# Natural Intelligence Agriculture

*Helping rebuild Global Health*

# Overview of Farm

- 4 properties in central wheatbelt.13500 ha
- Mollerin to Wylie/Yelbini to Dowerin.
- 5 – 6000ha cropping program, cereals.
- 2500 merino breeding ewes.
- Husband, wife and son team plus seasonal workers.

# Challenges & Limitations of Farming in the Wheatbelt

- Rainfall – LESS & Erratic!!
- Land Degradation – Poor Water Infiltration, Hardpan, Acidification, Salinity & Wind Erosion.
- Soil Health - Low Organic Matter, low water-holding capacity, poor finish in dry spring.
- High Input Costs –fert/fungicide/pesticide/herbicide, fuel usage, increasing need for lime.
- **Making a profit year in year out.**

# Start of the Picture

- International research demonstrates that the nutritional density of foods produced and processed in the developed world is lower than at any point in history.
- Direct links have been drawn between the reduced nutrient density in food and chronic illnesses such as diabetes, cancer, heart disease, obesity, asthma, alzheimers and more.
- Our food lacks the vitamins/minerals and essential trace elements required for our immune systems to function effectively
- "These elements are still in our soils, but not available to plants (hence not entering the food chain) due to a lack of biological activity" Dr Christine Jones.
- Dealing with these health epidemics represents a huge cost to many Western civilizations. When the emphasis is on quantity rather than quality, resources are over-utilised, resulting in a nutritionally inferior product which is then consumed in greater quantities to try and achieve recommended daily intakes of nutrient.

# The Bigger Picture

Much more than just biology at a paddock level.

A global, inclusive BIG picture unfolded.

# What is Natural Intelligence Agriculture?

Respecting the three key natural intelligences:

1. Microbial intelligence
2. Soil microbe and plant interaction intelligence, symbiosis.
3. Animal intelligence-fertility management.

# Pasture Fed Livestock System

BAROMETERS OF LAND HEALTH


MOBILE MICROBIAL INNOCULATORS

# Rhizosheath Development

# Encourage Root Development and Thick Rhizosheath

Large root systems – Large surface area to access moisture/nutrients, exchange Carbon.

Neutral pH rhizosheath assists with balancing soil pH.

Increased soil organic matter deposition and ability to build structure into soil rapidly. Creating the “sponge” to absorb and retain water.

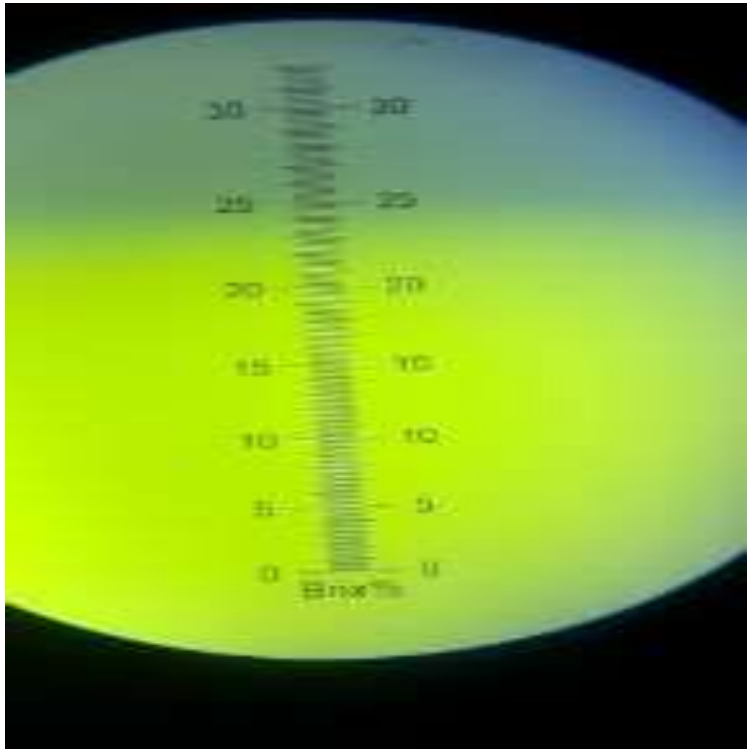
# Maintain GREEN Ground Cover Year Round

Standard Practice

Restorative Practice

# Producing Premium Food

- Nutrient dense/diverse in balance.
- Higher concentrations of secondary metabolites, antioxidants, polyphenols, vitamins.
- Quality proteins, fatty acids in appropriate ratios ie Omega3
- Free of pesticides and fungicides.
- 40-80 less nitrates
- Improved flavour/taste
- Longer shelf life.



