



Biodynamics2024

## Farmers are the Solution

There is growing attention being directed to the environment and climate change. It is the farmers and gardeners who have greatest opportunity to restore soil moisture, regenerate the environment and reverse the build up of carbon dioxide in the atmosphere

### Farmers can regenerate the climate, environment & human health

SOIL: Australia loses 6.97 tonnes of soil per hectare per year across the entire continent. <http://www.environment.gov.au/soe/2001/publications/theme-reports/land/land01-5.html>  
Biodynamics builds humus which holds the soil as well as increasing drought tolerance.

WATER: In a river catchment basin such as the River Murray (1,057,000 square Kilometres) a 2% increase in humus would equate to an increase in water-holding capacity of 33,824 gigalitres of water (which is approximately equivalent to one Olympic pool per 10 hectares or 30 litres per square metre).  
<http://biodynamics2024.com.au/wp-content/uploads/2009/04/PlainOldDirt.pdf>

CARBON: "Globally, we require only 10% of our productive, degraded lands to absorb the estimated 6.1 gigatonnes of carbon dioxide emissions to make a carbon negative world possible in our lifetime". <http://www.amazingcarbon.com/SummariesHORSHAM.pdf>  
Note: biological carbon sequestration is very different to carbon GEOsequestration, a physical process.

WEEDS: Annual production losses exceed \$2.5 billion and farmers spend \$1.5 billion on control. <http://www.sciencealert.com.au/opinions/20070404-14801.html>. Weeds are useful indicators of imbalances in soil, plants and animals. Biodynamic practitioners learn to understand their purposes and obtain relief through developing active, healthy soils.

HUMAN NUTRITION: Biodynamic humus creates the basis for healthy plants and animals which forms the premium source for health oriented human food and nutrition, also reducing health costs.

ECONOMY: Australia imports approximately \$4 billion in agricultural chemicals. This is approximately \$30,000 per farmer. If we can free ourselves from this requirement we have more resources- \$4 billion - to spend in local communities, annually.

For more information on agriculture as  
A Global Solution to Climate Change  
visit

<http://bio-agriculture.org/>

Biodynamics2024 Pty Ltd

Promoting environmentally regenerative farming and gardening methods which are simple and low cost as well as providing high quality food and fibre. Visit

[www.biodynamics2024.com.au](http://www.biodynamics2024.com.au)

## Further information

The British Royal Society has estimated potential carbon dioxide sequestration on the worlds 2.5 billion acres of agricultural soils at 6.1 to 10.1 billion U.S. tons per year for the next 50 years.

*Over 23 years, there's been a 15 to 28% increase in soil carbon in organic systems, with virtually no increase in non-organic systems.*

[http://www.newfarm.org/depts/NFfield\\_trials/1003/carbonsequest.shtml](http://www.newfarm.org/depts/NFfield_trials/1003/carbonsequest.shtml)

## Physical Processes of Humus Formation

The formation of stable humus in the soil is a physical process by which humus material and inorganic matter interact; protecting the organic carbon from further microbial attack and in the process, **sequestering organic carbon**.

The **loss of water holding ability** in Australian soils has initiated a devastating cycle of terrestrial and marine degradation ranging from the visible effects of soil erosion to the slower and more insidious effects of dryland salinity, acidity and marine sedimentation.

## Water-Holding Capacity Increase for One Hectare for Varying Levels of Humus Increase

Using the guideline ratio, which has been established for additional water retention the following gains can be expected.

Humus Increase	Increased Volume of Water Retained /ha (to 30 cm)
0.5%	80,000 litres (average 2004 level)
1 %	160,000 litres
2 %	320,000 litres
3 %	480,000 litres
4 %	640,000 litres
5 %	800,000 litres (pre-settlement level)

The Clarence Valley catchment has an area of 2,300,000 ha, a 0.5% increase in humus (organic carbon) would therefore store an additional 184,000,000,000 litres of water following an adequate rainfall event.

<http://biodynamics2024.com.au/wp-content/uploads/2009/04/PlainOldDirt.pdf>

## Green Revolution

"Irrigated farming takes two-thirds of all water abstracted from rivers and underground reserves. This is largely because of the green revolution. The 'high yielding' plant varieties that have kept the world fed as populations doubled over the past 30 years turn out to be high-yielding only when measured against land area. Measured against water use, they are generally worse than the crops they replaced. They produce less crop per drop.

The world grows twice as much food as it did a generation ago, but abstracts three times as much water to do it."

Guardian Weekly; Supplement *Every Last Drop*, p 2, September 29 - October 5 2006  
Vol 175/No 15/Printed in Sydney. The article is based on *When the Rivers Run Dry*, by Fred Pearce, published by Eden Project Books.

See also DVD: **One Cow, One Man, One Planet** available \$30 incl.GST p&p at [www.biodynamics2024.com.au](http://www.biodynamics2024.com.au)

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