

## ROGER GROOOCK A JOURNEY IN SOIL



Roger Groocock farms with his wife Sue in the Wirrega/ Lowan Vale area where he has 1400 hectares owned and leased land of a mixed cropping and livestock enterprise, most of which the soil has been modified in some way.

He is considered to be an early adopter of technology and a leader in soil modification processes in Australia.

Soils are Roger Groocock's hobby and passion and his wife Sue talks of the many hours down in the shed at night modifying equipment, reading, and talking on the phone to many people. His interests spread much wider than clay spreading, and are borne out of a fascination with soil. Some of these include:

- Clayspreading, delving, and spading, including increasing the depth of the top soil.
- Green manuring
- The Alabama system for incorporation and delivery of trace elements down into the soil profile
- Getting the pH balance right in soils
- Soil carbon maintenance in a highly productive environment
- Soil moisture holding capacity

### Where did this passion come from?

A generation ago, it was seen to be difficult to farm and to sell land North of the railway line in the Lowanvale Wirrega area as it was considered low value and unproductive. It was from this start, following the early passing of his father, that Roger Groocock's passions began. Now land in the area regularly goes to auction and is snapped up by a variety of producers. Roger still gets a kick out of seeing the productivity lift seen in high rate clay spreading and delving and looks forward to even more possibilities with other soil modification tools.

### The Original Group & the start of delving In 1993/ 94

Roger was and still is a member of Wirrega Ag Bureau and he and other farmers felt that something just had to give. Productivity was falling on their land and a new approach had to be sought. They were excited by the work of clay spreading pioneer Clem Obst, and the work of Mel Cann and this was enough to convince the group members to give it a go and to analyse the benefits of clay delving. Once they had started they were able to get some seed funding through Landcare to look at some of the issues that they were finding with their trials, and this started a long relationship between Roger and various researchers and soil scientists across Australia. The Ag Bureau and its members have been an important influence in Roger's life

as a farmer and have provided a forum and support for the farmers in the area to learn and adopt new practices.

### Lessons from his journey

Have a go, record what you had before the test, then observe the results, and make sure you understand the multiplier effect! Roger believes that farmers need to try out things for themselves and not wait around for funding to appear to give it a go.

Roger and Sue invested \$1500 in the first year, \$2500 in the second year, \$4500 in the third year, and \$24,000 in the fourth year. The extra money available was all from productivity gain from an original \$1500 per year spend aimed at improvement. Roger and Sue started with small areas close to the clay pits that they had dug and compared it to the rest of the paddock that wasn't treated with clay. They also made a conscious decision to improve the land they had instead of purchasing more. Roger says that it is difficult to do both, but it can be done and he admires those that do it. What enabled him to keep reinvesting were the results. Roger saw that his productivity had increased; his chemical was working better so he needed to use less of it, and his machinery costs were the same. "It is very little difference to reap 1.5 tonne to the acre as 3.5 to the acre". The only additional costs really are transport to silo of more product, and possibly insurance.

### Don't settle for good results, always look for more

Roger and Sue had only clay spread the hill tops initially to a band where production picked up. After clay spreading it became obvious that the productive band that started on the slopes was due to water seeping out of the hill. Spreading clay on the hills slowed this process immensely. The once productive soil became dry and its water repellence increased very rapidly. He then went to a water repellence workshop in WA in 1993 with other members of the Wirrega Ag Bureau. They learned that people were incorporating lime and gypsum with a modified rabbit ripper that had been designed by Dr Paul Blackwell, (who had adapted some research at his university in the UK) that was investigating how to create a trench deep enough to lay drainage pipes without having to use a trench digger. This prompted the group to begin delving the clay that lay beneath their shallow top soil. Roger decided to spread clay again as it was too deep for direct delving. He spread across the whole paddock which meant that the clay was doubled on the hilltops, and they mixed it in at double the depth that they had in the past with the new approach from WA. Roger started to provide information back to Dr Blackwell on what was happening on his property. This started a new mantra for Roger "Double the clay, and double the incorporation"

### Give something a go, even if you aren't too sure

Following a second lot of funding from Landcare, for the trial site on his property, Roger approached Dale Lewis from PIRSA and asked who was going to extend the latest information that they had found.

Dale explained that there was no funding to do this and suggested that Roger might be the person to get the word out. This started Roger's foray into public speaking and he has since spoken at many events in SA and WA. Roger learnt how important it is to have a go at things you might not always be comfortable with and that positive relationships with researchers are important. Following this, Roger spent many hours working on improving delving equipment and investigating things to tweak his system, like spraying trace elements into the bleached layer.

