

Soil Health & Production Trials



13 trials and studies in partnership with local farmers, agribusiness and agronomists

Investigating effectiveness of different products and techniques in simultaneously increasing soil health, soil carbon, productivity and profitability

Projects come from 2010 and 2011 rounds of funding, open calls for projects combining a farmer and a researcher



Regional Landcare Facilitator

Hosted by Northern Tasmanian Natural Resource Management Association Inc.
for the North region

CARING
FOR
OUR
COUNTRY

Gayfield



Gayfield trial – irrigated lucerne

Rob & Isabel Casey with Seona Findlay



Short term, unreplicated trial

Assistance supplied by Dr
Alice Palmer, Renew

Duplex soil with high gravel
content

Gayfield



8 demonstration plots each 2 Ha

Starting P level 226mg/kg following previous poppy crop

Treatment 1 - Renew 5M³/Ha + 9.14.17 + 0.6 sodium molybdate @ 125kg/Ha

Treatment 2 - Control – nothing added

Treatment 3 - TM 21 application @ 250mls/Ha just prior to planting and repeat with another 250mls/Ha later

Treatment 4 - Renew 10M³/Ha

Treatment 5 - 9.14.17 + moly @ 250kg/Ha

Treatment 6 - Poppy Mulch 7t/Ha + 9.14.17 + moly @ 125kg/Ha

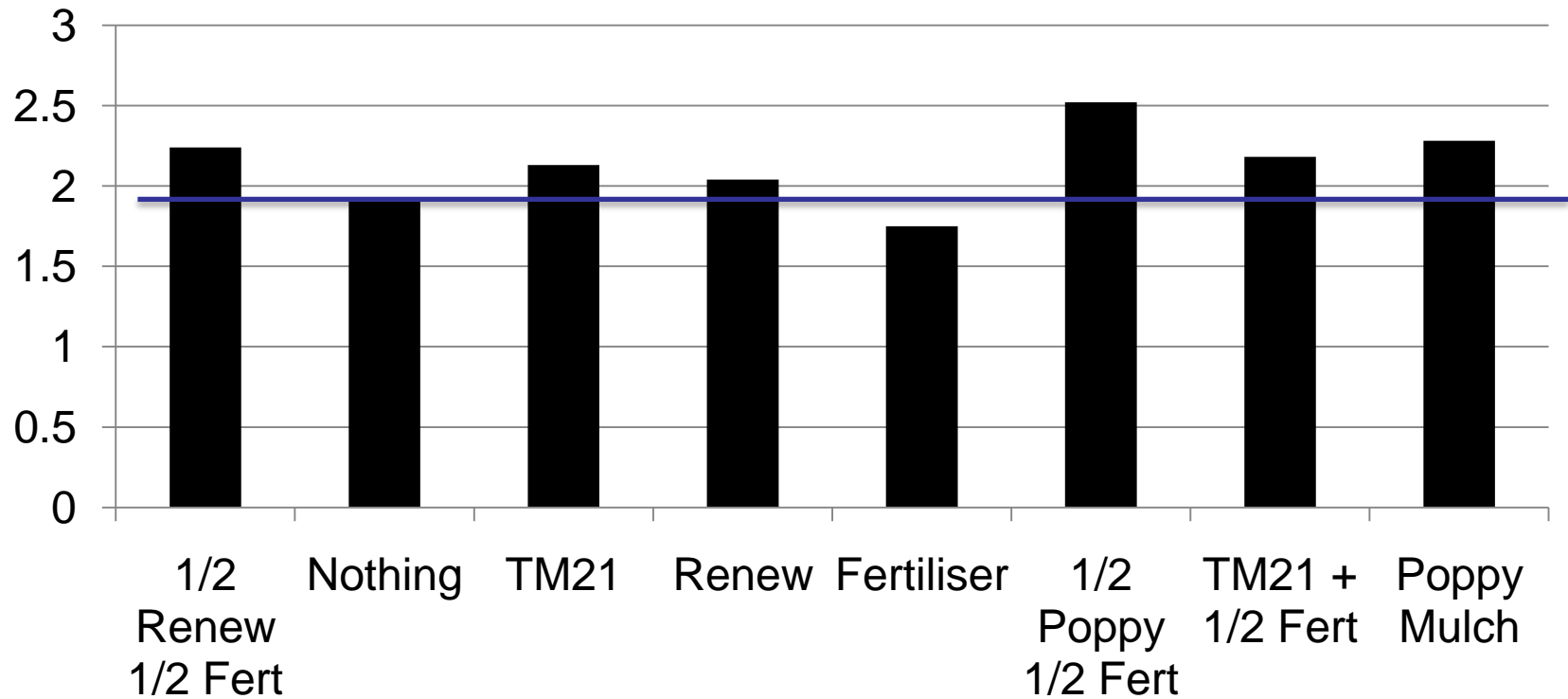
Treatment 7 (2Ha) TM 21 application + 1/2 rate synthetic fertiliser

