



Soil Carbon

Easy to Measure

Easy to increase

Easy to Destroy

**Will New Zealand
take Climate
Change Seriously
or will this be
another Lost
Opportunity?**

- **A2 MILK**
- **GRASS FED BEEF**
- **GRASS FED BUTTER**
- **SOIL CARBON?**
- **CARBON POSITIVE PRODUCE?**

Matt Long

656 Kaiatea Road, RD3
Whangarei. Ph 09 4343370

SOIL CARBON

NEW ZEALAND'S OPPORTUNITY FOR THE 21ST CENTURY

Lost Opportunities.

- A1 versus A2 Milk was identified as a possible health issues as far back as the early 1990s.
- At one time the intellectual property around A2 milk was held by Fonterra or its predecessors.
- Fonterra ignored or worked against the production of A2 products.
- Westland Dairy Coop was to convert its entire milk pool to A2 milk but on the back of a *Meta Study* from the UK on A2 milk backed away.
- As a result Fonterra and Westland, Coops that are hardly thriving, missed out on *Ten Billion Dollars* of value that now lies with the A2 Milk Corporation.

Soil Carbon

Easy to Measure

Easy to increase

Easy to Destroy

**Will New Zealand
take Climate
Change Seriously
or will this be
another Lost
Opportunity?**



- **A2 MILK**
- **GRASS FED BEEF**
- **GRASS FED BUTTER**
- **SOIL CARBON?**
- **CARBON POSITIVE PRODUCE?**

Matt Long

SOIL CARBON

NEW ZEALAND'S OPPORTUNITY FOR THE 21ST CENTURY

Lost Opportunities.

- Similarly New Zealand has been slow to capitalise on the strong demand for Grass Fed beef from high income health conscious consumers.
- The scientific consensus was recently that butter and saturated fat were dietary villains, this is now discredited research and the price of butter has recently soared, but in the meantime it cost the New Zealand Dairy Industry *Billions of Dollars*.

Will Soil Carbon be the Next Lost Opportunity?

- Because of our climate and Farming Systems New Zealand is uniquely placed to sustainably grow our soil carbon stocks.
- It is not disputed that New Zealand has relatively high soil carbon levels due to historic sequestration of carbon under our typical grazing systems.
- However as typified in a recent Meta Study by Louis Schipper et al published in 2017 there is a persistent myth that our soils are now saturated in carbon and can absorb no more.
- Again there is no dispute that at present, generally, dry stock farms are very slowly accumulating soil carbon while typical dairy farms are losing approximately one percent of their soil carbon per year.
- When you look at the main factors that cause soil carbon loss; Over Grazing, Cultivation, Excessive Nitrogen Fertiliser, it is no wonder typical dairy farms losing carbon.
- Some New Zealand cropping soils have lost 60% of their soil carbon which is a strong ecological and economic challenge.
- **While it may not be possible to increase soil carbon stocks under sub-optimal farming practices, this does not preclude improvement in farming practice and sustainably significantly increasing soil carbon in a relatively short time.**

Soil Carbon

Easy to Measure

Easy to increase

Easy to Destroy

**Will New Zealand
take Climate
Change Seriously
or will this be
another Lost
Opportunity?**

- **A2 MILK**
- **GRASS FED BEEF**
- **GRASS FED BUTTER**
- **SOIL CARBON?**
- **CARBON POSITIVE PRODUCE?**

Matt Long

SOIL CARBON

NEW ZEALAND'S OPPORTUNITY FOR THE 21ST CENTURY

Will Soil Carbon be the Next Lost Opportunity?

- My first glimpse of the possibilities for soil carbon was at a King Country lamb finishing operation more than ten years ago, this farm had changed its fertiliser program to a more soil friendly approach and the results were impressive.
- The first soil horizon normally called topsoil was still clearly visible, however the boundary of the layer instead of being shapely defined was broken up, and below for a distance of more than one and a half times the depth of the topsoil the subsoil had taken on the appearance of lighter top soil.
- This and the trial work that we have done since rebuts the argument that our soils are “saturated with carbon.” It is only possible to make this argument if we pretend that our soils are only 75 mm deep.
- You will note that the probe on the first page is a metre deep and indications are that carbon is being pushed deeper than this. Anyone measuring soil carbon at less than a bare minimum of 300mm cannot be taken seriously.
- Statements are being bandied about that tools for soil carbon measurement, and best practice for increasing soil carbon are not available, in fact there are simple sampling procedures being used in conjunction with GPS to reliably measure soil's carbon, and factors that will increase soil's carbon content are well known.
- Currently we have a system that includes GPS farm maps, recording of basic farm history including stocking rates, pasture covers and fertiliser inputs, soil tests and soil carbon measurements.
- This system is being developed in conjunction with a UN Committee in New York for the eventual accreditation of Carbon Units on the World Market.
- ***What a pity it would be if the New Zealand Government and Industry missed this one too.***

Soil Carbon

Easy to Measure

Easy to increase

Easy to Destroy

**Will New Zealand
take Climate
Change Seriously
or will this be
another Lost
Opportunity?**

- **A2 MILK**
- **GRASS FED BEEF**
- **GRASS FED BUTTER**
- **SOIL CARBON?**
- **CARBON POSITIVE PRODUCE?**

Matt Long