

What is innovation in agriculture?



Source: http://www.innovativegis.com/basis/present/GW98_PrecisionAg/GW98_PrecisionAg.htm



Source: http://www.abc.net.au/news/2014-06-25/farm-robotics-university-of-sydney-vegetable-farming/5550076

What is sustainable agriculture?

Sustainable innovation = change in systems

Efficiency, Integration or Overhaul?

Industrial Conventional Certified Traditional Agro-Organic ecological

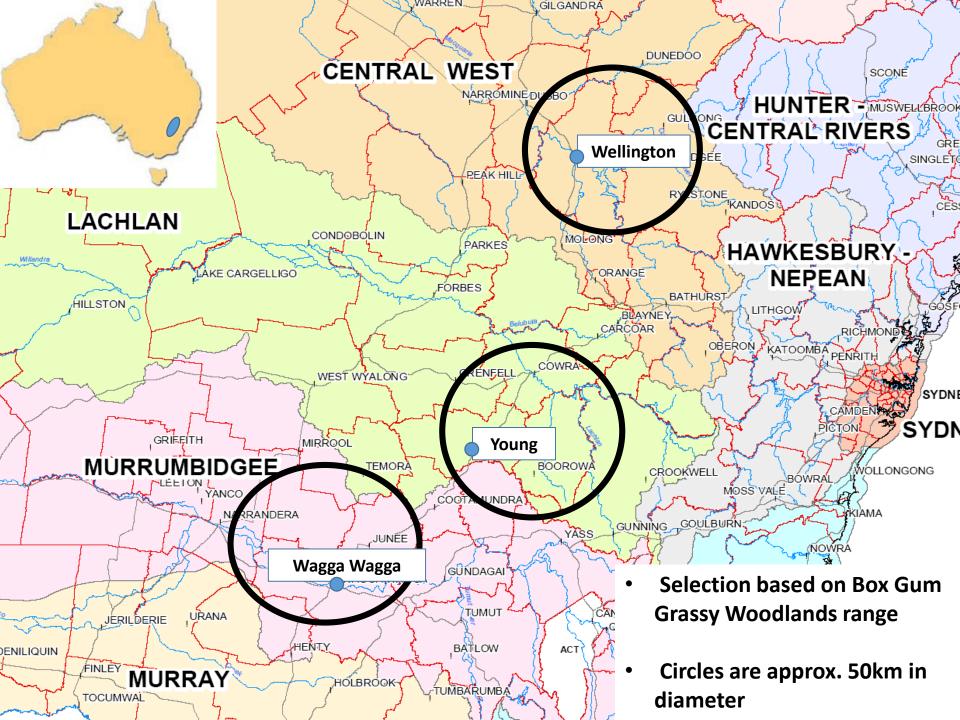


Farming innovation and innovators

'The problem is that basic concepts like the definition of an innovation are neither clear nor widely agreed upon. Each researcher must therefore come up with his or her own working definitions' (Neilsen, 2001: 94)

Farmers defining themselves within the farming sub-culture (Howden et al., 2008)

- Who are innovators and what do they do?
- What is their story of innovation or change?
- What can we learn about sustainable practice change from these stories?



Participatory Rural Appraisal (PRA)

- Interview binge local interviewers paired with the project team
- On farm 'cup of tea' conversations 85 interviews in total
- PRA Workshops 3 workshops per trip
 - Anyone doing anything 'innovative'?
 - Any 'innovators'?



The 'eco - innovators': strategic graziers and pasture croppers

Common Practices:

- Native perennial grass regeneration
- Strategic grazing or SHLARG

(Short duration, High density, Long rest, Adaptive Rotational Grazing) (Allen et al., 201 Ampt, 2013)