Treatment 8 (2Ha) Poppy mulch 14t/Ha

Gayfield



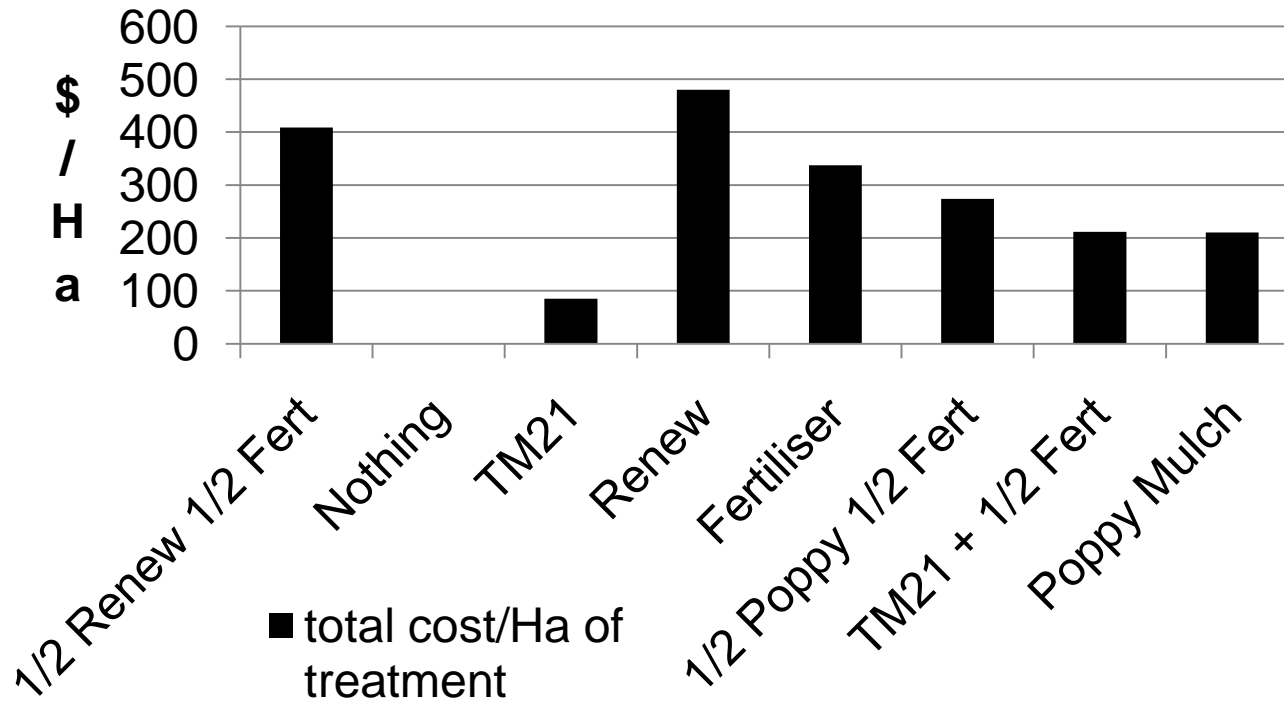
Carbon %



Gayfield



total cost/Ha of treatment



Oakdene



Oakdene trial – dryland wheat

Crop Protection Research (TAS) & Bill Chilvers with support from SFS



3 year, replicated
trial

1st season
finished

Duplex soil



Oakdene



Small plot biochar trial using wheat-stubble biochar (Pacific Pyrolysis)

