduct research on carbon drawdown agricultural systems to increase grower adoption.

Our research guiding principles are:

1. Co-design: Research is an iterative and dynamic process best informed and co-designed at all stages between researchers and farmers
2. Impact: High-impact research will address knowledge gaps, build on existing evidence and solve real-world problems.
3. Collaboration: Supporting and enabling research, research translation and integration of research across systems requires collaboration between individuals, organisations and across sectors. Everyone has a role to play.

### Soil Carbon Trial - Intercropping with Biofertilisers

SoilCQuest 2031 is undertaking a small plot trial in collaboration with Grant Sims from Down Under Covers, on his farm at Pine Grove, Victoria.

Intercropping involves growing two or more crops in the same field in the same season. While it's well understood that intercropping results in higher yields from less land, there's limited research on the potential for intercropping to increase soil carbon sequestration.

Biofertilisers contain microorganisms that promote plant growth when they are applied to either the seed, plant or soil. They do this by increasing the supply of nutrients, increasing root biomass or root area and increasing the nutrient uptake capacity of the plant. Biofertilisers combined with synthetic or organic fertilisers may also have many beneficial outcomes. Given the rapidly increasing price of synthetic fertilisers, using biological fertilisers to reduce the amount of synthetics required may become more attractive in the future.

Established in April 2022 and run over four growing seasons, the trial is exploring the effects of intercropping combinations- In year 1 canola & vetch and canola & faba beans compared to a monoculture crop. In addition to this the effect of differing fertiliser regimes will be assessed with a more biological- based fertiliser regime of Bio Fert, Guano and Vermi cast, compared to local standards of the synthetic phosphorus and nitrogen fertiliser monoammonium phosphate (MAP).

Throughout the trial the effects on soil health, in particular soil organic carbon will be explored and this will also be supported by a financial analysis of the practices.

# SoilCQuest

## Current Focus

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### Fodder Alleys for Soil Carbon

This fodder tree & shrub research initiative will explore the effects of various fodder tree & shrub systems across Australia on the carbon sequestration potential and economic viability of fodder systems.

The intensification of grass-based systems in the past century has led to the removal of woody species from temperate agricultural landscapes. However, wood species play a vital role due to the ecosystem services they provide, such as above-ground carbon sequestration, soil erosion control, airborne pollutants limitation and biodiversity conservation.

Recognising the importance of woody vegetation in agricultural landscapes, SoilCQuest have identified the use of perennial fodder shrubs and trees as a practical method to develop resilience in the landscape whilst increasing carbon sequestration and biodiversity in mixed cropping & grazing farmscapes. Tagasaste (Tree Lucerne) is a highly nutritious fodder shrub. The plant is deep rooted, suited to a range of free-draining soil types, and a hardy species that survives well in droughts. Planted in rows, the shrubs form excellent windbreaks across the landscape, reducing landscape water loss from wind-driven evaporation. The shrubs also create microclimates between the rows that help build carbon in the soil and store carbon themselves in their trunks and root systems.

A 2002 review found that there was 200 000 ha of cultivated forage trees and shrubs in Australia. The vast majority of this area is planted to three species, *Leucaena* (*Leucaena leucocephala*), *Tagasaste* (*Chamaecytisus proliferous*) and *Saltbush* (*Atriplex* spp.). Of this total, an estimated 100 000 ha is planted to *Tagasaste* in southwestern and southern Australia, 50 000 ha to *Leucaena* in the subtropical northeast,

and 50 000 ha to various *Atriplex* species on salt affected land in Western Australia, South Australia, Victoria and New South Wales. In addition to this, the study identified a small area, estimated to be less than 10 000 ha, planted to other species, predominantly *Acacia saligna*. We will utilise some of these existing fodder systems, (*Tagasaste*- Tree Lucerne, *Saltbush* and *Acacia* sp) of differing ages and types to better understand changes in soil carbon over time. and monitor a paired chronosequence of sites. This will infer temporal dynamics from measurements at sites of different ages but similar land-use histories.

A big focus of this research will be on building collaborations in this space. The research initiative will build on the knowledge developed as part of the The Future Farm Industries CRC Enrich Project which found that for a typical central wheatbelt farm, in the low-medium rainfall crop-livestock zone of southern Australia, the inclusion of perennial forage shrubs at about 10-20% of farm area can increase whole farm profit by 15-20% (Wochesländer et al., 2016). This is achieved by reduced supplementary feeding during the summer/autumn feed gap and importantly by deferring the grazing to other parts of the farm at the break-of-season, allowing better management and more pasture to be grown elsewhere.

A mixed carbon methodology is to be released by the Clean Energy Regulator in 2023, the first stage of the method will include fodder trees as an approved practice. It has been acknowledged that the effect of fodder trees on soil carbon stocks is limited and there is a need to be able to better understand both above and below ground carbon dynamics in fodder tree systems. The trials and collaborative research in the research initiative will aim to contribute towards filling this knowledge gap.

