



# Santfa 20th Annual Conference

March 2, 2018

Barossa Arts & Convention Centre  
Magnolia Road Tanunda, SA

register by Feb 9 to save \$50  
  
*Early Bird*

# Program

## Pre-conference BBQ Buffet

Thursday March 1, 6.30pm at the Weintal Hotel.

## Conference

8:15	Registration
8:45	Opening – GRDC Rep
8:55	Welcome – SANTFA President Sam Venning
9:20	Nick Kelly – Partnering with biology
10:00	Tom Robinson – Mixes and covers in SA
10:40	Matt McKinley – Crops, cattle and carbon
11:20	Morning tea
11:50	Jill Clapperton – Healthy plants grow in healthy soils
12:40	David Cook – The cost of change
1:20	Lunch
2:00	Greg Butler – SANTFA research
2:30	Jill Clapperton – Capitalising on the soil pore network
3:30	Q&A Panel
4:00	Close – SANTFA President Sam Venning
4:10	Drinks

For all the latest  
on the conference

 SANTFA - Conservation Agriculture In Action

 @SANoTill

 #SANTFAConference

## Looking back and moving forward

**Internationally renowned soil biologist and rhizosphere ecologist Jill Clapperton will be the feature speaker at this year's 20th anniversary conference.**

Dr Clapperton, who presented at the 2006 SANTFA conference, will address the importance of species diversity in the soil and above ground, focusing on the latest insights to the complex relationship between plants and soil micro-organisms and the connectivity of plants, soil biology, soil health and food quality.

"Everything we do is connected. Soil health is driven the biology. Rhizosphere processes drive the soil biology."

She will be supported by grower presenters who are modifying their farming systems to take advantage of this connectivity to improve soil health, productivity and profitability.

Four growers, from SA, Victoria, WA and NSW, will discuss how they are managing and working with their soil biology, what is happening in their paddocks, the changes made, the challenges faced and the results they are achieving.

Dr Clapperton, who sees mixed-species cover crops as providing 'the one opportunity to build diversity' in many cropping systems, says plant species have different attributes and different strategies to acquire nutrients and protect themselves and growers can take advantage of these rhizosphere interactions and processes by growing different plants.

For example, different plant species trigger production and release of different compounds of nitrogen and other nutrients that vary in solubility, with some prone to leaching while other more stable forms remain in the soil until they are broken down by micro-organisms and made available to plants when they are needed.

She predicts these and other new insights to the attributes of different plants and their interactions with soil organisms will enable growers to achieve specific soil and production outcomes by growing plants species they know will boost the number or performance of soil organisms to remedy a problem or improve soil conditions.

This, she suggests, will open the way to a future in which growers will use variable rate (VR) seeding instead of VR fertilising to sow different species in different parts of a paddock to actively deal with specific local issues.

**WA grower Nick Kelly** and his family have implemented a biological farming system that has enabled them to reduce their herbicide use by about 10% a year over the past five years and significantly lowered their production costs.

It has also addressed weed and soil compaction issues that emerged after just a decade of no-till continuous cropping, including populations of ryegrass and wild radish that were

previously 'uncontrollable' because of the soil conditions created by the family's conventional farming system.

Key elements of the biological farming system implemented over the past decade or so include year-round multi-species cover crops, zero tillage, livestock and replacement of synthetic fertilisers with compost and biological stimulants.

Nick, who has established a bank of millet seed in all his cropping soils so the summer-active species germinates as soon as conditions are right, will discuss what he has learnt about how to transition from a high-input 'conventional' cropping system to a more natural biological system that supports and capitalises on the soil biology and other natural systems.

**SANTFA past president and SA cover cropping pioneer Tom Robinson** will share his experiences with on mixtures and covers in the SA environment.

Tom, who is now looking to add cattle to the enterprise mix on his Hoyleton property after 30 years without livestock, this season sowed summer species into his cereal stubbles immediately behind the header.

While he is still building his experience base with summer covers, Tom is confident he has found a sowing depth – 50mm – that works for summer covers in his farming environment.

Sowing at this depth results in better establishment and stand performance than sowing shallower; apparently because the temperature at 50mm is lower than it is closer to the surface. Sowing at depth also reduces the risk of germination being triggered by light showers of rain that don't provide enough moisture for the stand to establish, but Tom believes the lower temperature is the main benefit.

His general advice on cover cropping is 'give it a go'.

"Just make the best decision you can and try some different mixes and ratios of component species. Monitor and record what happens in each situation and use those results to adjust what you do the following year."

**NSW grower Matt McKinley's** realisation that soil is alive, triggered a paradigm shift in thinking and a decision to change the family's long-term farming system ideal from 'sustainable' to 'regenerative'.