Pasture cropping/No-kill cropping

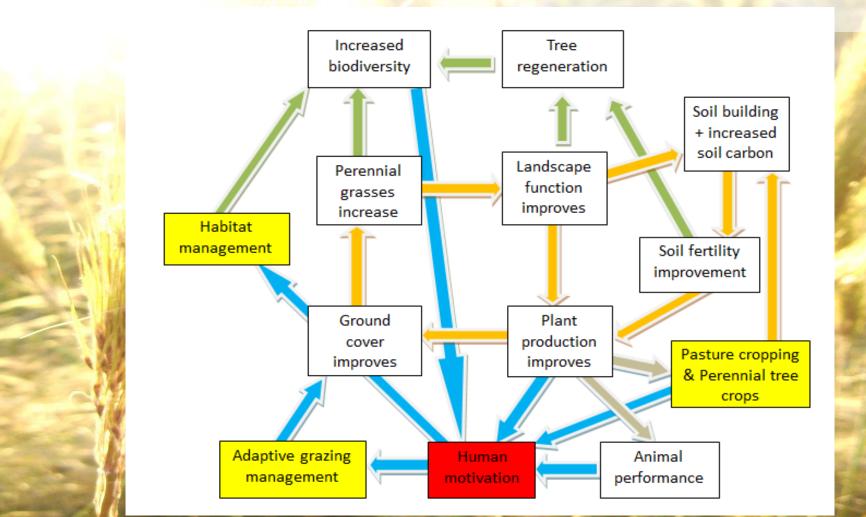
http://www.pasturecropping.com/index.php?option=com_content&view=article&ic 01:colin-seis-a-winona-his-story-in-video&catid=36:col-seis&Itemid=56



The (agro-ecological) 'innovators':

Benchmarking Study: Peter Ampt (2013) Sydney University

(Based on Landscape (or Ecosystem) Function Analysis – Tongway & Ludwig, 2011)



Micro-Ethnographic studies

• On-farm visits, interviews with 13 'eco-innovators', multiple visits over 3 years.

• Collected farmer research.



Micro-Ethnographic studies

• Collecting 'Farmer-owned' research



Pasture
Growth
Rate graph
- Copyright
Eric Harvey
2012



Copyright Eric Harvey
Green Bootcamp presentation 2008

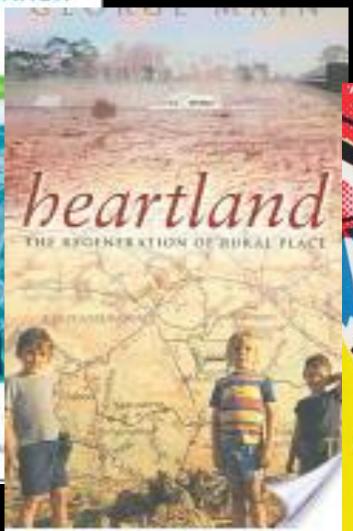


BIODIVERSITY: INTEGRATING CONSERVATION



AND PRODUCTION

Baltons: Fod Lebros, Kay States, Tony Norton, & Yong U





HOLISTIC RESOURCE

MANAGEMENT

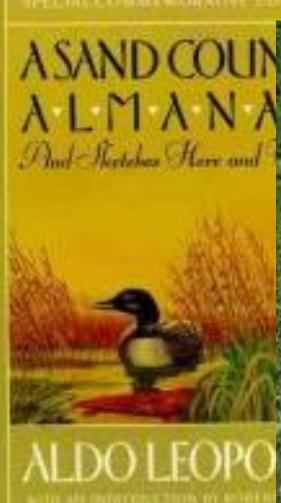








Allan Savory



THE SHEER

ECSTASY

of being a Lunatic Farmer

By Joel Salatin

Major influences on sustainable farming practice change

- Farming Practices/Styles
 - Holistic Management (Allan Savory)
 - Cell-grazing /Grazing for Profit/RCS (Stan Parsons)
 - Stipa Native Grasses Association
 - Pasture cropping/No-Kill cropping (Col Seis/Bruce Maynard)
 - Biodynamic farming (Rudolf Steiner)
 - Natural farming (Masunobu Fukuoka)
 - Natural Sequence farming (Peter Andrews)





Eco-innovators' experiences:

Holistic Resource Management

We were certified with the biodynamic people at that stage, and someone had read Savory's book, Holistic Management was just getting around then, the early nineties, he said **you want to read this book**, I gave it to [my wife] I said you've got to read this... (ME 4, LCMA)

Read Holistic Resource Management, and just thought...You know how some things you intuitively know are going to provide an answer... (ME 3, LCMA)