# SoilCQuest

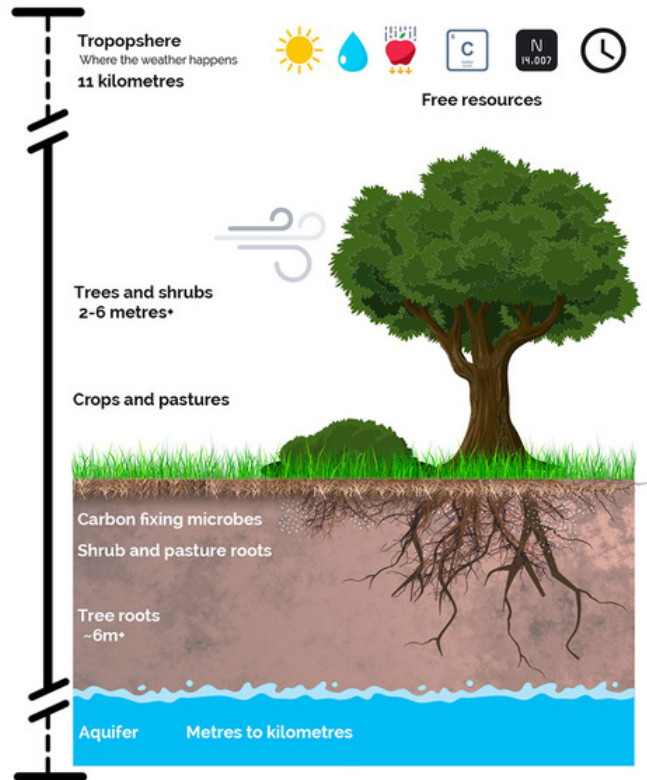
## Current Focus

### Carbon Farmscapes Program

This year SoilCQuest is developing a national Ag-learning and farm planning program to provide our farming community with an independent source-of-truth on carbon farming and soil carbon.

We believe soil carbon is the central metric of success for farm resilience, productivity and profitability. Carbon markets have a role to play in this profitability over the next 20 years. We have observed a low level of carbon literacy within the agricultural industry on both how soil carbon can be built and how carbon markets work.

To fulfil our mission of transforming agriculture into a Gigaton carbon drawdown industry, we are developing the Carbon Farmscapes program to build carbon literacy so that our industry can build soil carbon and better understand carbon markets.



# SoilCQuest

## 2021-2022 Highlights

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### **Climate Resilient Soils Network Grant Project**

This year SoilCQuest successfully completed their Climate Resilient Soils Network project funded by The Ian Potter Foundation and the Department of Agriculture, Forestry and Fisheries through funding from the Australian Government's National Landcare Program.

Our project was undertaken to help address the issue of soil health parameters, including poor structure, low organic carbon levels, low water holding capacity and low nutrient bioavailability, and impact on food and fibre business profitability, particularly during droughts. Low soil carbon also reduces plant available water, and yield increases (Grains Research and Development Corporation, 2014). Increasing soil organic carbon levels are a significant opportunity for agricultural carbon sequestration and can also reduce the use of synthetic nitrogen, a significant source of agricultural greenhouse gas emissions.

Our project undertook to address the issue of poor soil health by conducting in-paddock research trials into the use of dark septate endophyte (fungi) microbial inoculums in cropping operations.

Soil microbial inoculums have been shown to have the capacity to increase soil health parameters, including structure, organic carbon levels, water-holding capacity and increased nutrient bioavailability (Jacoby et al., 2017). Carbon sequestration work with microbial inoculums has shown up to a 17% increase in soil organic carbon in 14 weeks over a single growing season (McGee et al., 2013).

These field trials were undertaken on three farms in Canowindra, Forbes and Manildra in Central West NSW, and a small-plot trial was also established in Young.

This research facilitated a number of extension activities to increase land managers awareness, knowledge and skill for the management of soil.

This included our 'Carbon Calling' series of three virtual field days undertaken during the covid pandemic when public health restrictions prevented our original face-to-face field days at the three farm demonstration sites. The 60 minute virtual field days were held over lunch-time, once a week for three weeks and covered three topics: Carbon Building Systems, Microbe Functionality and Monetising Soil Carbon. Each field day included presentations by leading scientists and researchers, and short video stories and live interviews with these farmers at their field trial sites.

This extension to increase awareness and knowledge in building soil carbon and carbon-sequestering microbial inoculum technology also involved 27 presentations and media engagements by SoilCQuest 2031 Directors- agronomist Guy Webb and farmer Mick Wettenhall.

These engaged over 10,000 people from the agricultural sector across the NSW central west, Australia and overseas, including the United States and Bangladesh.

The development of soil carbon grower resources on the use of microbial inoculums and compost in cropping systems, and grain intercropping, with farmer case studies of the three on-farm trials, will be an enduring legacy of our project.

Our in-paddock and small plot trials were measured independently by soil testing services and scientists from the Australian National University. Social research interviews were conducted with the land managers and Landcare coordinators to measure the impacts of our project activities.

# SoilCQuest

## 2021-2022 Highlights

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These engaged over 10,000 people from the agricultural sector across the NSW central west, Australia and overseas, including the United States and Bangladesh.

The development of soil carbon grower resources on the use of microbial inoculums and compost in cropping systems and grain intercropping, with farmer case studies of the three on-farm trials, will be an enduring legacy of our project.

Our in-paddock and small plot trials were measured independently by soil testing services and scientists from the Australian National University. Social research interviews were conducted with the land managers and Landcare coordinators to measure the impacts of our project activities. Desktop research, interviews, data collection and metrics analysis, were undertaken to measure our extension activities' engagement and reach.

