Carbon Projects Outcomes 2021-2023

Felicity Turner

Projects

- Landcare Farming Benchmarking – Soil C, Farm footprints

- Future Drought Fund – Soil C, Climate and Methane

- Riverland & Murraylands Landscapes Board – Soil C

- Limestone Coast Landscapes Board – Soil C

Key Activities

13 sites sampled for soil carbon

- 9 baseline
- 1 x grid sampled variability
- 3 x zone samples

6 community meetings held
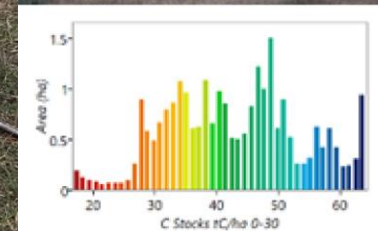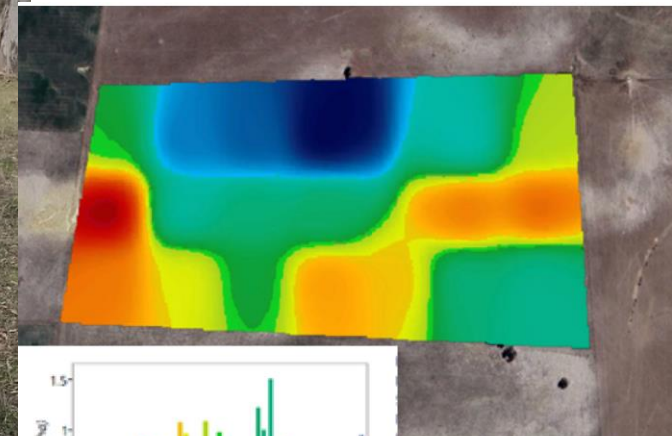
1 fact sheet produced

Fig.4 Estimated soil carbon stocks (tC/ha) JWE10

Soils capacity to stabilise and build OC

Soil Carbon in the Coorong and Tatiara Districts

Felicity Turner – Turner Agribusiness
Amanda Schapel – SARDI
Mel Fraser – Soil Function Consulting

Key Messages

- Know your current soil carbon levels and understand your soil type - this will give you an indication of the potential to increase soil carbon stocks on your soil
- Soil can vary greatly in its carbon content - target the areas / soils

Sampling in the South East of South Australia
Photo Credit: A.Schapel

Project Activities

Nine monitoring sites were established and sampled within a 25 x 25m grid on consistent soil types and slopes; three existing sites where extensive soil carbon sampling had already
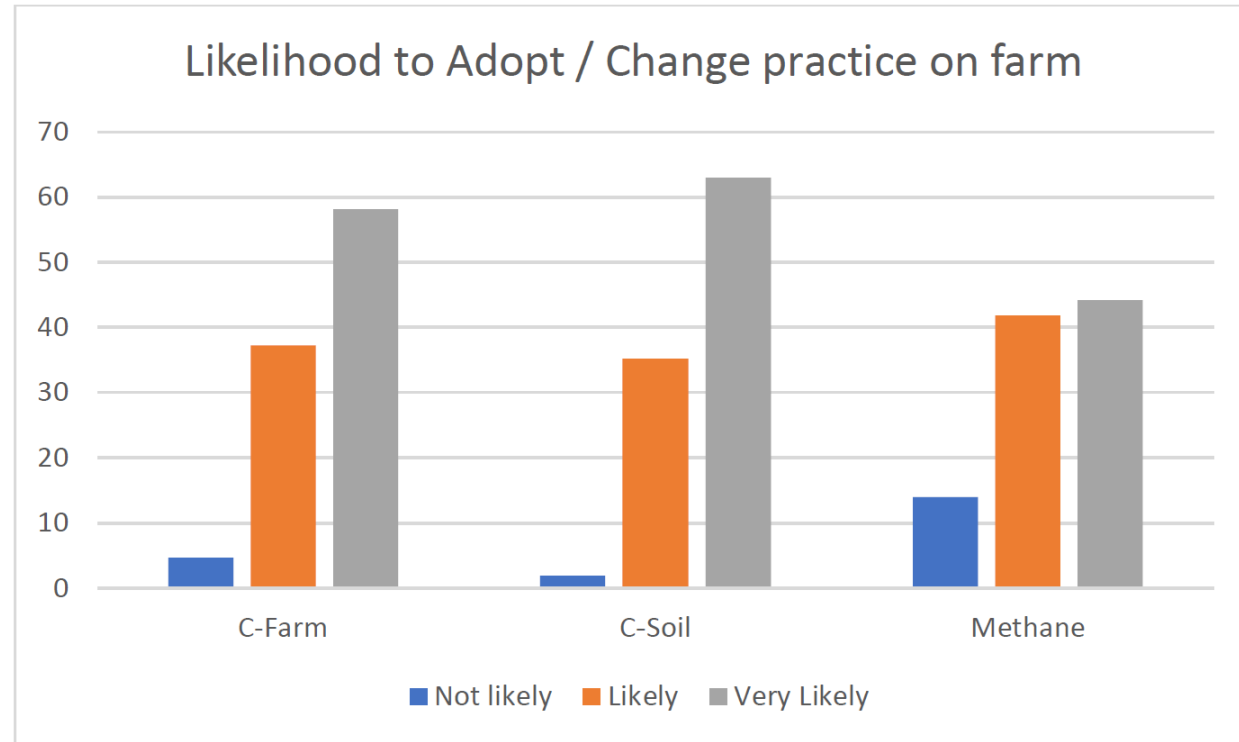
Key Outcomes

