

Welcome

South Australian No-Till Farmers Association

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- Twitter - SANoTill
- Facebook - @SANTFA
- www.santfa.com.au
- Radio SANTFA (available on iTunes podcasts)
- PO Box 930 Berri SA 5343
- SANTFA Board – All Farmers

- President – Sam Venning (Lameroo)
- Vice – Jason Berends (Yorketown)
- Past President – Tom Robinson (Hoyleton)
- Treasurer - Ben Pope (Warramboe)
- Jamie Phillis (Ungarra)
- Craig Woolford (Wirrabara)
- Callum March (Balaklava)

SANTFA Staff

- Greg Butler - R&D Manager (Clare)
- Leighton Pearce – Communications manager (Loveday)
- Mandy Pearce – Admin Manager (Loveday)
- Andrew Bird – R&D tech officer (Clare)
- All staff work out of their home offices)

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SANTFA Board – Former members

Sharon Starick (presiding chair NR SAMDB)

Ted Langley (SAGIT Board)

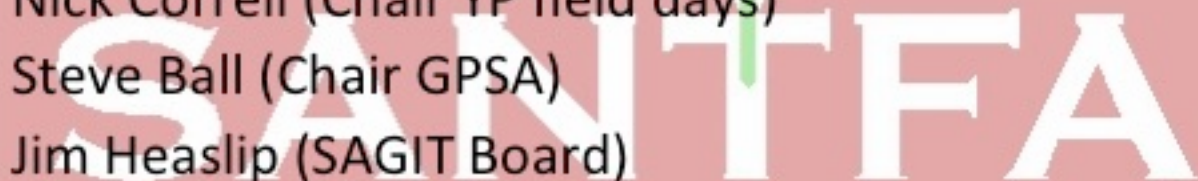
Michael Treloar (SAGIT Chair)

Bruce Morgan (LEADA chair)

Nick Correll (Chair YP field days)

Steve Ball (Chair GPSA)

Jim Heaslip (SAGIT Board)



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Terminology

No-till – 1 pass seeding with knife points

Zero Till – 1 pass seeding with disc openers

Conventional – Multiple passes, seeding into a tilled field

Cover crop – Mixed species planting, Summer & Winter



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3 pillars of Conservation Agriculture

- Minimal soil disturbance
- Diverse crop rotations
- Maintaining soil cover



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What is a cover crop

A crop / mix of species grown to benefit soil health



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Benefits of cover crops (results can take up to 6 years of CC cycles)

- Physical soil protection – reduce soil temperature
- Stimulate soil biota
- Diverse mixes allow plants to compensate if one species is failing
- Varied rooting depths
- Improved nutrient & moisture use
- Various leaf shapes harness sunlight
- Less fertiliser and chemical use
- Tools to combat acid soils and salinity
- 365 days of covered soil
- Breakup hardpans, impervious layers
- Reduced evaporation



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Benefits of cover crops – Mycorrhizal fungi

KEYSTONE SPECIES

- Assist in P uptake
- Move P from non legume plant to legume plant
- Move N from legume plant to no legume plant
- Improve drought tolerance of plants
- Pest resistance
- Increased soil fertility
- Builds soil structure & increases water holding capacity
- Produces more nutritious food
- Replaces harmful chemicals
- Eliminates nutrient runoff & leaching
- Increases essential oil production
- protection from nematodes, fungal & bacterial disease
- Earlier flowering
- More flowers & fruit = Increased production
- Pollinators prefer mycorrhizal plants
- Nutrient cycling



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Benefits of minimal soil disturbance

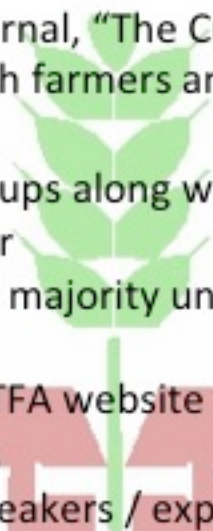
- Improved soil aggregates
- Increased water holding capacity
- Improved bulk density
- Increase water infiltration
- Increased soil biology
- Organic matter decomposes more slowly
- Carbon capture