The most significant outcome of our project is that three farmers who manage 6,660 ha of land in Central West NSW have adopted the use of the carbon-sequestering microbial inoculum (dark septate endophyte fungi) in their cropping operations. These farmers have become champions for this sustainable best practice amongst their farming peers in both the NSW central west and further afield through our project's Carbon Calling virtual field days and numerous speaking engagements by SoilCQuest 2031 Directors- agronomist Guy Webb and farmer Mick Wettenhall. These presentations and interviews have engaged over 10,000 people from the agricultural sector and raised the profile of building soil carbon and carbon-sequestering microbial inoculum technology at both the national and international levels. A positive

unexpected outcome of the project was that in addition to adopting the practice of using dark septate endophyte fungal microbial inoculum, one land manager has also adopted the practice of intercropping at their 1,740 ha Canowindra property.

In this project one plot and three paddock-scale trials were conducted to investigate the influence of various microbial inoculants and farming systems on soil properties and agricultural yields with the aim to increase water use efficiency, boost soil carbon and climate resilience in agricultural systems.

The results highlight the challenge of both spatial and temporal soil heterogeneity, which in this case reverted or did not allow for detecting (short-term) changes in soil carbon content, soil aggregation or crop yield.

The adaptive research optimised a cross scale learning-by-doing approach including small plot trials, field scale strip trials and paddock scale trials.

To demonstrate the ultimate effectiveness of microbial management on soil properties, multi-season, spatially stratified and more in-depth coverage of soil heterogeneity are required than what was undertaken in this project.

The 2021 season was in no way rainfall limited so water use efficiency data was not able to be examined as initially planned. Yet, as part of the project, we were able to show the success of legume-cereal intercropping for nitrogen provision to minimise expensive nitrogen fertilisation for both the intercropped and subsequent growing period.



# SoilCQuest

## 2021-2022 Highlights

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SoilCQuest 2031 through the Climate Resilient Soils Network would like to thank the following people and groups for the amazing support over the period of this project:

- Collaborating farmers Luke and Alex Wood, Stuart and Ellen McDonald and Steve Nicholson
- Landcare networks Central West Lachlan Landcare, Mid Lachlan Landcare, Little River Landcare, Tablelands Landcare & Wedden Landcare
- Industry supporters Kilter Rural, David Hardwick, Sumitomo Chemicals, Loam Bio, Top Soil Organics
- Australian National University
- The Ian Potter Foundation
- The many farmers in Central NSW and beyond that continually give us support for our work.



### Climate Resilient Soils Network Grant Project Outcomes



# SoilCQuest

## 2021-2022 Highlights

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### **Carbon Calling Field Days**

Due to ongoing covid restrictions in 2021 we adapted our face-to-face field days at our three demonstration sites to virtual field days.

These online field days were held as zoom meetings, so that attendees could see each other and were encouraged to interact by posting questions in the chat function and participating in the panel discussion. The format of each virtual field day included video stories from each demonstration farm, interviews with the farmers from each demonstration site, and presentations from SoilCQuest researchers and guest speaker soil carbon scientists, researchers, extension and carbon market experts.

Our Carbon Calling virtual field day series was well received by attendees and Landcare groups who attended. Below is an example of the positive feedback we received from a local Landcare Group Co-ordinator:

"The webinars worked, I liked the mix of talking to someone on the ground and then someone from the office talking about it and that worked really well. What also worked really well is that because people tend to be time poor now, that short format over lunch was an excellent way to do it, rather than people driving for a couple of hours to get somewhere. I think that the way they replaced the field day with that format of an officer inside talking and then talking to someone in the field via zoom was excellent."

### **Carbon Building Systems & Climate Resilience Field Day- 6 October 2021**

Host Farm- Luke and Alex Wood 'Manacumble', Manildra NSW

- Presentation on Climate Resilient Soils Network project by SoilCQuest's Guy Webb
- Farmer video stories from Luke Wood at Manacumble on their carbon building systems and carbon-fixing fungi trial
- Guy Webb discussion with farmer Luke Wood
- Presentation from guest speaker Dr Susie Orgill- Carbon 101: mechanisms implicit in building carbon & why it's important for climate resilience
- Presentation from guest researcher Tegan Nock from Soil Carbon Co.- carbon fixing fungi in the carbon building cropping system, how they work & research so far.
- Open forum discussion

### **Microbe Functionality & Climate Resilience Field Day- 13 October 2021**

Host Farm- Stuart McDonald 'Belmont', Canowindra NSW

- Farmer video stories from Stuart McDonald at Belmont on conservation and regenerative farming practices, mycorrhizal fungi and compost
- Guy Webb discussion with farmer Stuart McDonald
- Presentation from guest scientist David Hardwick- the role of mycorrhizal fungi & compost in building a resilient system
- Presentation from guest researchers Professor Justin Borevitz & Dr Wolfram Buss, Australian National University- Carbon ain't carbon: Why long lived soil carbon is so important and how we measure it.
- Open forum discussion

# SoilCQuest

## 2021-2022 Highlights

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### **Monetising Soil Carbon & Climate Resilience Field Day- 20th October 2021**

Host Farm- Steve Nicholson 'Munroy', Forbes NSW

- Farmer video stories from Steve Nicholson at Munroy on farm systems that store carbon and mycorrhizal fungi & compost.
- Guy Webb discussion with farmer Steve Nicholson on total farm carbon biodiversity asset assessment- integrating ecosystem services & access to evolving environmental goods & service markets.
- Presentation from researcher Guy Webb on 3D Carbon Paddocks- a complete integrated carbon building system.
- Presentation from Toby Grogan from Impact Ag- Natural capital and carbon markets
- Presentation from Angus Ingham & Albie Ryan from Kilter Rural- Soil Carbon and the carbon market



### **New SCQ Staff**

This year SoilCQuest expanded its staff with the creation of two new positions focussed on Agricultural Carbon Research and Stakeholder Engagement.