10 x core producers understand soil C stocks, variability on their farm & practices contributing to this

Over 200 observer producers attended workshops;

96% of attendees managing 133,8700ha likely to adopt/change practice on farm

Likelihood to Adopt / Change practice on farm

	C-Farm	C-Soil	Methane
Not likely	~5	~2	~14
Likely	~37	~35	~42
Very Likely	~58	~63	~44

Key Learnings – on-farm emissions & mitigation

In livestock systems methane is the biggest driver of on-farm emissions & more research is required to assist farmers in mitigating these

Revegetation and farm forestry provide some opportunity to inset against on-farm emissions

Potential to capture carbon in the soil but not as stable as vegetation

Key Learnings – soil

Texture is the key driver of the ability of soils to store carbon in the region

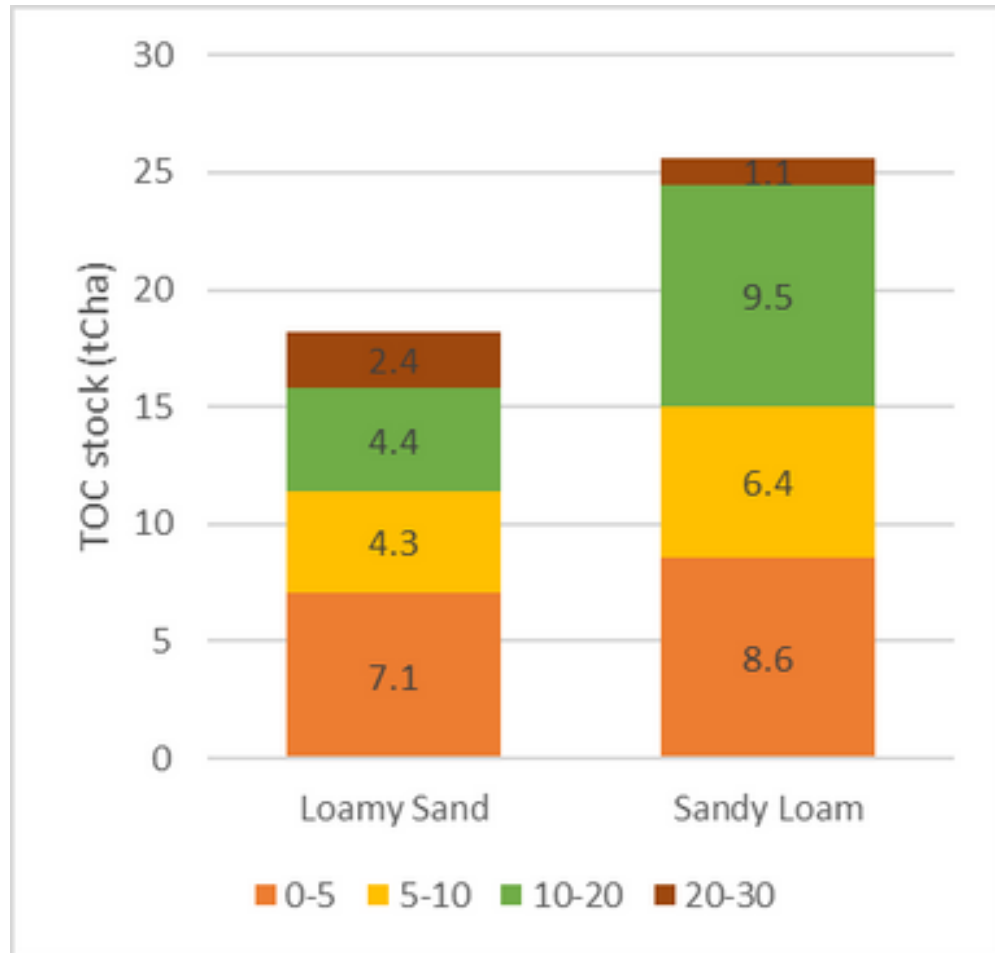Farming system x soil type can influence sampling depth