I was going to give up on farming, then I did Holistic Management with my wife in 1998...I found that there was another way, a way to *make decisions from a different framework* basically.... (ME 11, CWCMA)

Eco-innovators' experiences:

Grazing for Profit
 (Resource Consulting Services)

What Grazing For Profit gave me was a way to be working with nature and not against it...rather than as a farmer, [who] sprays and ploughs etcetera (ME 1, CWCMA)

Stipa Native Grasses Association

Our next door neighbour influenced us a fair bit, he got us into Stipa native grasses, and then [our son] did RCS (Grazing For Profit) training and that's been the *turning point*, the combination of Stipa and RCS (GFP) (ME 10, CWCMA)

Eco-innovators' influencers:

- CANFA (Conservation Agriculture and No Till Farming Association)
- SRS (Soft Rolling Skins)
- Low Stress Stock Handling Bruce Maynard
- Nutritional Wisdom Fred Provenza
- KLR Marketing
- Permaculture
- Subtle energies <u>www.abc.net.au/landline/content/2013/s3887655.htm</u>
- Independent scientists: Christine Jones, Maarten Stapper, Elaine Ingham

Motivations for Practice Change:

Realising disconnections:

Watching the soil blow away that year made me *cry*...[it] was a big *negative*, [it] made me feel *irresponsible*... [It's] very *depressing*, [that it] got like that through our decisions... and I decided I never wanted to see it like that again (ME 7, LCMA)

Crisis moments:

A major fire in 1979 really *forced me to change* anyway...I *didn't have any choice* because we were instantly broke here (ME 8, CWCMA)

So 2001, we were highly productive, but we didn't make a profit from an accountancy point of view...1000 dollars an acre, cost 1087 dollars an acre to do...so what do we do...also, broke my back and had a heart attack...so then management had to change...thought long and hard while I was out [of action] (ME 2, CWCMA)

Motivations for Practice Change:

Eureka moments:

Here was an answer...all these other things fell into place as I read Allan Savory's book [Holistic Resource Management], it was like all these little lights went on...so that's one of those moments (ME 5, LCMA)

[I had a] *light bulb moment* with Grazing For Profit...[they] offered *simple answers* (PRA 16, CWCMA)

Realising connections:

That paradigm chip for me was...[we] always used to focus on the livestock...when I recognised that the land was the only thing that supported us, truly supported us, [I realised] the livestock were only a tool to make a healthier landscape.... [whereas the] framework in the past told us livestock were most important things (ME 3, LCMA)

Breaking with Tradition:

Going against the Grain:

Dad said people stopped talking to him basically, to a degree, they thought he was weird...he tried to talk about it they just thought he was in a cult or something...this was really early on, [it was] too different (ME 3 MCMA)

[I was the] first one in area to do the course I] came back and they all thought I was an idiot, a lunatic (ME 6, CWCMA)

In this district, many people doing it, so just seen as different levels of craziness...someone might be a bit crazier up the road so you're part sane (ME 9, CWCMA)

The Economic Benefits:



Opportunity:

On a sound regenerating ecological base, the things which you can start vertically stacking are only limited by imagination

(ME 7, CWCMA)

Stability:

We became the price-makers not the price takers (PRA 4, CWCMA)

Variability:

[It's like those] dormant fish in mud, waiting for the rains to come to reproduce...that's what we are, that's how you have to be, dealing with a fluctuating production [and] economic system drives us to do that. **Finding ways of** being dormant in the tough times, people throw too much money at it...sometimes [you] need to sell everything off, leave the land for a bit and do something else (ME 11, CWCMA)

The Personal Benefits:

- More time
- Less risk/stress
- Well-being increases
- 'Sleepability'
- Social networking/interaction
- Succession

Alignment of values:

In my farming life I was acting in a way
that was diametrically opposed to the
way I naturally am, I'm an 'eco-centric'
but I was behaving in a very technocentric fashion...If you're [practising highinput agriculture] there is a conflict in
your mind that you don't even recognise,
and I didn't until it was revealed
(ME 1, LCMA)