#### **Agricultural Carbon Research- Daniela Carnovale**

Daniela has a passion for working with farmers to increase soil health & function, with a particular interest in soil biology & plant soil interactions as ways to increase soil Carbon. She has 15 years of experience in the private sector, non-government organisations, government, & academia and is a strong advocate for science communication. Daniela holds an Honours degree in Resource and Environmental Management and a PhD in the effects of agricultural restoration (shelterbelts) on soil biotic communities.

#### **Stakeholder Engagement- Erika Van Schellebeck**

Erika has 20+ years of experience in community & stakeholder engagement, sustainability education and strategic planning in state and local government and the not-for-profit sector across NSW. A city kid who loved school holidays on her grandparents' cattle & wheat farms, she believes that ecological agriculture holds the key to the resilience of farming communities and is passionate about agriculture as a climate solution. Erika holds a BA in Resource and Environmental Management and is completing postgraduate studies in Regenerative Agriculture.

# Message from Our Chair

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This year I heard a new term uttered by a number of NSW farmers battling rain soaked, waterlogged, muddy, sodden paddocks, bogged air seeders and utes. The new term... "wet drought". How do you sow your crop if you can't even drive your tractor and planter on the soil without bogging? When these conditions prevail, too wet is as bad as too dry.

Weather and climate are often seen as interchangeable terms, however they are different. Weather refers to short term atmospheric conditions and climate refers to long term weather averages. Like the saw tooth pattern of a long term share market sheet, 'climate' plots the averages, the highs and the lows of day to day weather to give us much clearer trends over time. As with predicting what a certain share might be worth on any certain moment of a day vs. predicting a long term share price trend, it's the same with weather and climate. Lots of weather data collected over a long time period gives us a trend...and with that trend comes predictive power.

What we (science) do know from long term climate trends (billions of data points collected globally over long periods of time) is that we are entering an era of more unpredictable and extreme weather events. No surprise here...we literally just need to turn on the news.

Science can correlate this trend very clearly with the increase of heat trapping greenhouse gases in the atmosphere. In simple terms, when we dial up greenhouse gases, we dial up atmospheric heat and as a consequence we dial up the energy driving our weather systems. This precipitates the extreme events we see so regularly on the news...hot, cold, dry, wet.

Because we all share the same atmosphere globally, we are seeing these outcomes all over the planet. Unprecedented heat waves, drought and water security issues in Europe, India and China, Africa and the US, punctuated by record breaking destructive floods at home in Australia and more recently in Pakistan give us all a taste of things to come, more extreme...more often, if we couple up with inaction.

Much better to couple up with action and a chance to brighten the future.

Action speaks louder than words, and action is the antidote to anxiety. The global solution revolves around rapidly dialling back humanity's greenhouse emissions at the same time as finding the reverse gear...sequestering the existing legacy load of atmospheric carbon dioxide into a safe carbon 'sink'.

Enter stage left... the largest carbon sink on the planet.

Agriculture represents the largest terrestrial human controlled carbon sink on the planet, making farmers the largest coalition on the planet with the power to orchestrate the largest carbon drawdown event in history...into the soils and vegetation of our 'farmscapes'.

With this larger context in mind, and an eye on the urgency of creating real sequestration events on farms, SoilCQuest continues to focus on grassroots scientific and social solutions in order to create the three way win-win-win situations with farmers whereby we merge agroecological know-how with improved agronomic techniques to coax increased production economics, resilience and environmental benefits. This is then integrated with cross pollination of peer to peer farmer ideas and extension support.

The adoption curve for farmers is driven by the attractive benefits of strategically sequestering more carbon into their farmscapes thereby improving farm productivity and creating greater resilience to climatic extremes.

No doubt we will continue to face climate challenges, however through crisis and adversity comes opportunity... the opportunity to create a healthy farmscape, a healthy atmosphere...and a healthy future.

Dhaagun nga-ngaa-nga, Ngurambang nga-ngaa-nha (Care for soil, care for country)

With unlimited optimism,

**Guy Webb**  
Founder/Managing Director  
SoilCQuest 2031



# SoilCQuest

## Organisational Strategy

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As a recognised scientific research institute, SoilCQuest strives to achieve strong outcomes for agriculture and the environment. The four core objectives of SoilCQuest's work are research, development, collaboration and empowerment. All of SoilCQuest's activities will fall under one or more of these objectives, with the overarching goal of doubling world soil carbon.

Research	Develop	Collaborate	Empower
Conducting global research that leads to a greater understanding of sustainable agricultural systems. This involves exploring innovative technologies for scalable, long-term carbon sequestration and gains in agronomic benefits.	Developing novel agricultural systems that offer scientifically proven outcomes for the world's farmers, the greater environment, and atmospheric carbon levels.	Collaboration with domestic and international research organisations, and groups with interest in carbon sequestration to ensure microbial sequestration is readily accessible to farmers globally.	Empower farmers by providing the technology, mechanisms and knowledge to create positive change through best practice adoption of microbial isolates for carbon sequestration and agronomic benefits that offer tangible benefits to both the farmer and the public.