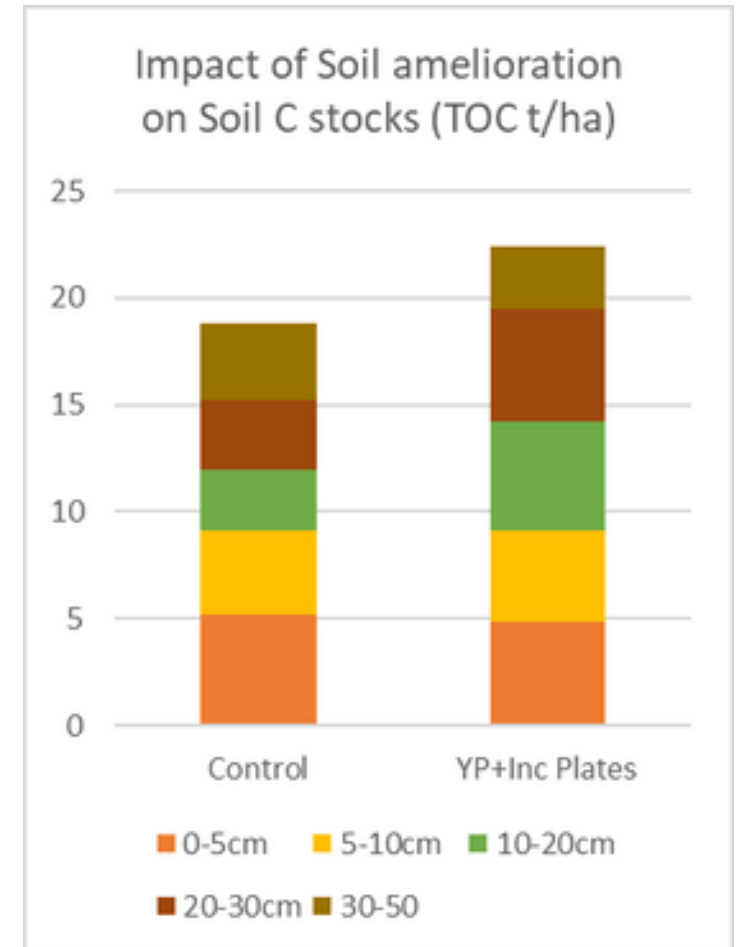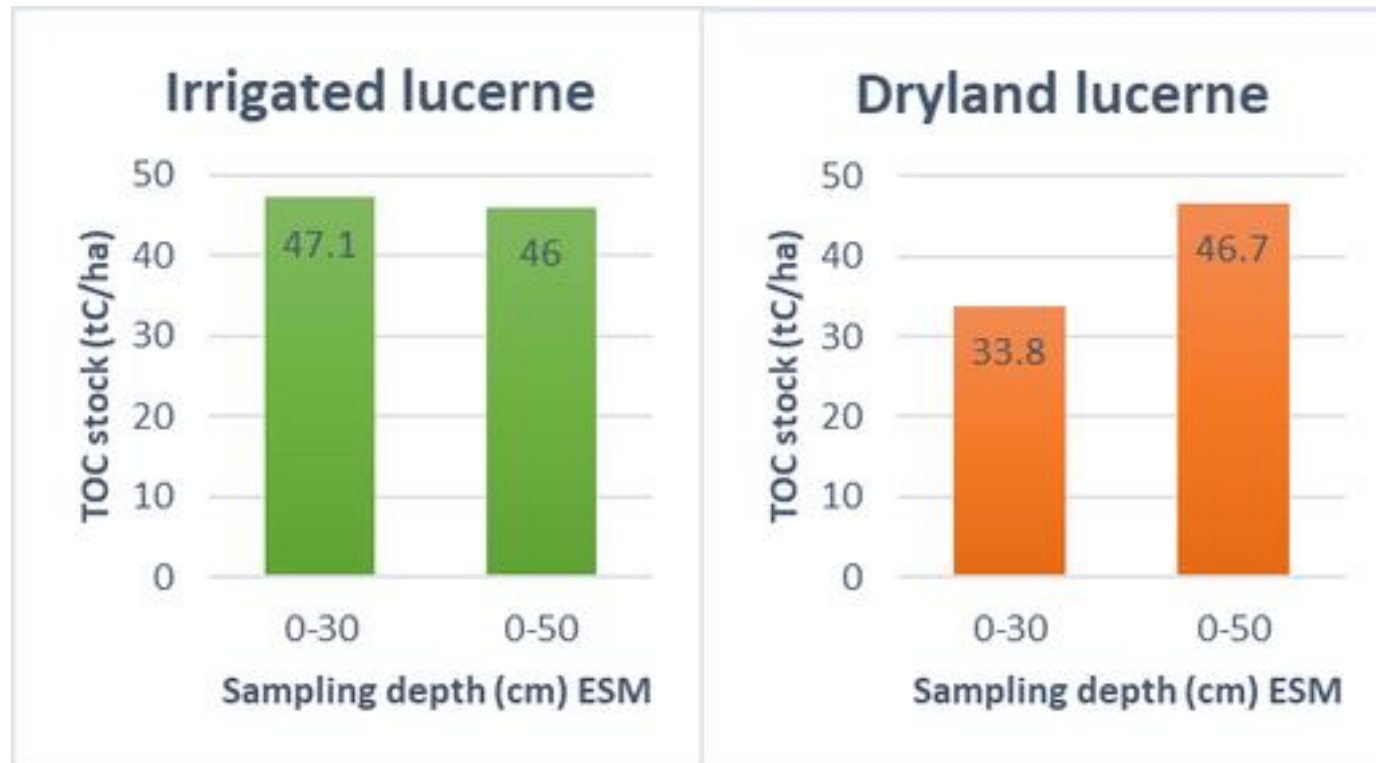Large variation in OC exists within a paddock and across a farm