Large plot trial of 7 treatments, all received basal 120kg/Ha DAP

Biologically enhanced manure digest liquid 200 L/Ha

Renew Compost 15 m³/Ha

Woodrising Farms Compost 15 m³/Ha

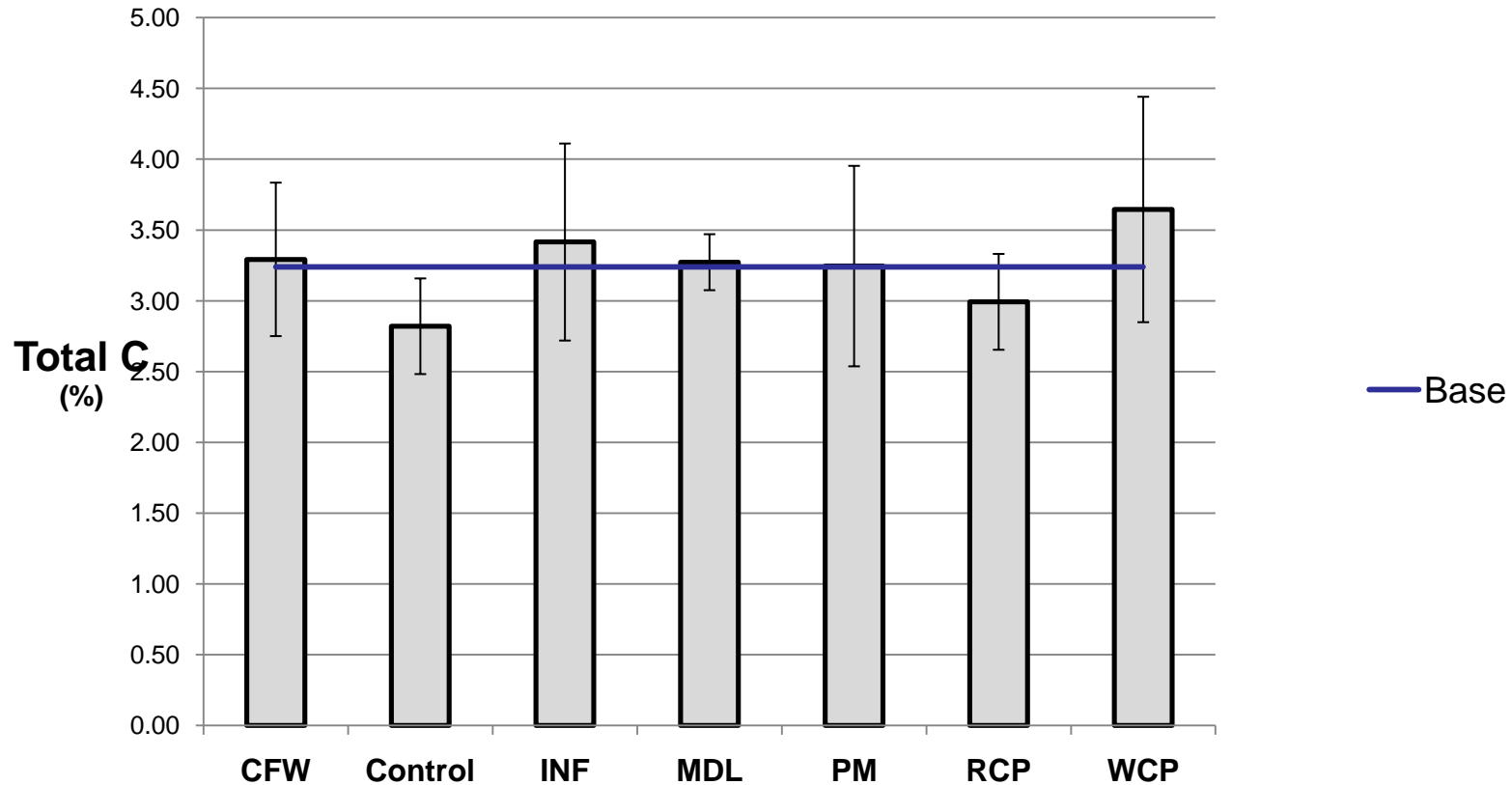
Inorganic fertiliser 125 kg/Ha DAP