# SoilCQuest Board

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## **Guy Webb**

Guy has over a decade of experience designing functional and practical microbial packages within dryland broadacre systems for semi-arid environments. Guy draws on a strong background in agronomy, and a deep understanding of soil health, microbiology and sustainable land management. He has been the driving force behind the organisation for a number of years and has brought together a cohesive and committed team to work towards SoilCQuest's vision.



## **Mick Wettenhall**

Mick is an experienced grazer and grains and cotton farmer on the Macquarie River near Trangie. A skilled farming practitioner and an early adopter of innovative farming techniques, Mick marries improved farming economics with improved soil fertility and farming sustainability. He is a passionate believer that agriculture has a major role to play not only in food security but also in sustainable environmental management and climate change mitigation. Michael brings invaluable practical on-the-ground experience and a common-sense perspective to the project.



## **Frank Oly**

Frank has two decades of business experience in communication and advertising. He has fulfilled various executive and creative roles for TV Production companies such as Endemol Shine, Warner Brothers and Viacom. Frank has degrees in business law and marketing.



# SoilCQuest Team

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## **Daniela Carnovale**

Daniela has a passion for working with farmers to increase soil health & function, with a particular interest in soil biology & plant soil interactions as ways to increase soil Carbon. She has 15 years of experience in the private sector, non-government organisations, government, & academia and is a strong advocate for science communication. Daniela holds an Honours degree in Resource and Environmental Management and a PhD in the effects of agricultural restoration (shelterbelts) on soil biotic communities.



## **Erika van Schellebeck**

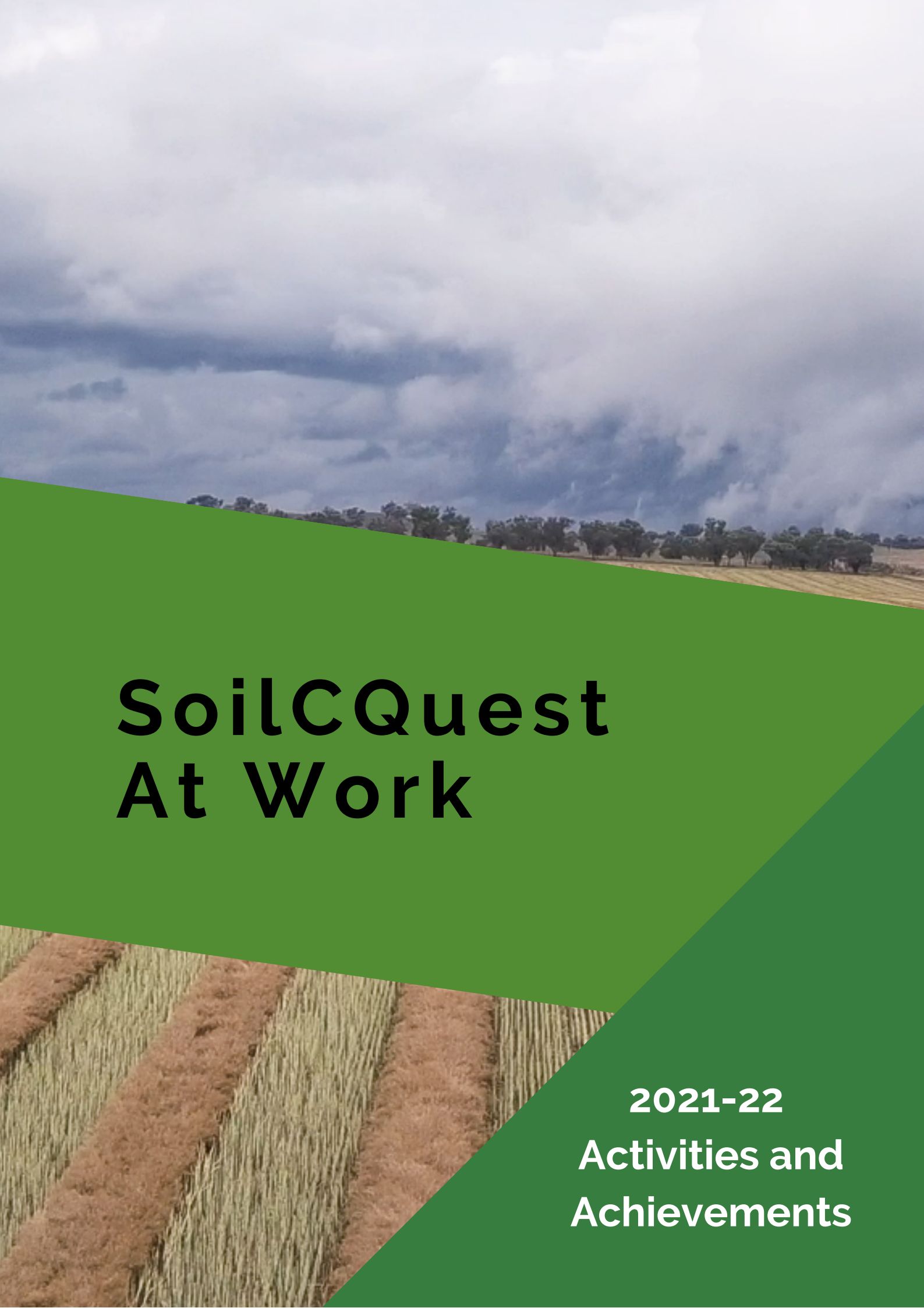
Erika has 20+ years of experience in community & stakeholder engagement, sustainability education and strategic planning in state and local government and the not-for-profit sector. A city kid who loved school holidays on her grandparents' cattle & wheat farms, she believes ecological agriculture holds the key to the resilience of farming communities and is passionate about agriculture as a climate solution. Erika holds a Bachelor of Arts in Resource and Environmental Management and a Postgraduate Certificate in Regenerative Agriculture from Southern Cross University.