Of the sites sampled; 80% had the potential to increase organic carbon stocks in the topsoil (based on regional results)
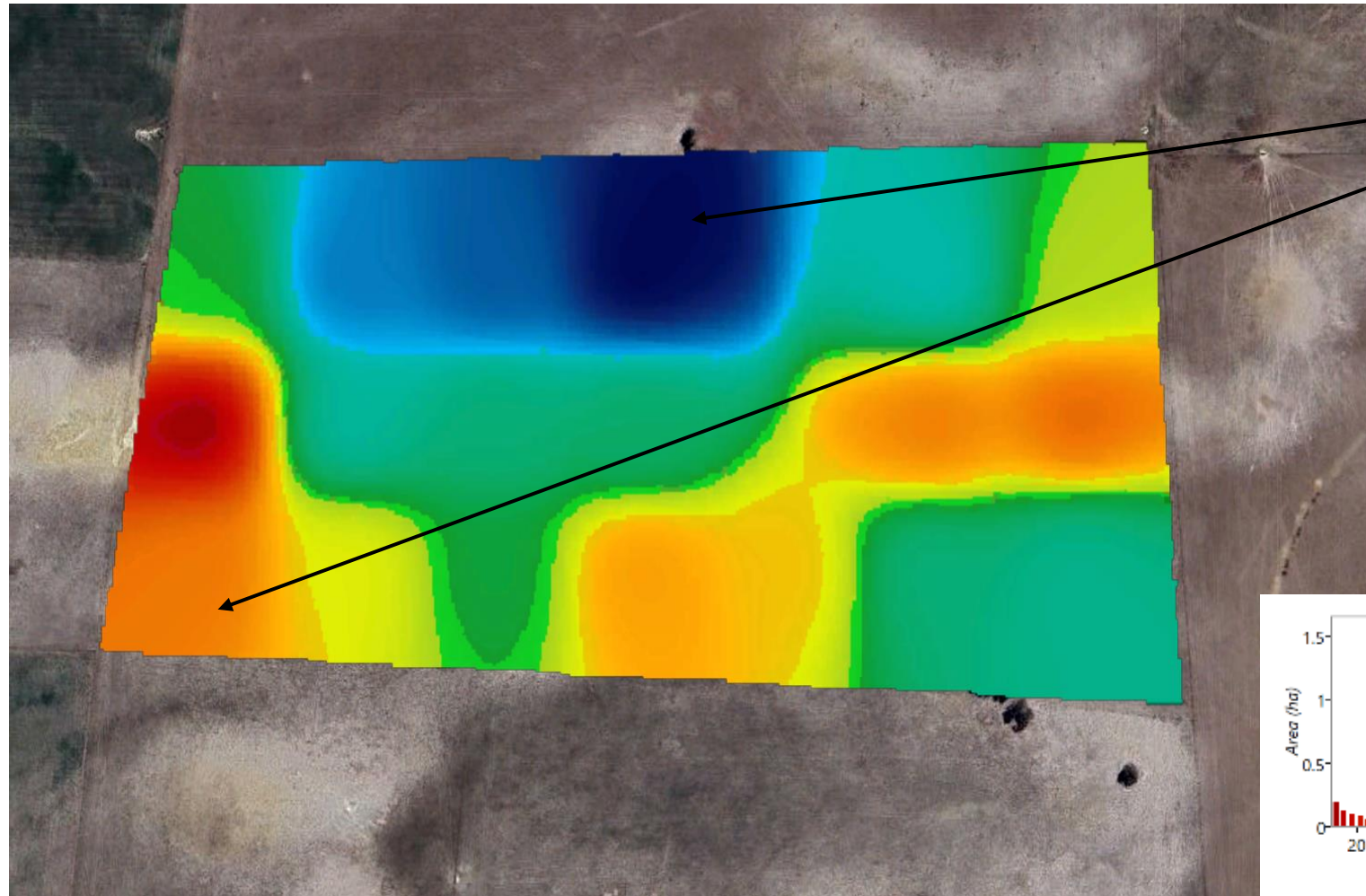