### Get out of your own backyard and learn from others

Roger headed off to England, Southern Carolina, Denmark, the Netherlands and Belgium in 2007, after being accepted for a Churchill Scholarship. Some of the things that Roger got excited about there, is what he is currently working on today on his farm. Particularly he has been trying to get the pH level right and investigate the value of soil carbon and incorporation of organic matter. Roger has seen some amazing results following an organic matter spading trial on his farm as part of a carbon 2020 project. This also led him to begin importing spader machines to Australia.

### Generosity and going the extra mile is important

Roger has a strong belief in giving it a go yourself on your farm, as well as being prepared for opportunities to invite researchers to take a look at what you are doing, and to go the extra step if needed to ensure that they can see your vision. Roger also makes it his business to know when researchers might be travelling through to the South East, to ensure that he can have as many opportunities to showcase soil treatments as possible. He also approaches everyone he seeks information from with honesty and enthusiasm as he says it is important to let people know when you don't know something.

Researchers who have worked with Roger all admire his determination and his enthusiasm. They count him as a friend and someone who generously shared his knowledge and skill. Paul Blackwell particularly admired his introduction of the spader to Australia following his Churchill Fellowship.

"He has sunk his own money and resources into the business development and introduction of the spader to Australia, as well as still needing to earn a living as a farmer and contractor. The use of spading in Western Australia is very much due to Roger's initiative and drive" David Davenport admired his ability to mentor soils consultants and students, "he has a lot to teach us, and he gives generously of his time and knowledge".

## What next?

Roger attributes his knowledge of soils to all the people he has worked with over the years, and the luck of being in the right place at the right time for certain discussions, and a belief that seeking knowledge in an open and honest way will open doors. Roger currently has two PHD students working on his property as well as a recent carbon 2020 project.

The preliminary results of the 2020 Carbon challenge report can be found in the agconnectse library, [www.agconnectse.org.au](http://www.agconnectse.org.au). It is likely that he will continue to tinker with the soil at Lowan Vale for years to come, and share his wisdom with his community and new students of soil across the country.

# ROGER'S PEARLS OF WISDOM

Digging a hole and understanding your soil profile on various parts of your farm is key to understanding the foundations of your productive enterprise. Seeing is believing, when it comes to soils. Testing – Knowing what is in your soil, what you have a lot of, what you don't have enough of is key before you do any modifications.

Remember that there is often not enough carbon even in clay spread soils to continuously crop clayed ground. After cropping for a couple of years, then sow it back to perennial pasture (Roger uses Lucerne) for 5 to 8 years then look at retreating the clay, adding trace elements, growing a summer crop and green manuring it in and start the process again.

Why are you clay spreading? - Are you doing lower rates to reduce water repellence in sandy soils or are putting out higher rates, delving and mixing to build your soil profile, and soil fertility?

Is your clay friendly? Have you tested the clay and made sure that it has positive properties for your farming system?

Increasing the depth of the top soil is key to improved productivity and root growth on many Sandy Soils.

Old Danish saying, that Roger loves "You lime the country for yourself, you marl (clay) it for your grandchildren"

pH is a simple fix for a lot of ill health in soil n Spread / delve the clay in early spring, when it is softest, and easiest to get out, then let nature do the work for you in breaking down and mineralising the clay in the Summer, with incorporation in end of March/ early April.

## MID 1980's

Wirrega Ag Bureau visit Clem Obst's pioneering clay spreading site

## 1990

Alabama's on hydraulic tyne – Roger began using Alabama's on hydraulic tyne, which eventually led to him using 3 different models over the years for the eventual incorporation of clay. This system uses tynes and plates of steel rather than offset discs, for clay incorporation

## 1991

First landcare site, coordinated by Melissa Cann (PIRSA) – Trialling slotting with a trench digger, where they saw 1.8 tonne to 4.5 tonne increase in the slotted area.

## 1993

Roger & Sue start their own on farm trials.

Roger goes to water repellence workshop in WA, with Clem Obst, Adrian Coad, Reg Crawford, Mike Willasee, where they see a modified rabbit ripper mixing gypsum and lime into the profile.

Second Landcare site, delver created by Uni SA engineering department at the Levels Campus, as part of that trial.

## 2003

Roger was creating deep and wide tyne spaces with his Alabama system by this time, and decided to start trialling placing trace elements behind the tyne, in order to get trace elements to the A2 layer of the soil.

## 2007

Churchill Fellowship trip to Europe and the United States

## 2008

Imported his first spading machine.

## 2013

Roger is considering importing a spading machine that can incorporate to 60cm