## **Sophie Lountain**

Sophie is a Communications Officer with SoilCQuest. Sophie has a background in nutrition, food security and sustainable agriculture. She is currently completing her PhD at the University of South Australia, with her research spanning economics focusing on food security, water policy, and the interface between gender and resources.



An aerial photograph of a large agricultural field with distinct rows of crops, likely a sugarcane plantation, under a dramatic, cloudy sky. The field is divided into sections by reddish-brown soil. The sky is filled with heavy, grey clouds, suggesting an overcast or stormy day. The foreground shows the texture of the crops and the soil.

# **SoilCQuest At Work**

**2021-22  
Activities and  
Achievements**



# SoilCQuest Community, Media and Presentations

## Presentations & Workshops to farmer and industry groups, events, conferences & webinars

SoilCQuest Co-founder and Director Guy Webb has given 7 face-to-face and online presentations to an audience of 1,200+.

- Digital Agrifood Summit hosted by Food Agility CRC 1-2 June 2022
- Fenner Environment Conference 'Making Australian Agriculture Sustainable' 16-17 March 2022
- NSW DPI Farm Business Resilience & Productivity Grower Group 25 Feb 2022
- Singularity Group International Online Global Impact Summit 8-9 Dec 2021
- Let's Talk Science COP 26 Online Webinar 5 Nov 2021- hosted by Bangladesh Science YouTube Host Anisur Rahman (28.1K subscribers) and live streamed on [bangla-sydney.com](http://bangla-sydney.com) live web tv.
- Watershed Landcare Online Workshop 26 Aug 2021 'Ask a Soil Carbon Researcher'
- Parkes Shire Council 'Activating the Low Carbon Economy in Regional Australia' online event 19 Aug 2021

Below are examples of positive feedback on Guy Webb's knowledge-building skills:

"I first met Guy back in 2019 when he was a guest speaker at a small event that had been organised for Landcare at Parkes, and he had his presentation for 15 minutes and it was the first time I've ever heard him speak. I'm not really a scientist and I have no background in biology and so I found his take on carbon and how you can sequester it quite interesting. I like how he manages to promote it to farmers, in particular more traditional farmers, that it's not about sequestering carbon and saving the planet, it's more about improving their bottom line, and I think that's quite a sensible way to go with some farmers.

I think he's a person that explains it quite easily or what he says is easy to comprehend when it can be such a convoluted thing to understand. The concept is quite confusing for a lot of people as there is a lot of science that is beyond some people and it's a very convoluted and complex market." Landcare Coordinator from NSW Central Tablelands (2022).

"Guy's talk was the best explanation I have heard of climate change, the enormity of the impact and a possible solution". Central West Lachlan Landcare member (2018).

## Media coverage

- Guy Webb gave an interview on the Live & Local segment 2bs 95.1FM Bathurst on 13 August 2021
- Guy Webb gave an interview for National Science Week on Behind the Lines 2xx 98.3FM Canberra



**6** Are you getting enough? Do you want more? Do you know how you can increase your chances of getting some?

**WEDNESDAY 8 MAY 2019**

**PARKES SERVICES**  
12.30pm - 3pm  
(hot & cold finger food on arrival)

**FORBES SERVICES**  
5pm - 7.30pm  
(hot & cold finger food on arrival)

**Soil Carbon**

**Find out more about:**

- Increasing carbon in your soil
- Managing soils for climate and market change
- Cover cropping options to increase your profitability
- Award Winning Grassroots - The Documentary SCREENING!

**GUY WEBB**  
Agronomist & Managing Director  
Soil C Quest

**CalLEN THOMPSON**  
Senior Land Services Officer  
Mixed Farming, Central West  
Local Land Services

These workshops are Free but an RSVP is essential for catering to Meng on 0418 611 053 or cwllp@hotmail.com

**CENTRAL WEST LACHLAN LANDCARE**

Partners: Australian Government, National Landcare Program, NSW, Local Land Services

Central West Lachlan Landcare Inc  
14 May 2021

**SPEAKER PROFILE:** During our Dinner with Costa Georgiadi, we are also fortunate to welcome Guy Webb, Founder and Managing Director of Soil C Quest 2021 as one of our local speakers. We were fortunate to have Guy speak at our dinner in 2018...and so much has changed for Soil C Quest since then! We are looking forward to hearing all of the fabulous advances that have been made.

**BOOK YOUR TICKETS HERE:** <https://www.stickytickets.com.au/7z93>  
#landcare #forbesnsw #costageorgiadil... See more

**Speaker Profile GUY WEBB**  
SOIL C QUEST 2021

You are invited to **Central West Lachlan Landcare Dinner** FRIDAY 28 MAY 2021 FROM 6PM

Forbes Town Hall with Special Guest **COSTA GEORGIADIS** and GUY WEBB / Managing Director, Soil C Quest

SOIL C QUEST 2021  
\$100 and GUY WEBB / Managing Director, Soil C Quest  
KAREN RITCHIE / Chairperson, Forbes Arts Society

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**ADVANCING THE LOW-CARBON ECONOMY IN REGIONAL AUSTRALIA**  
Natural State Presentation

**FRANK GARDNER**  
Chairperson  
Agriculture and Forestry Commissioner of the Department of Primary Industries, NSW Government