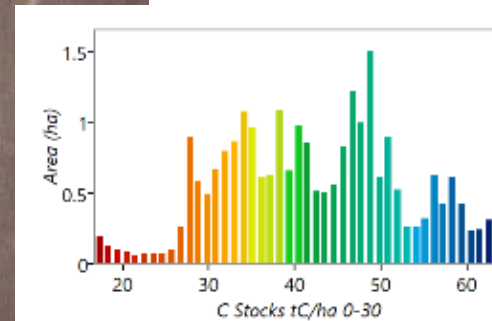
Texture – key driver
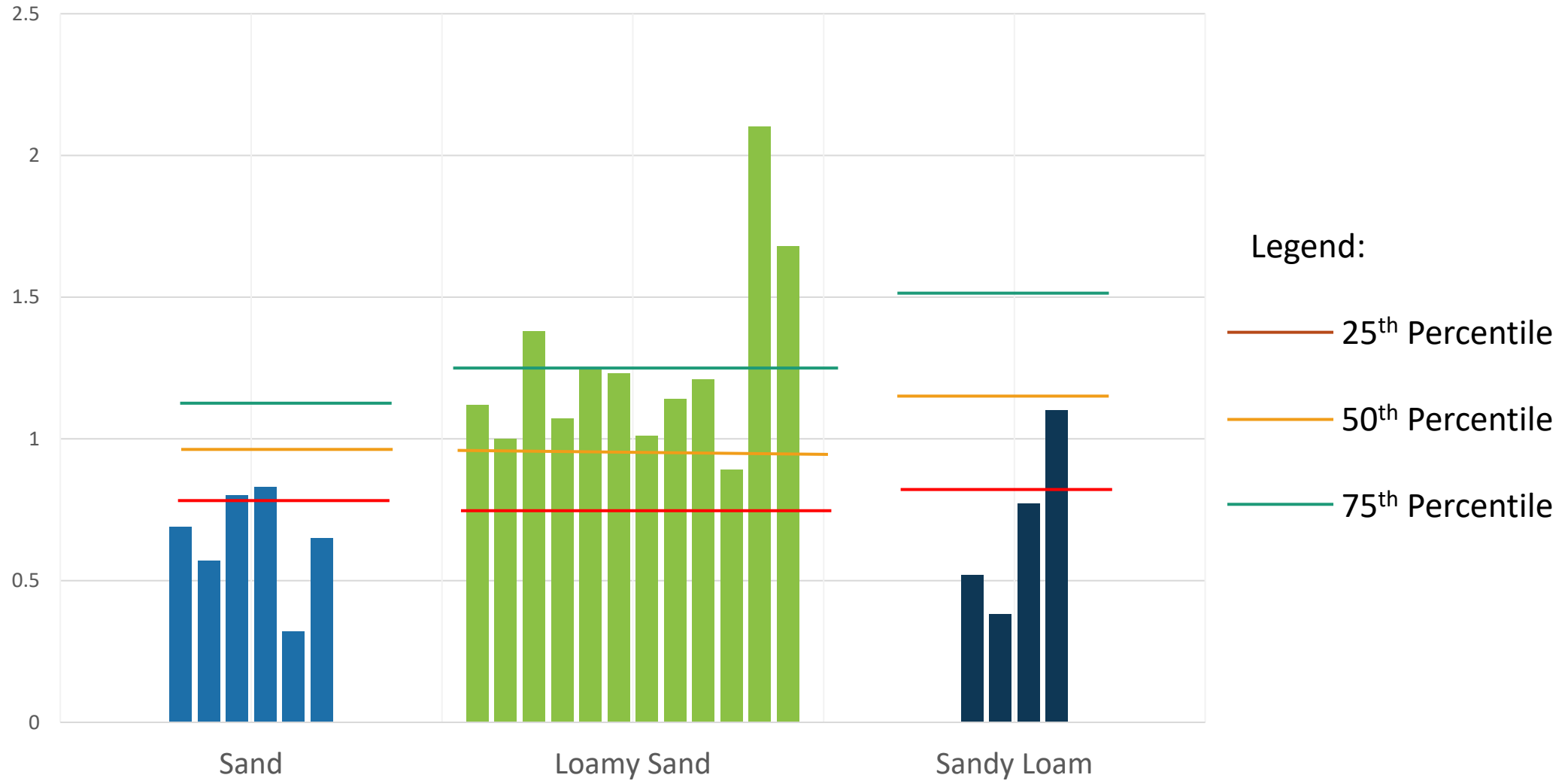
Impact of farming methods