# OUTCOMES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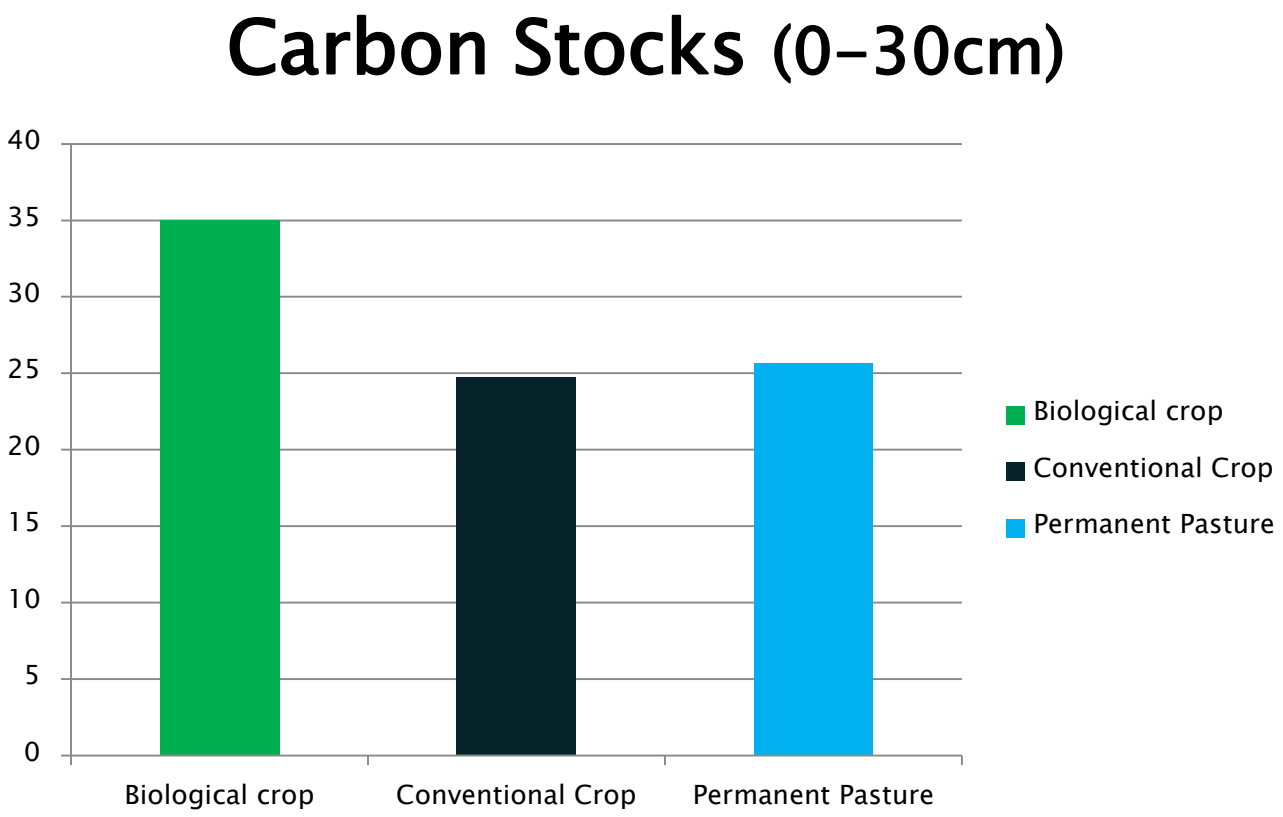
