



MFS soil carbon project

***“Monaro farm management strategies
and their effects on soil carbon.”***



Background

- **funding provided by Australian Commonwealth Governments Carbon Farming Futures Fund - \$276,989.00 (GST inc)**
- **opportunity for MFS to gather local, relevant, targeted information in area of soil carbon**
- **also give MFS and community access to most up-to-date information and stay in touch with latest research in soil carbon field**

Aims of Project

- **Demonstrate any link between farm management practices and level of carbon in soil therefore highlighting grazing/cropping practices which are proven to increase and/or store soil carbon**
- **producers using evidence based information (soil test data, gross margin/economic info, DM yields) to adopt management practices which will enhance and/or store soil carbon**
- **Soil carbon / fertility trends documented under different management systems**
- **Better understanding of the “costs” of each farming system - enable the assignment of an actual cost (in \$ terms) of increasing and / or storing soil carbon under each system.**
- **value adding into Susan Orgills / Lachy Ingrams soil carbon research on Monaro**

Design

- meeting with SRCMA, NSW DPI, Sydney University, MFS to discuss what's already been done
- The following systems are going to be compared in terms of soil carbon, nutrient profiles, grazing/cropping practices and gross margins.



1. Pine plantation / improved pasture (old and new) / cropping (instrumented)

Delegate Station



2. Cropping / native pasture

Delegate Station & Corrowong



3. High fertiliser native pasture / low fertiliser native pasture

Idaho, Bungarby



4. Limed improved pasture / un-limed

Springvale, Mila

5. Aspect - west versus east facing slope (instrumented)

Quinburra, Craigie

6. Pasture Age - Old (1974) versus New (2003) improved perennial pasture

Sth Bukalong

7. New Crop versus native pasture

Maffra

Total 20 sites





- **3 sites instrumented – weather stations to measure rainfall, temp, soil temp and moisture, wind speed**
- **allows more sophisticated modelling**
- **Variograms at 5 sites – measure spatial variation of carbon**

Table of sampling sites

Treatment / Comparison	Land Holder / Property Name	Soil Type	Land Use	No. of Sampling Sites	Instrumented / Variogram
Site 1 - Cropping	Rolfe / Maffra (a)	Red basalt	Crop	2	
		Red basalt	Native Pasture		
	Jeffreys / Delegate Station (b)	shale base, deep red, sedimentary loam	Pines	4	
		shale base, deep red, sedimentary loam	Old Improved Pasture		
		shale base, deep red, sedimentary loam	Crop (airstrip)		variogram & instrument
		tbc	New Improved Pasture		variogram
	Jeffreys / Delegate Station (c)	Red shale	Crop	3	
		Red shale	Native Pasture		variogram
		tbc	New improved pasture		
	Mitchells / Corrowong (d)	Deep red granite	Crop	3	
		Deep red granite	Semi-native		
		tbc	New improved pasture		
Site 2 - Aspect	Hortons / Quinburra	Shale/slate base	Improved pasture / west aspect	2	variogram & instrument
		Shale/slate base	Improved pasture / east aspect		variogram & instrument
Site 3 - Liming	Hoods / Springvale	Deep granite	Improved pasture / limed	2	
		Deep granite	Improved pasture / un-limed		
Site 4 – High/Low Fertility	McGuffickes / Idaho	tbc	Native pasture / high fert.	2	
		tbc	Native pasture / low fert.		
Site 5 – Pasture Age	Garnock / Sth Bukalong	Slate/shale	Improved phalaris pasture – 40yrs	2	
		Slate/shale	Improved phalaris pasture – 5yrs		