**THE HON. HENRY BLAIR**  
Honorary Chair Sustainability & Social Impact Transformation  
Chairman, Australian Conservation Foundation

**JOHN COOK (LIVE)**  
Former NSW Energy Minister  
Former Minister for Energy and Environmental Change, NSW Government

**DAVID SIMS**  
Chairperson  
Agriculture and Forestry Commissioner of the Department of Primary Industries, NSW Government

**GUY WEBB**  
Soil C Quest  
Managing Director, Soil C Quest

**JOHN COOK (LIVE)**  
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Former NSW Energy Minister  
Former Minister for Energy and Environmental Change, NSW Government

2019 New England & North West Landcare Adventure & Regional Awards Dinner

**21ST CENTURY FARMING**

June 12 & 13, 2019  
The Crossing Theatre, Narrabri

**GUY WEBB - SOIL C QUEST - CARBON FARMING**  
**GRANT SIMS - VIC NO TILL - MULTI-SPECIES COVER CROPPING**  
**DAVID MARSH - 2018 NATIONAL LANDCARE OF THE YEAR**  
**KIRRILY BLOMFIELD - THE CONSCIOUS FARMER**  
**SYDNEY UNI - DIGITAL FARM & PLANT BREEDING INSTITUTE**  
**AQUACULTURE - NARRABRI FISH FARM**  
**DALE KIRBY - NORTH WEST LLS - NEW AG TECHNOLOGIES**  
**JO SKENES - CACTUS BIOLOGICAL CONTROLS UPDATE**  
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For further information go to [www.northernlapeslandcare.com.au](http://www.northernlapeslandcare.com.au), or call 02 6724 2002

Soil C Quest is in Orange, New South Wales.  
Published by Margaret Applebee 7/1 - 10 September 2019

Fantastic to be part of the Australian Farmers for Climate Action Risks and Rewards of Farming in a Changing Climate Conference in Orange today. A big thanks to the Team that brought the Conference together. Central Tablelands Local Land Services NSW Department of Primary Industries NSW Biodiversity Conservation Trust Orange City Council



Soil C-Quest Our 2019 celebrating the Forbes Local Landcare Adventure Awards Dinner

1048 15202

trybooking

Your Soil Carbon Questions Answered - Online Workshop

**Ask a Soil Carbon Researcher**

**ONLINE WORKSHOP**

26th August 6PM - 7:30PM

- Get your questions answered
- Find out about the latest research & technology
- Get practical advice to improve carbon sequestration on your land

SoilCQuest 2021

Landcare Australia

Registration is free and open to all. Book your place now. Spaces are limited. Book now. [Book Now](#)

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Guy Webb

Feb 1983

CO<sub>2</sub> @ 343 ppm

Watch on YouTube



**SoilCQuest**

294 followers

1mo • Edited •

SoilCQuest Co-founder, **Guy Webb** joining the conversation with some of Australia's foremost thought leaders at the Fenner think-tank conference 'Making Australian Agriculture Sustainable', in the Australian Academy of Science's Shine Dome. 🌱🌿

#soilquest #soilcarbon #soilcarbonsequestration #soilhealth #soilwealth #agriculture #sustainableagriculture #sustainability #climateleadership

**SoilCQuest 2021**

No matter the farm, soil carbon is the central metric of success for resilience, productivity, and long term profitability

**CARBON SEQUESTRATION... AT SCALE, AT SPEED**

Guy Webb | Co-Founder, SoilCQuest 2021

**Soil C Quest**

Published by Tegan Nock [?] · 7 July 2019 ·

Saturday, 13 July 2019 2pm AEST - mark the date and we'll see you there!

Citizens Climate Lobby (CCL) Online Series has a monthly meeting with a special guest speaker and Q&A via ZOOM. Everyone is welcome to attend.

In July CCL's special guest is Guy Webb. Guy will talk about SoilCQuest researching a fungus that helps plants to pull carbon out of the air and lock it into the soil.

At scale, this has the potential to draw down gigatons per year of carbon, turning farmers across the world into carbon-capturing superheroes, while improving soil health and resilience.

Join us to hear Guy talk about this exciting work.

Hope to see you there on Zoom, 2pm AEST, Sat. 13th July. Go and visit the CCL Facebook Page for more info or use the link below:

<https://zoom.us/j/3920795005>

Or Telephone: Dial 02 8015 2088 then enter the Meeting ID: 3920795005 into your phone keypad.