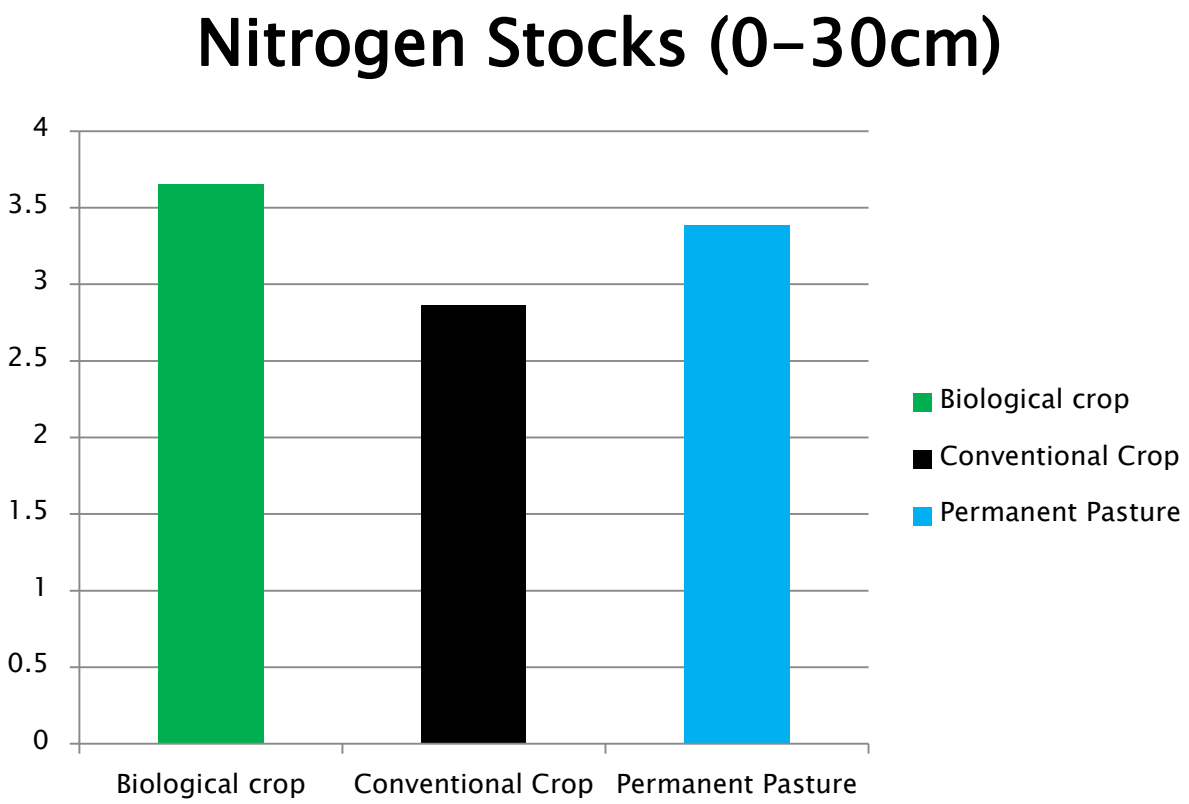
# CARBON SEQUESTRATION