Unamended control

Cattle feedlot waste 15 m³/Ha

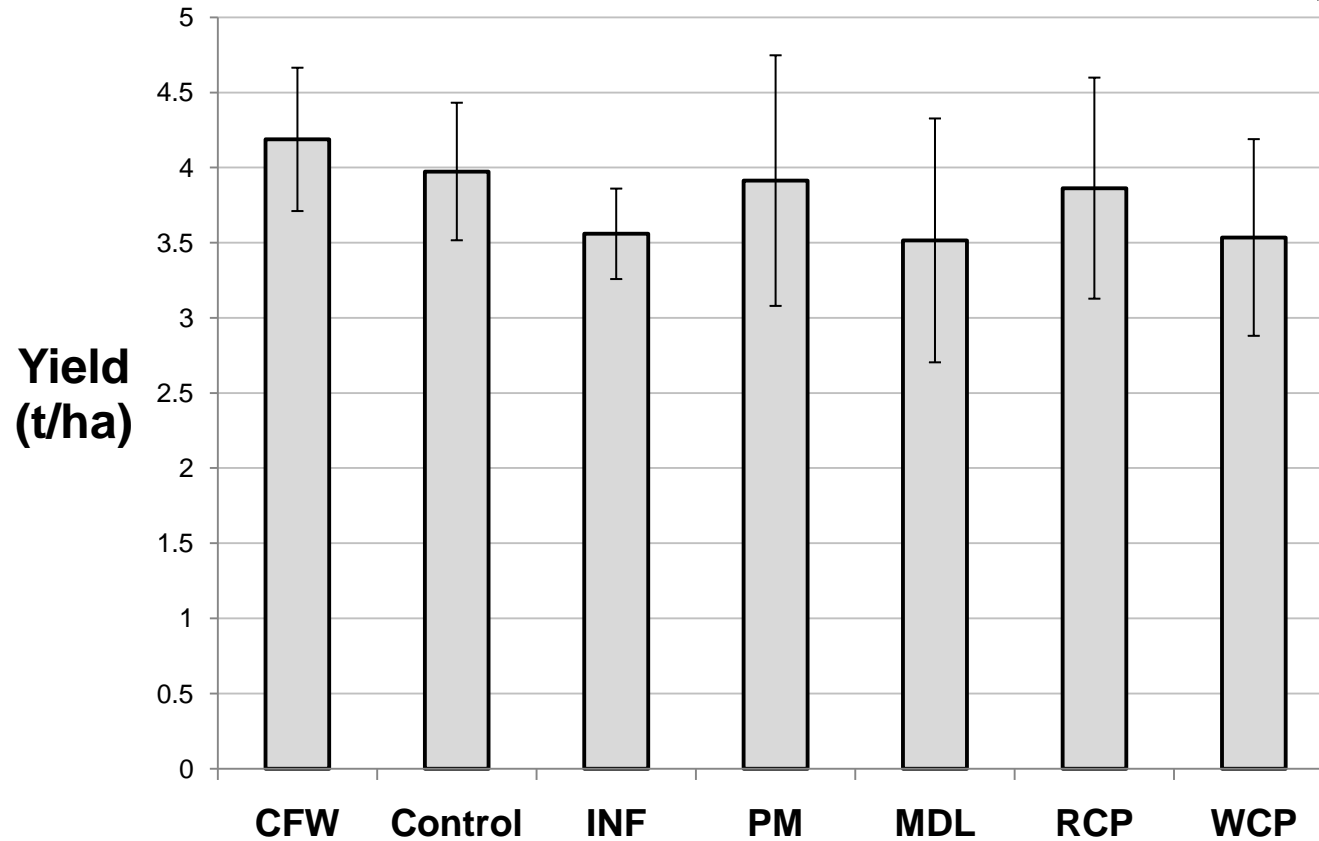
Solid Poppy Waste 15 m³/Ha

Oakdene



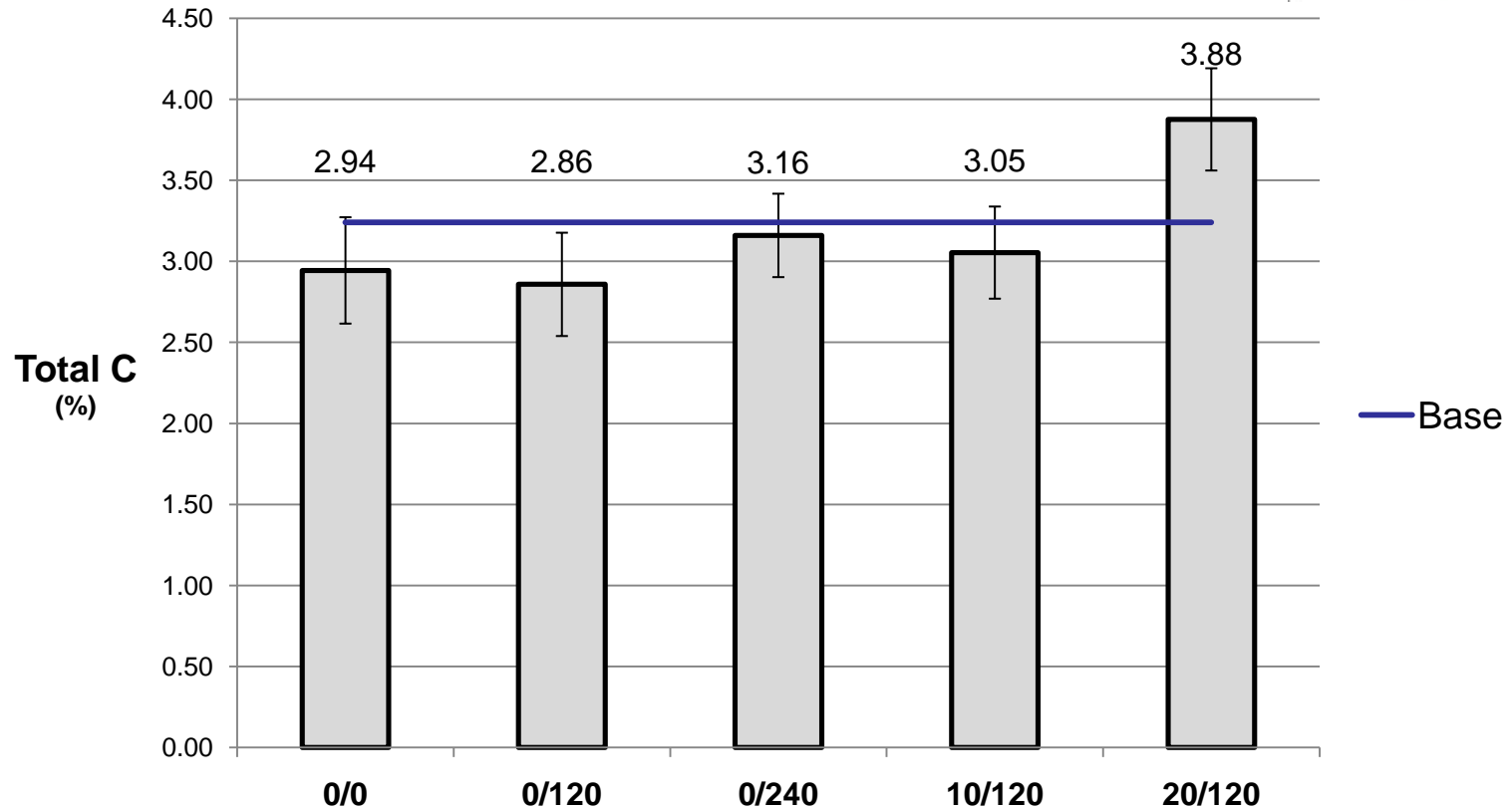
First year soil carbon results – no significant change