**"Climate change is everybody's business especially everybody who is yet to be born"**

Citizens Climate Lobby: Australia

July 13, 2:00 pm

**Singularity**

experience join explore about contact

**GLOBAL IMPACT SUMMIT**

December 8-9, 2020 | Virtual

limited spaces



# **SoilCQuest Financials and Reporting**

**2021-2022  
Financial  
Report**

# Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2022

	Note	2022 \$	2021 \$
Revenue	2	600,595	1,016,361
<b>COST OF SALES</b>			
Research and Development Expenses		109,504	460,110
<b>Total Cost of Sales</b>		<b>109,504</b>	<b>460,110</b>
<b>Gross Profit</b>		<b>491,091</b>	<b>556,251</b>
<b>EXPENSES</b>			
Audit Fees		12,500	15,000
Accounting		16,437	20,963
Advertising		15,102	3,680
Employment Benefit Expenses	3	529,109	617,387
Insurance		12,152	12,568
Travel Expenses		3,811	1,957
Office Expenses		6,683	5,825
Repairs and Maintenance		278	1,741
Other Expenses	4	16,939	19,890
<b>Total Expenses</b>		<b>613,011</b>	<b>699,011</b>
<b>Surplus/(Deficit) for the Year</b>		<b>(121,920)</b>	<b>(142,760)</b>
Other Income	2	2,295,245	160,000
<b>SBITDA</b>		<b>2,173,325</b>	<b>17,240</b>
<b>DEPRECIATION AND AMORTISATION</b>			
Depreciation		2,648	10,018
Amortisation		703	-
<b>Total Depreciation and Amortisation</b>		<b>3,351</b>	<b>10,018</b>
<b>SBIT</b>		<b>2,169,974</b>	<b>7,222</b>
<b>NET INTEREST</b>			
Interest Income		2,374	1,325
Less: Interest Expense		-	1,139
<b>Total Net Interest</b>		<b>2,374</b>	<b>186</b>
<b>Surplus</b>		<b>2,172,348</b>	<b>7,408</b>
<b>Total Comprehensive Income for the Year</b>		<b>2,172,348</b>	<b>7,408</b>
<b>Total Comprehensive Income Attributable to:</b>			
Members of the Company		2,172,348	7,408
<b>Total Comprehensive Income for the Year</b>		<b>2,172,348</b>	<b>7,408</b>

# Statement of Financial Position

As at 30 June 2022

	Note	2022 \$	2021 \$
<b>ASSETS</b>			
<b>CURRENT ASSETS</b>			
Cash and Cash Equivalents	5	2,711,930	460,481
Trade and Other Receivables	6	69,978	66,935
<b>Total Current Assets</b>		<b>2,781,908</b>	<b>527,416</b>
<b>NON-CURRENT ASSETS</b>			
Investments at Cost	7	5	6
Intangibles	9	7,252	1,199
<b>Total Non Current Assets</b>		<b>7,257</b>	<b>1,205</b>
<b>Total Assets</b>		<b>2,789,165</b>	<b>528,621</b>
<b>LIABILITIES</b>			
<b>CURRENT LIABILITIES</b>			
Trade and Other Payables	10	128,579	58,155
Accrued and Deferred Items	11	112,500	130,000
Provisions	12	92,371	57,099
<b>Total Current Liabilities</b>		<b>333,450</b>	<b>245,254</b>
<b>Total Liabilities</b>		<b>333,450</b>	<b>245,254</b>
<b>Net Assets</b>		<b>2,455,715</b>	<b>283,367</b>
<b>EQUITY</b>			
Retained Surpluses	13	2,455,715	283,367
<b>Total Equity</b>		<b>2,455,715</b>	<b>283,367</b>

# SoilCQuest

## 2021-2022 Acknowledgments

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SoilCQuest wishes to extend a great deal of appreciation for everyone who has donated their time or resources to the organisation. Without your support, we would be unable to conduct the important work for the future of agriculture, and the environment. Countless people have supported us this year, and we extend thanks to all of you reading this.

The following is an acknowledgement for just some of those who have made a significant contribution to the organisation.

- Matt Cahill - Charles Sturt University
- Marg Applebee - Central West Lachlan Landcare
- Tracee Burke - Midlachlan Landcare
- Geri Brown - Central Tablelands landcare
- Stef Woodgate - Little River Landcare
- Maddison Lacie O'Brien - Watershed Landcare
- Dr Chandra Iyer, Green Microbes
- Brad Leeson & Bob Wilson - Tagasaste WA consultants
- Peter Kelly - Tagasaste planter engineer
- John Moutsopolous and the KPMG Team
- Charles Sturt University, Orange campus
- Professor Mark Howden, Professor Justin Borevitz and the Australian National University team
- Climate Resilient Soils Network farm collaborators: Luke Wood, Stuart McDonald, Jack Edwards, Steven Nicholson and Mick Wettenhall
- Kilter Rural team
- Dr Susan Orgill - NSW DPI
- David Harwick - Soil Land & Food
- Tegan Nock - Loam Bio

# SoilCQuest

## Looking forward

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While SoilCQuest is breaking new ground in rapid, scalable carbon sequestration and agronomic progress, there is a long way to go before we reach our ambitious vision of a movement of farmers and scientists realising the potential of agriculture as a Gigaton Carbon Drawdown industry.

With the SoilCQuest team increasing in capacity each year, and the global knowledge and demand for microbes as agronomically and environmentally beneficial tools growing each year exponentially, we have an exciting time ahead full of opportunity.

SoilCQuest is setting sights to bring forward scientifically sound tools and practices to empower farmers to make the positive changes they require to grow healthy, resilient and profitable crops. Our organisation strives to carry out this work in a reputable, repeatable way, and bring forward our science and resulting technologies to the world to allow for maximum benefit for farmers, for the environment and public good.

### How You Can Help

SoilCQuest is always open to parties wishing to partner with us to work towards common goals. There are some ways that we can look to working with you that can enable us to achieve our outcomes, and your organisation to reap the benefits of SoilCQuest's research, development and extension projects. Support either in-kind or financial will go towards research development and extension of environmental outcomes for those on the frontline of climate change. You can contribute to a specific project, or enable these outcomes through a tax deductible donation to support our annual operations.

Please email us at [info@soilcquest.org.au](mailto:info@soilcquest.org.au) to discuss the possibility of a SoilCQuest partnership arrangement.







# SoilCQuest 2031