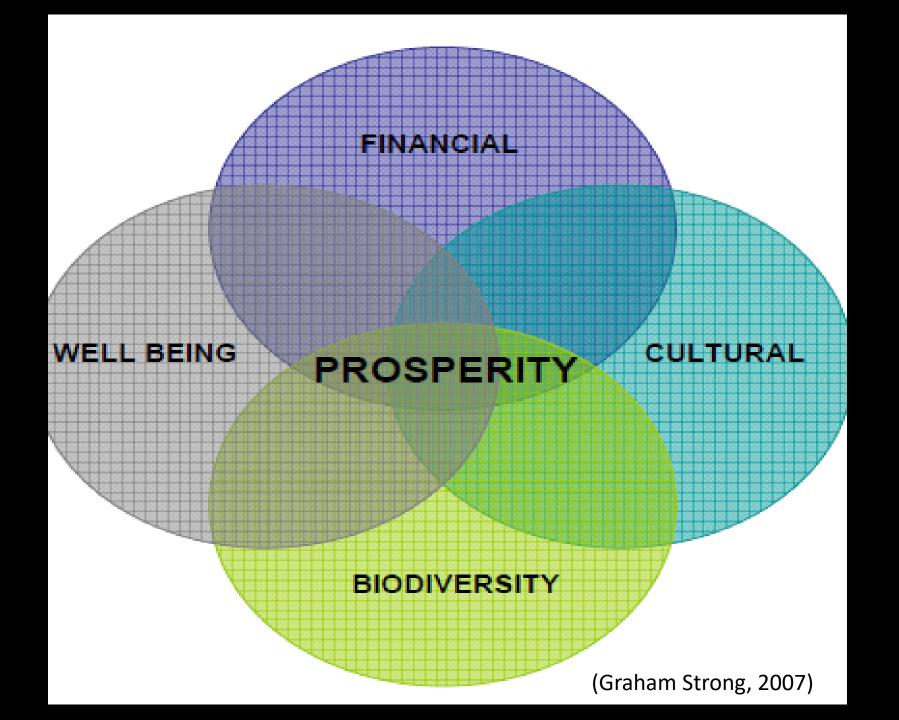
Changing agri-cultural practice and thought:

Results to us have been **mindboggling**...how quickly **you can change systems** working with nature rather than against it(ME 11, CWCMA)

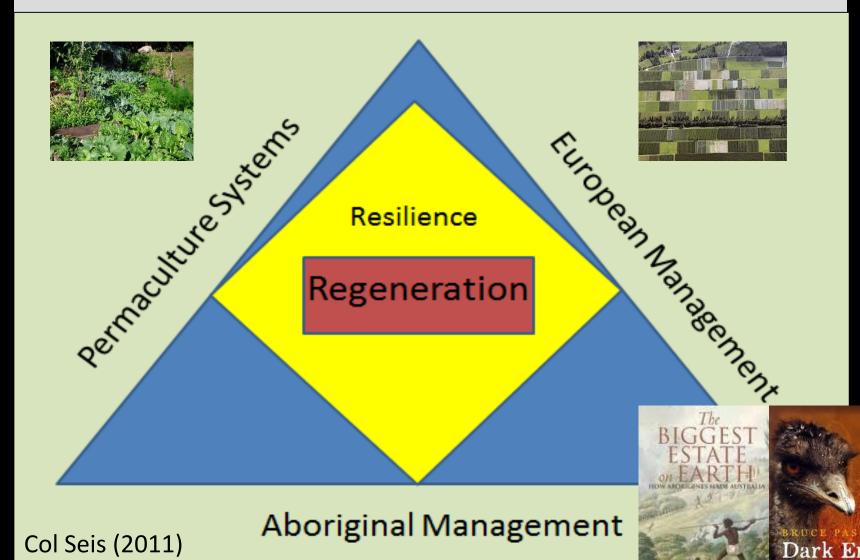
The natural tendency of life is to proliferate and diversify, so it's not about what you do, but **about what you stop doing** (ME 7, LCMA)

The farm is a repository of knowledge; it will always teach you something... You have to **listen to the land** in a metaphoric way (ME 3, MCMA)

We don't know where the land's capacity is at, never will (ME 1, MCMA)