Oakdene



First year yield – no significant differences

Oakdene



First year biochar plot carbon results. Significant increase with 20t/Ha biochar plus 120kg/Ha DAP

Woodbourn



Woodbourn trial – irrigated poppies and grass seed

Charles & Janet Wallace with TP Jones & Co.



1 year trial

4.25 Ha
treatment areas

Clay loam soil

Woodbourn

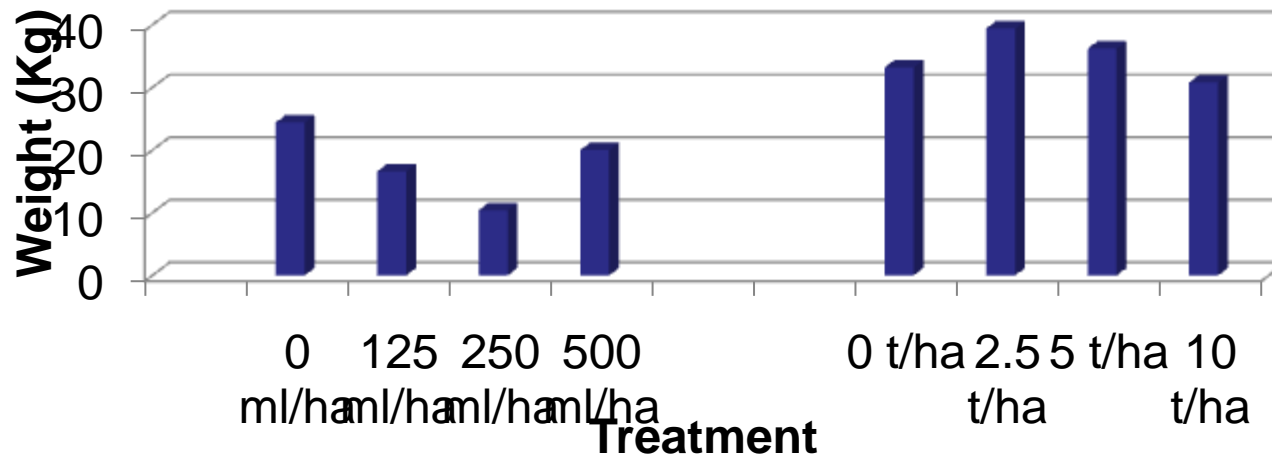


Poppy crop and grass seed treatments

