



# CARBON FARMING

## Action on the Ground

### The Fruit Salad Project:

Soil amendments in fertigated melons, blueberries and banana production.

# The Fruit Salad Project

## Staff on the Project

Project Manager: Dr Justine Cox (NSW DPI)

Project technical officer: Mick Davey (NSW DPI)

Project officer: Sue Heisswolf (Daff Qld)

Project officer: Stephen Ginns (Daff Qld)



# The Fruit Salad Project

Nitrous Oxide Emissions & Carbon Sequestration in Soil.

5 replicated field trials

Bundaberg - Rockmelons

Griffith – Rockmelons

Lismore – Blueberries

Coffs Harbour - Bananas

Alstonville - Bananas

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## Rates Applied

Equivalent to 4 tonnes carbon per hectare

Poultry Manure Biochar at 10 tonnes per hectare

Compost at 20 tonnes per Hectare

Combination treatment: 5 tonnes of Biochar per Hectare

and compost 10 tonnes per Hectare



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## Bundaberg Rates Applied

T 1. Control – standard fertiliser

T 2. Biochar – 15kg biochar/plot + standard fert

T 3. Compost – 30kg compost/plot + standard fert

T 4. Biochar + Compost – 7.5kg biochar + 15kg compost /plot + standard fert



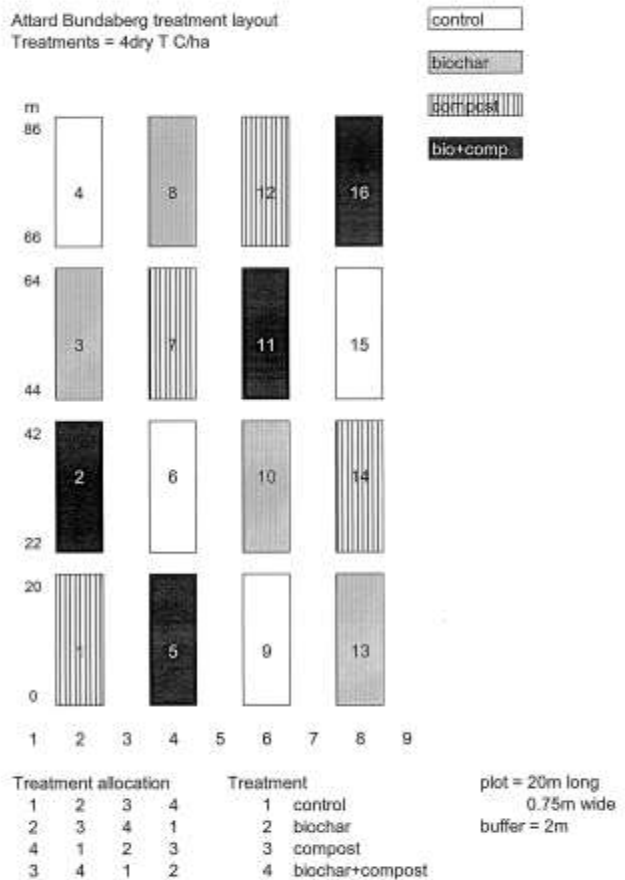
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## Experimental Design

### Treatments

- T 1. Control = standard fertiliser
- T 2. Biochar = biochar + standard fertiliser
- T 3. Compost = compost + standard fertiliser
- T 4. Biochar + Compost = biochar + compost +

Attard Bundaberg treatment layout  
Treatments = 4dry T C/ha



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## Bundaberg Trial Layout

Blocks are 9 rows wide

Data rows are: 2, 4, 6, 8

Buffer rows: 1, 3, 5, 7, 9

Grower has used GPS auto steer to layout the blocks and beds

4 treatments – Compost, biochar, compost and biochar and a control

4 reps – 20m bed per rep

Plots = 20m long \* 1.6m wide

Beds = 20m long \* 0.75 wide



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## Bundaberg Crop Program

Spring 2014 - July to Nov 2014. 1<sup>st</sup> crop - Rockmelons

Summer 2014 - Dec 2014 to March 2015 - Fallow

Winter 2015 - April 2015 to July 2015. 2<sup>nd</sup> crop - Zucchinis

Spring/Summer/Autumn/Winter 2015 - September 2015 to end

2016. 3<sup>rd</sup> crop – Sugarcane





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## N2O Fruit Salad Chamber Layout.

	12			13			36			37		
	10	11		15	14		34	35		39	38	
	9			16			33			40		
	7	8		18	17		31	32		42	41	
	6			19			30			43		
	4	5		21	20		28	29		45	44	
	3			22			27			46		
	1	2		24	23		25	26		48	47	

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## N<sub>2</sub>O Sampling

1. 6-7-8<sup>th</sup> August pre-plant sample
2. 19-20<sup>th</sup> August post rainfall event (54mm)
3. 9-10-11<sup>th</sup> September
4. 22-23-24-25-26<sup>th</sup> Sept to cover two irrigation events
5. 15-16-17<sup>th</sup> October



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## Gas Sampling Schedule

Sample No.	1	2	3	4	5	6	7	8	9	10	11	12	13-16
<b>Timing</b>	Melons pre plant	At running	First flowers/ early fruit set		Fruit fill	Fallow	Significant rain events		Zucchini pre plant	First flowers & fruit set		Mid/late harvest	Fallow Cane rotation
<b>Date</b>	early Aug 2014	Early Sept	Late Sept		Mid Oct	Early Dec	Feb - March 2015		Mid Apr	Early June		June-July	Aug to end 2016

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## Rockmelon Sampling

1. 7<sup>th</sup> November
2. 13<sup>th</sup> November)



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## Data collected include

- a) Yields (weights)
- b) Size of melons (length and width)
- c) Brix (sweetness)
- d) Marketing Quality
- e) Acidity through titration.



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## Project Partners.

- a) Australian Banana Growers Council
- b) Australian Melon Association
- c) Australian Blueberry Growers Association
- d) Department of Agriculture Forestry and Fisheries,  
Queensland
- e) Southern Cross University.
- f) NSW Department of Primary Industries.

# The Fruit Salad Project

We would like to thank Brent, Julie and Tony Attard of 'Swan Ridge Farms' at Bundaberg.