As a consequence the family have improved the biological health of their soils, reduced their input costs and increased their profitability.

The change from thinking of soil as a chemical medium to seeing it as a living biological organism and the management changes that flowed from that were driven by concern about high input costs, the financial health of the business and several highly productive paddocks becoming 'tired' and failing to respond to additional inputs.

"I now understand that we were degrading our soils. We were looking after the physical attributes of the soil with no-till practices but the biological health was suffering.

"We can use plants to regenerate soil by increasing soil carbon and restoring biological function.

"It's not so much enterprise diversity as plant and ecological diversity."

But Matt is still looking for the 'sweet spot' between regenerative farming to meet the needs of the soil and conventional methods that are profitable but not regenerative.

"I recognise the responsibility we have to regenerate the soil but I never lose sight of the financial responsibility to the family.

"We are still using inputs in our cropping phase but are putting a lot more thought into how we use those inputs. We've managed to almost eliminate insecticides and are working on reducing fungicide use."

**Shepparton farmer and Nuffield Scholar David Cook** is focused on using summer covers and cash crops to improve his soils, particularly their water infiltration and storage capabilities.

The flat topography and heavy duplex clay soils of the riverine plains environment in which he farms mean winter waterlogging is a seasonal issue and water can pool on the soil surface for weeks at a time.

Those conditions, plus a trend to wetter summer periods and drier springs in the Shepparton district, are driving David and his father Neville to explore the use of cover crops to improve rainfall infiltration so the moisture can be stored in the soil and used later, probably by a summer crop or cover.

"Growing summer crops increases the number of species in our rotation and is a handy back-up if wet conditions mean it is not possible to sow winter crops on time."

They are doing everything they can to improve soil carbon levels, conserve moisture and improve overall soil health, including full stubble retention, adopting a controlled traffic system and using a NZ-designed Cross Slot seeder to sow their crops.

Trials run by the University of Melbourne on their property in 2009 showed it is possible to grow rain-fed summer species – safflower, sunflower, French white millet and lablab in the trials – in their environment and they now have the seeder ready to start whenever there is sufficient moisture in the soil.

"We were sowing only two months of the year but we had enough moisture to establish a crop all year round.

"Being able to sow nine months of the year can generate a significant cash flow and summer cropping or sowing winter crops outside the conventional sowing window has the potential to increase our income and offset our risks."

**SANTFA R&D manager Greg Butler** will focus on the potential to use flame-retardant fertilisers to reduce summer fire risk while boosting crop nutrition, the progress towards grower use of the innovative AquaTill UHP water jet technology SANTFA initiated and issues arising from the increase in summer covers and cash cropping.

# SANTFA 20th Annual Conference Registration Form

TAX INVOICE

ABN: 85 250 602 181

Please keep a copy of this form for your records. A receipt will only be forwarded on request.

SANTFA Member (name) .....

Please list names of attendees below, including registering member.

Attendee 1 .....

Attendee 2 .....

Attendee 3 .....

Attendee 4 .....

Note: No refunds, but transfers permitted.

Do you agree for SANTFA to pass on your contact details to SAGIT for the purpose of receiving research results in the future? **Yes** or **No** (please circle)

## Registration & Payment Details

Note the pre-conference BBQ buffet at the Weintal Hotel at 6.30 pm on Thursday, March 1.

Please insert the relevant number of registrations in each box

	Cost	Total
<input type="checkbox"/> SANTFA member, family or employee	\$250	.....
<input type="checkbox"/> Non-member	\$495	.....
<input type="checkbox"/> Current or past board member	Free	.....
<input type="checkbox"/> Partner of current or past board member	\$250	.....
<b>Sub-total</b> .....	<b>\$</b>	<b>.....</b>
<input type="checkbox"/> <b>Early Bird rebate – SAVE \$50</b> (subtract \$50 for each registration paid by Feb 9)		.....
<input type="checkbox"/> Pre-conference BBQ buffet	\$40	.....
<b>Total payment due</b> .....	<b>\$</b>	<b>.....</b>

## Payment Method

**Cheque** (make payable to SANTFA)

**EFT** (use your surname as a reference)

BSB: 105 030 Acc no: 043 080 540 Acc name: SA No-tillage Farmers

**Credit card**     VISA     Mastercard

Name on credit card ..... Expiry date ..... / .....

Card Number

CCV number    Total Amount \$ ..... Signature .....

Please complete the above information and post or fax registration and payment to SANTFA, PO Box 930, Berri, SA 5343 or fax (08) 8125 6502.

For further enquiries contact Leighton Pearce at SANTFA on 0427 688 028 or leighton@santfa.com.au



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