Poppy Seed Waste at 0, 2.5, 5 and 10 tons per hectare

TM21 at 0, 125, 250 and 500 mL per hectare

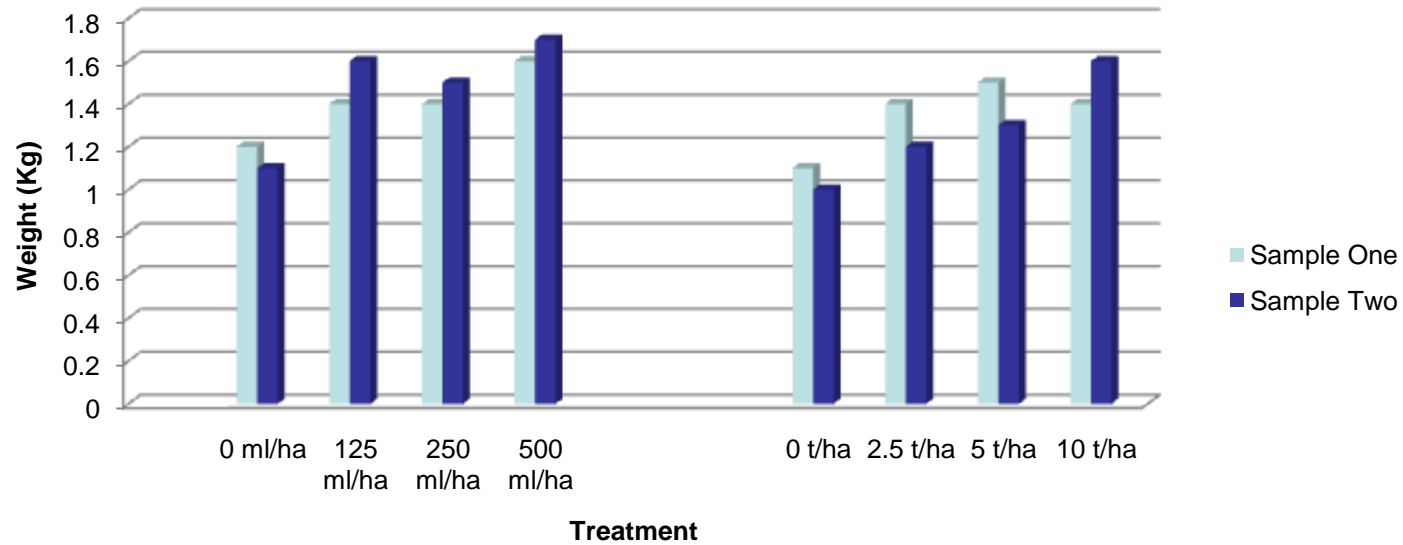
Grass Seed Weight Vs Treatment



Woodbourn



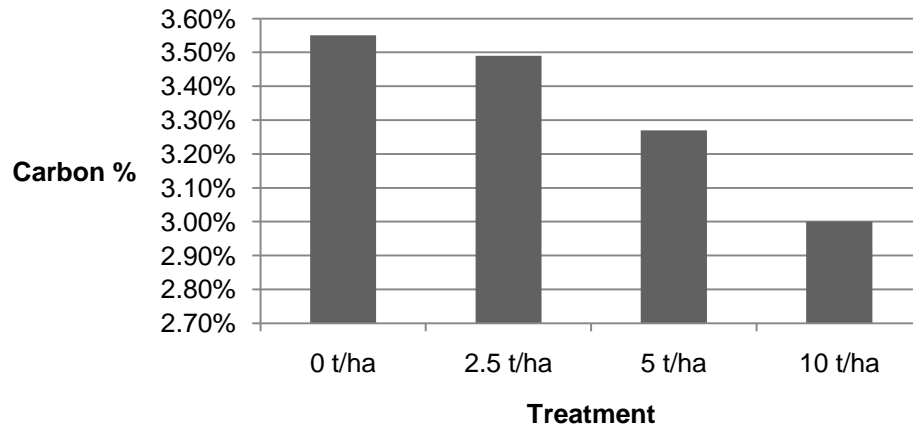
Poppy Capsule Weight Vs Treatment



Woodbourn



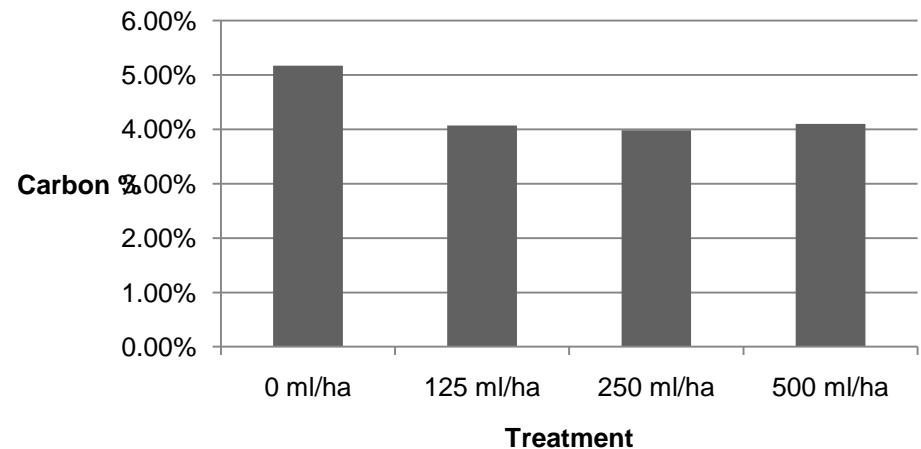
Poppy PSW total carbon



Poppy Seed Waste lowered soil carbon in poppy field – high nitrogen boost?