**41% increase in soil stocks (t/ha) from biologically managed crop compared to conventionally cropped soil.**

**10.26t/ha extra Carbon in soil under biologically managed crop.**

# BUILDING NO COST FERTILITY



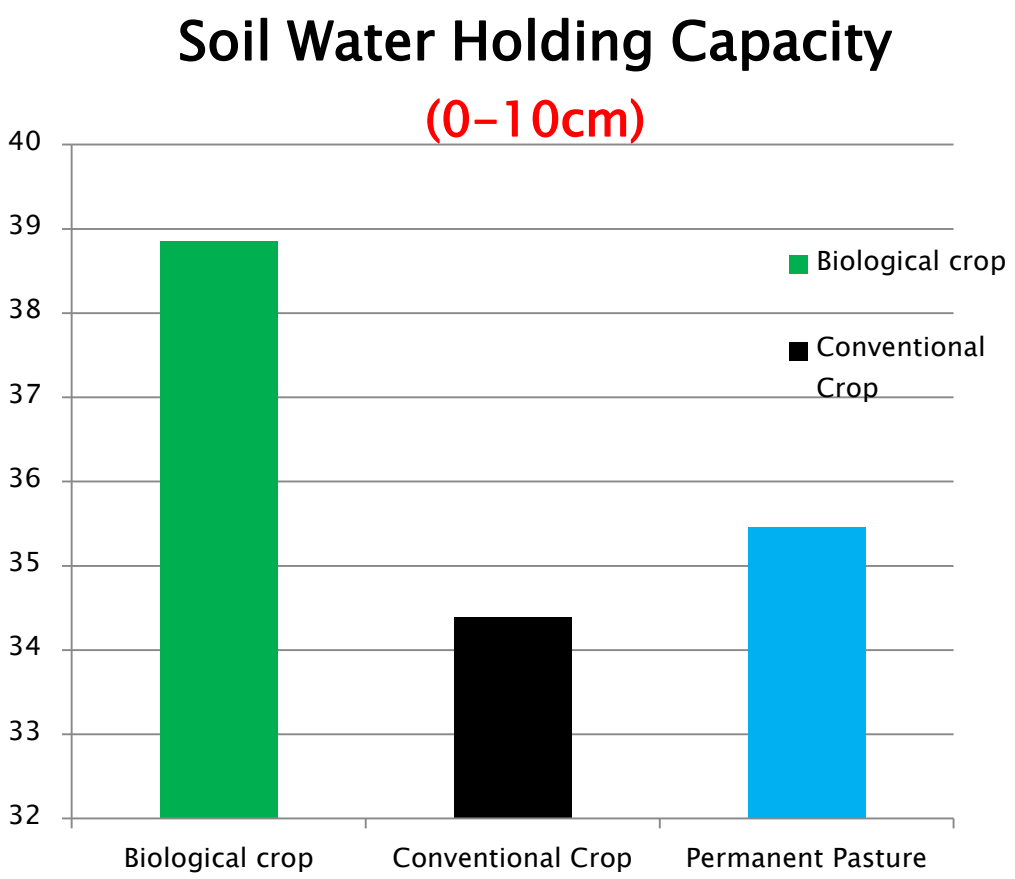

**27.7% increase in soil nitrogen stocks compared to conventionally cropped soil.**

**794kg/ha extra N in the soil under the biologically managed crop. (Almost no N applied).**

# Natural Intelligence Cropping

**5litres worm liquid 10 litres compost extract**
**4 units N Nil P K**

# BIGGER BUCKET OF WATER




**13% increase in soil water holding capacity of the biologically managed soil compared to conventionally cropped soil.**

**9.6% increase in soil water holding capacity compared to permanent pasture.**

# Handling the Dry - 2014

Neighbour same variety/sowing date/soil type/rainfall

Extreme dry August, high day temps (ave32.7C 4 days over 40C crop canopy)