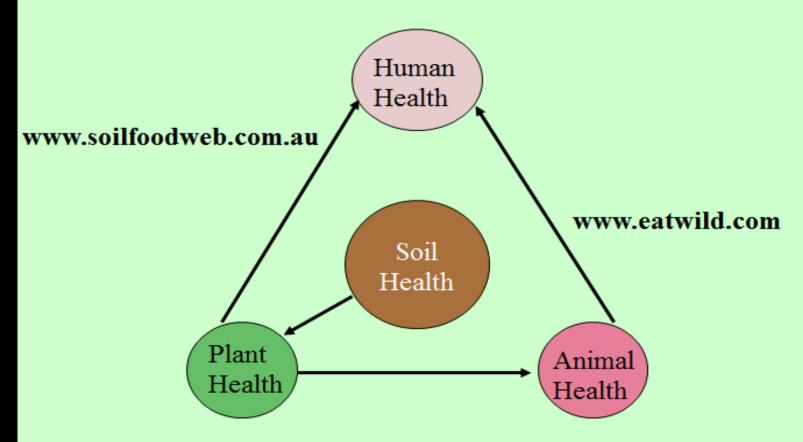


Regenerating Agri-Culture:



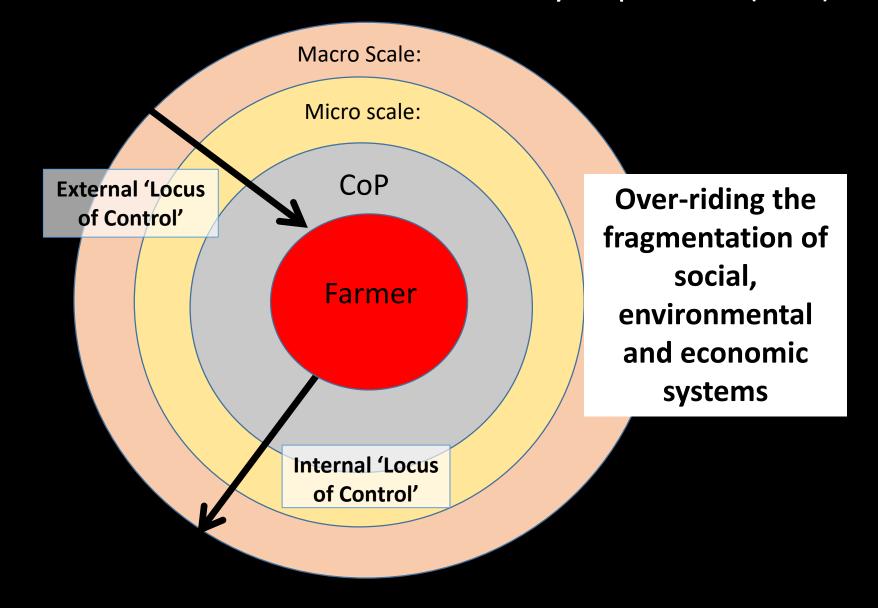
Connecting with Consumers:







Internal Locus of Control via a community of practice (COP)



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TAFE Western, Mudgee College HM Diploma

http://www.wit.tafens w.edu.au/exploreindustries/agriculturehorticulture-andanimal-care/holisticmanagement

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RCS and HM influenced

 Shearing, Wool Handling & Classing

Holistic Management

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Here at TAFE Western within the agribusiness team, we have skilled Holistic Management Educators who teach, and work collaboratively with you to develop a holistic goal for your farm or property.

In this course you will learn how to assess landscape health using holistic principles, and develop and implement holistic management plans for the sustainable use of landscapes. You will learn how to assess the health of ecosystems, develop strategies to manage landscapes consistent with the holistic goal which take into account the ecological, financial and social context in which you are required to manage your land. You will also develop the skills and knowledge to implement and monitor holistic management plans to maintain and improve the sustainable use of natural resources.

The Holistic Management Educators use the holistic management model designed by Allan Savory whilst at the Holistic Management Center, now at the Savory Institute.



Graham Finlayson – 2005 NSW Farmers Young Farmer of the Year

Norm Smith – 2011 NSW Farmer of the Year

Col Seis – 2014 Bob Hawke Landcare Award