Soil carbon also decreased in grass seed field from TM21 application

Grass Seed TM21 Total Carbon



Saltwood



Saltwood trial – ‘alternative pasture cropping’

Andrew McCarthy with Serve-Ag



2 year
unreplicated trial

Coastal sand

Annual ryegrass
based pasture
with significant
weed presence



Saltwood



First season 2010/2011

Oats and millet – full
spray, half spray and no
spray

Second season
2011/2012

Sorghum and rape – full
spray, half spray and no
spray

Saltwood



Fig 3. Forage Crop Yield (kg DM/ha)

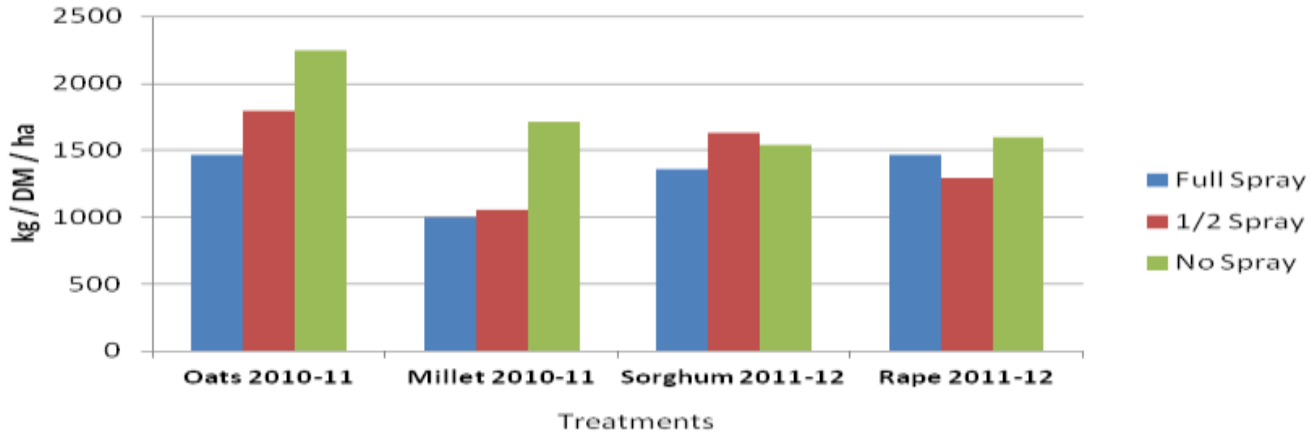
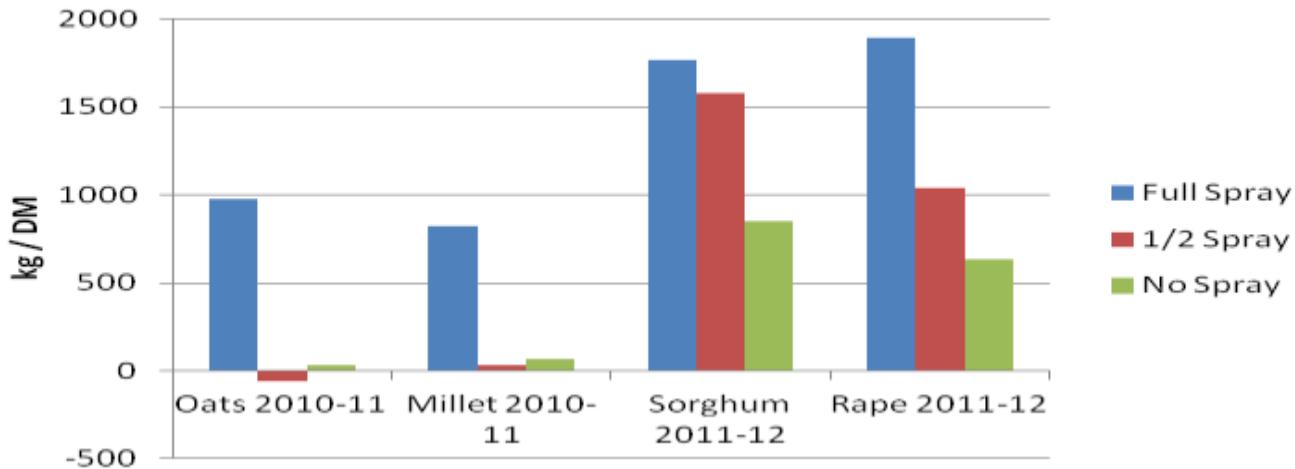