# Local Outcomes

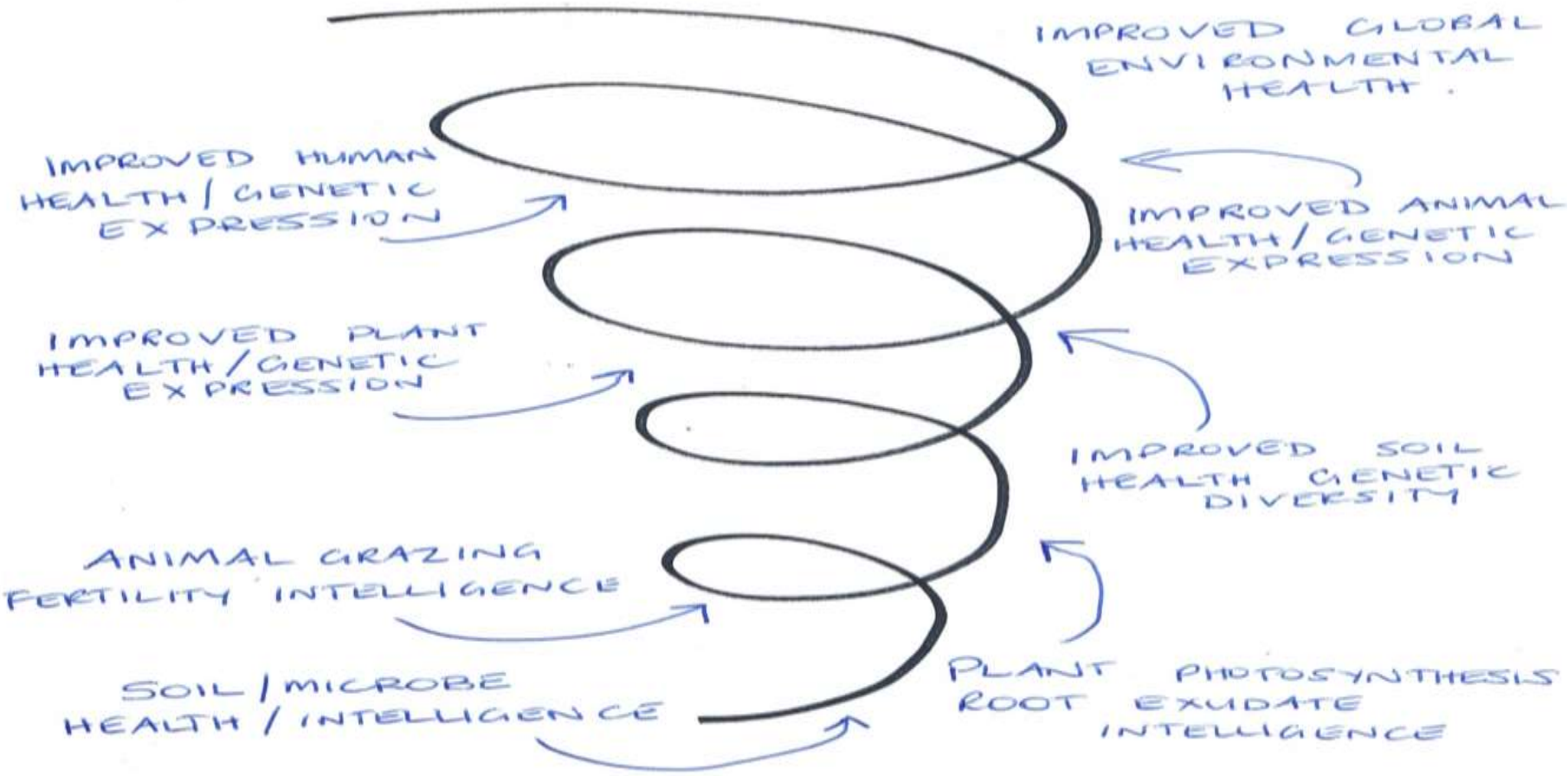
- Enhanced biodiversity of plant, insect, bird, reptile and microorganisms – contributes to overall health of environment and ecosystem.
- Mental health (reduced depression) link with interaction of humans with healthy soils. Increases serotonin release.
- Improved Nutritional balance in foods grown. Opportunity for consumer health benefits, national health budget benefits.
- Food produced free of chemical residues
- Increased microbiome within soil, plants, animals and human consumers – associated health benefits.
- Restore micro and macro water cycles, water efficiency.

# Increasing Biodiversity

# Global Outcomes

- CLIMATE POSITIVE AGRICULTURE.
- Reduce exploitation natural resources.
- Low energy use.
- Greenhouse Effects - minimise N30 emissions.
- Decrease Pollution, Nutrient Run-off Into Waterways/Aquifers.
- Restore positive epigenetic spiral.

# Positive Epigenetic Spiral



# BIO-INTEGRITY
# GROWERS AUSTRALIA

YOUR FOOD, YOUR WORLD, IN OUR GOOD HANDS