Soil C variation

Elevation 14m

	C Stocks tC/ha 0-30
Layer name	C Stocks tC/ha 0-30
Field name	JW E10
Season	2023
Min	17.33
Min	17.33
Mean	43.49
Mode	48.9
Max	64.68
SD	10.75
CV	24.72%
Total	1092.84
Total Area	25.13 ha

Soil Test results across all sites (0-10cm OCwb%)

Regional potential to increase soil C stocks
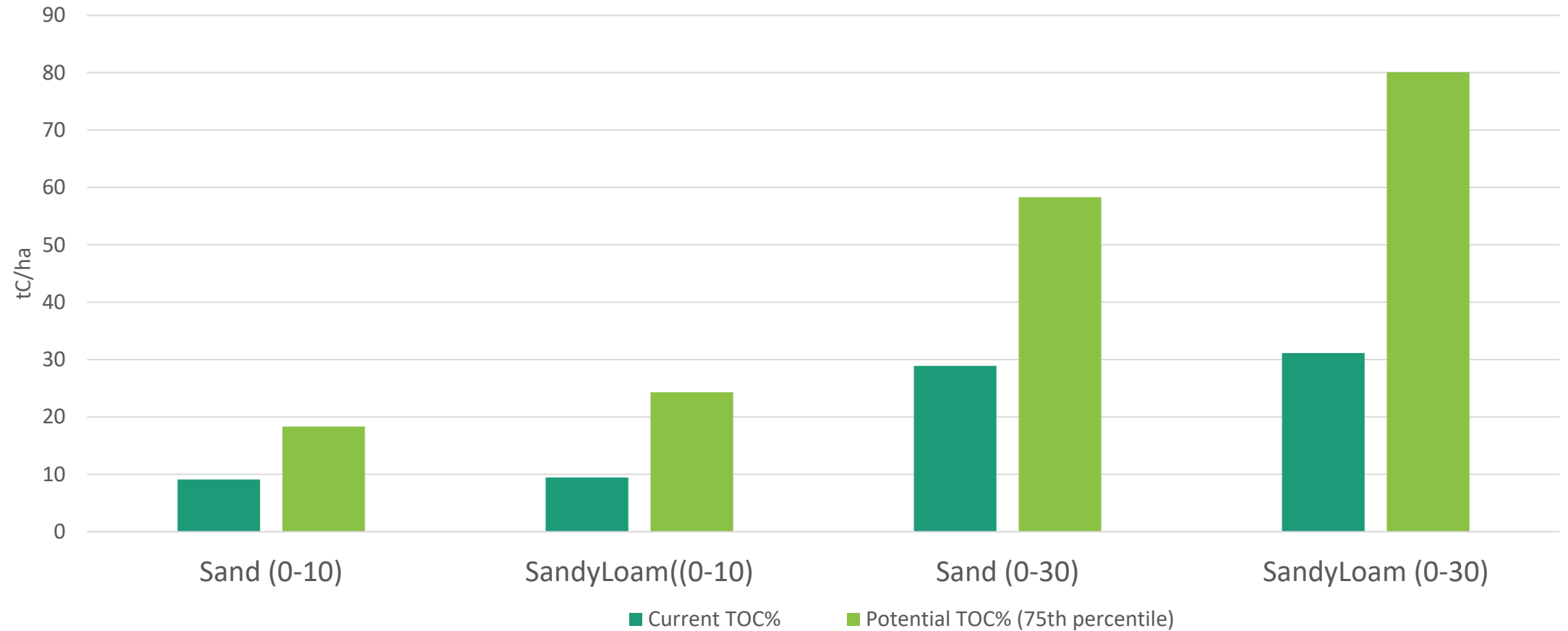
Next steps

Potential to explore technologies that increase soil carbon through the profile to store more at depth and increase the security of the carbon

Methane – how do we reduce /mitigate it

(Climate neutral vs carbon neutral)

Getting additional farmers to benchmark their business and establish a plan

Acknowledgements

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