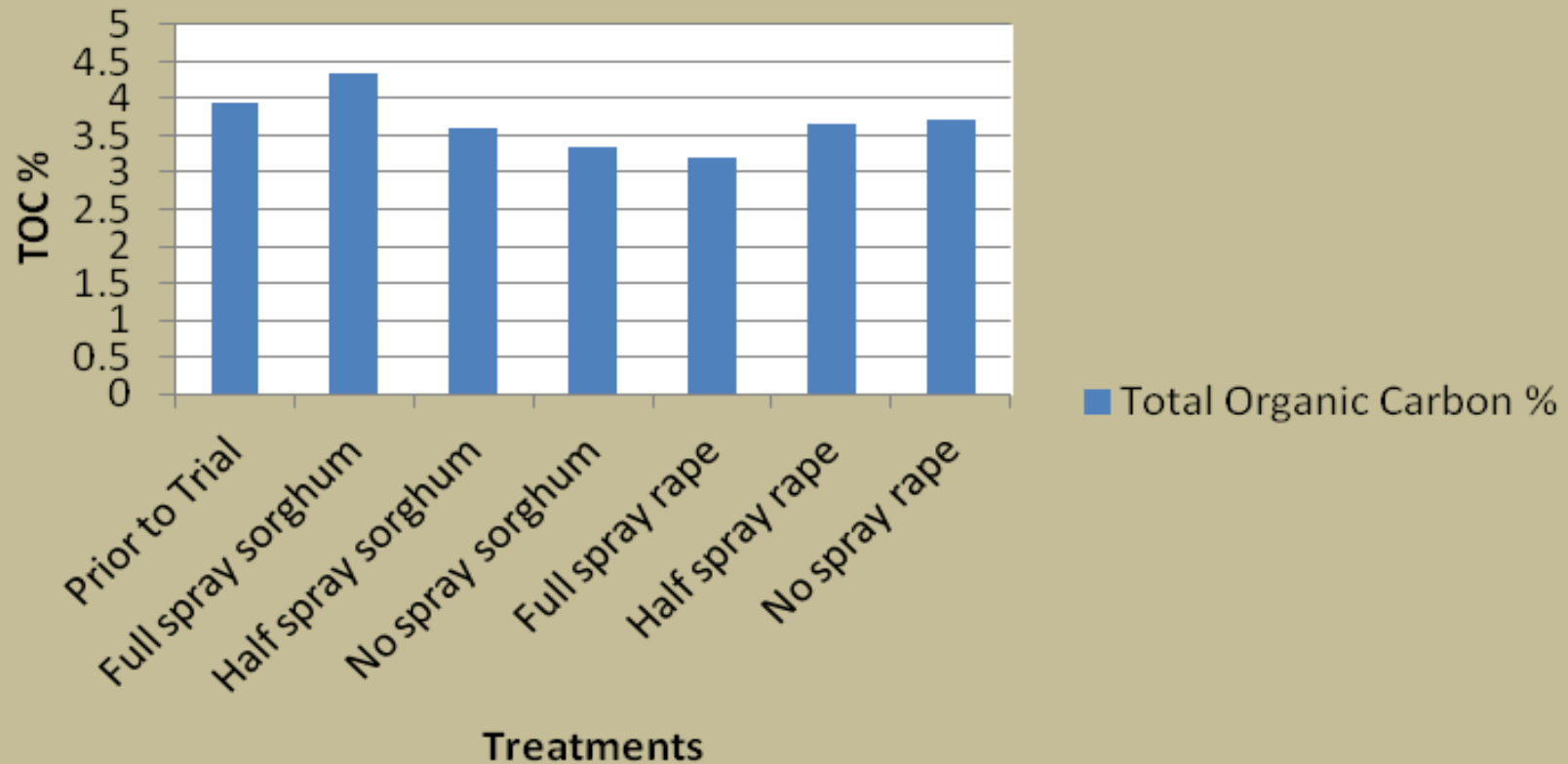
Fig 6. Total kg/DM eaten



Saltwood



Fig 7. Total Organic Carbon %





These trials have provided much more information that was presented here.

10 trials are still ongoing.

Full reports and summaries will be on NRM North website when ready – notification provided in media.

'Fertiliser use' and 'soil carbon' methodologies for the Carbon Farming Initiative are coming.

Thankyou to participating farmers and agribusinesses