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What SANTFA are doing with cover crops


- Articles in our quarterly journal, "The Cutting Edge"
- Podcasting case studies with farmers and interviews with scientists
- Social media discussion groups along with promotion through Facebook & Twitter
- Research & Development – majority unfunded through farmer trials
- Website – making the SANTFA website a one stop shop for information on Cover crops
- SANTFA has had over 20 speakers / experts in the past four conference that have spoken about cover cropping and soil health
- Two USA trips in a 12 month period



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What do we need to do to promote cover crops

- Increase Research & Development
- Desk audits of information that is currently available
- Develop best practices for South Australian farmers
- Identify species and mixes to suit different requirements
- Continue to disseminate information via SANTFA website, "The Cutting Edge", podcasting & social media updating
- Continue to bring experts to the SANTFA conference, to pass on their skills & knowledge



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Cover Crop Chart

GROWTH CYCLE

- A = Annual
- B = Biennial
- P = Perennial

PLANT ARCHITECTURE

- ∩ = Upright
- = Upright-Spreading
- ≡ = Prostrate

RELATIVE WATER USE

- = Low
- = Medium
- = High

COOL

WARM

-- GRASS --

BROADLEAF

-- GRASS --

COOL			WARM							
-- GRASS --			BROADLEAF						-- GRASS --	
			LEGUME							
A ∩ ●			A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●
BARLEY									AMARANTH	FOXTAIL MILLET
A ∩ ●	A/B ∩ ●	A/B ∩ ●							A ∩ ●	A ∩ ●
OAT	CANOLA	CAMELINA							BUCKWHEAT	PEARL MILLET
A ∩ ●	A/P ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A/B ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●
WHEAT	MUSTARD	PHACELIA	FIELD PEA	BERSEEM CLOVER	VETCH	COWPEA	CLUSTER BEAN	QUINOA	PROSO MILLET	
A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	B ∩ ●	A/P ∩ ●	A ∩ ●	P ∩ ●	A ∩ ●	
CEREAL RYE	RADISH	FLAX	LENTIL	CRIMSON CLOVER	BIRDSFOOT TREFLOIL	FENUGREEK	SUNNHEMP	CHICORY	GRAIN SOYGHUM	
A ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	A/B ∩ ●	A/B ∩ ●	P ∩ ●	A ∩ ●	A ∩ ●	A ∩ ●	
TRITICALE	TURNIP	KALE	LUPIN	RED CLOVER	SWEET CLOVER	PIGEONPEA	MUNG BEAN	CUCURBITA	SUDAN GRASS	
A ∩ ●	B ∩ ●	A ∩ ●	A/P ∩ ●	P ∩ ●	∩ ●	A ∩ ●	A ∩ ●	∩ ●	A ∩ ●	
ANNUAL FESCUE	BEET	SPINACH	MEDIC	WHITE CLOVER	SAINFOIN	CHICKPEA	SOYBEAN	SAFFLOWER	TEFF	
P ∩ ●	A/B ∩ ●	A/B ∩ ●	P ∩ ●	P ∩ ●	P ∩ ●	A ∩ ●	A/P ∩ ●	A ∩ ●	A ∩ ●	
SALINE TOLERANT	CARROT	CHARD	ROUNDHEAD LESPEDEZA	KURA CLOVER	ALFALFA	EAVA BEAN	PEANUT	SUNFLOWER	CORN	

Cool Season

GRASS

WARM Season

GRASS

Cool Season

BROADleaf

WARM Season

BROADleaf

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2016

Information Resources for cover crops

- www.santfa.com.au
- Membership to SANTFA
- USDA & Universities in USA
- Farmers SA, interstate and overseas



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