

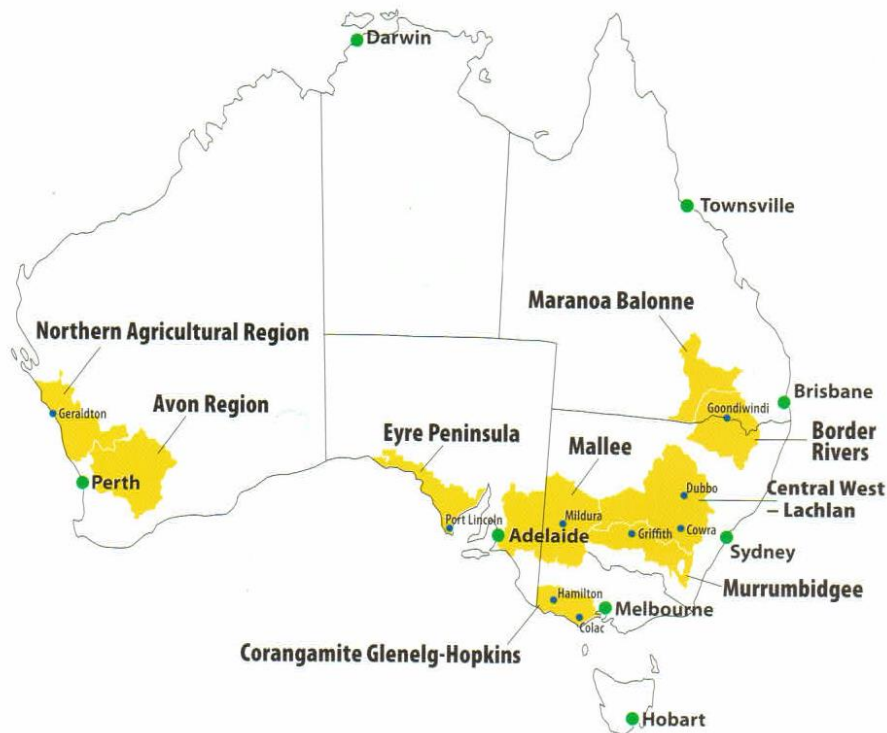
Grain and Graze

(A potted history of events, products and opportunities)

Grain and Graze 1 (2003-2008)

Background

- First collaboration in mixed farming zone between RDCs. LWA (lead), MLA, GRDC, AWI. Evolved from Sustainable Grazing Systems (SGS) program (MLA).
- Increasing Government / community expectation to be involved in NRM.
- Total budget of \$31M (MLA \$6.3M, AWI \$3.0M, GRDC \$2.8M, LWA \$2.3M, 3rd parties \$16.8M).
- Managed by Richard Price / Gillian Stewart (via LWA).
- 9 regions.



- 3 themes
 - Feedbase management (Grazing winter crops / stubbles, annual / perennial – lucerne, fodder shrubs, sub-tropical grasses)
 - Decision making (triple bottom line farming)
 - Biodiversity (BiGG, IPM, Biodiversity on farms – bugs & soils, native grasses)

What came out of it?

- Tools
 - Crop assessment grazing tool
 - Stock calculator (Excel)
 - Stubble assessment

- Significant publications
 - Grazing crops guide (free food for thought)
 - Managing complex systems
 - Animal production science volume
 - Regional and national reports
 - Evaluation report (BCA > 1)

- Other things
 - Lots of politics involved
 - LWA website (heaps of case studies)
 - Banksia award 2008

What we learnt from Grain and Graze 1

- Grazing crops have potential ('free' feed)
- Smarter choice / use of fodders on marginal cropping land or in a rotation has potential in the farming system
- Choice on the mix of crop and livestock is very complex (no right answer)
- We are good at providing information (knowledge), poor at supporting decision making
- Risk is an integral part of decision making and information around risk is very poorly conveyed.

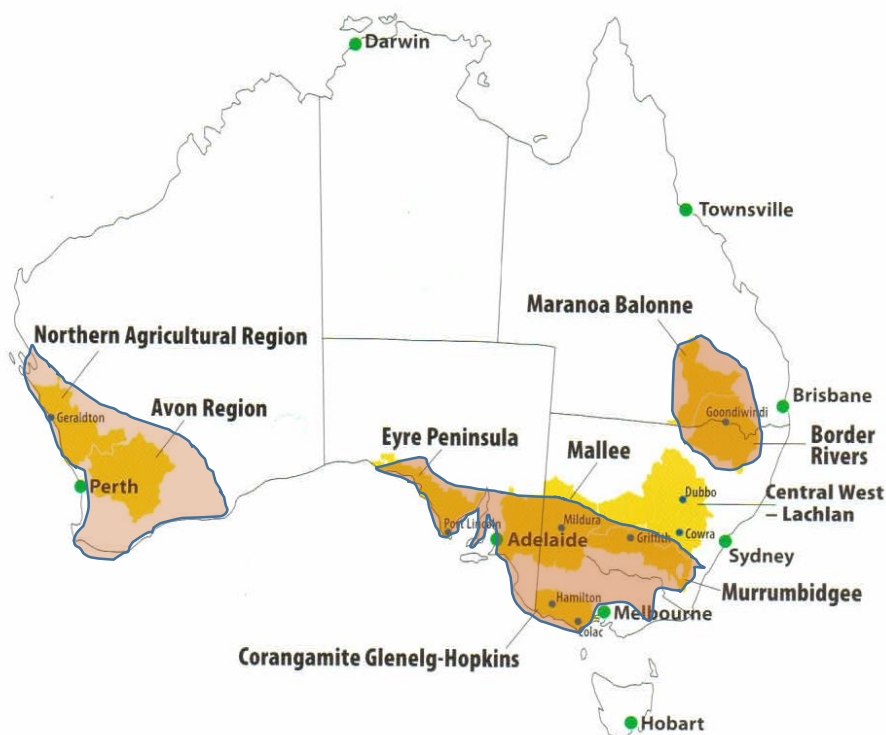
What happened in the transition to Grain and Graze 2

- LWA was disbanded by Govt
- AWI pulled out of future programs citing no money
- MLA managers said they were interested if there was a good business case but Board had not decided
- GRDC left to 'carry the can' if mixed farming was to go forward.

Grain and Graze 2 (2009-2013)

Background

- MLA withdrew collaboration
- GRDC partnered with DAFF (Caring for our Country)
- GRDC requested regional situation analysis (program logic, ADOPT, WUE framework, activities – projects totalled \$19.6M. Project spec in Word doc – no GRDC code)
- Total budget of \$11.5M (GRDC \$5.75M, CFoC \$5.75M)
- Managed by Stu Kearns / Tanya Robinson (GRDC)
- Adjustment to regions – 5 regions (WA, EP, east SA, Nth Vic, Sth Vic, Sth NSW, Northern)



- 6 negotiated themes (asked for \$19.6M, reduced to \$11.4M)
 - Growing biomass (perennial fodders & shrubs, ley grain)
 - Using biomass (Grazing cereals & canola, livestock & no till, grazing for groundcover)
 - Biological solutions (legumes in rotations, grazing stubbles, IPM excluded)
 - Transition (crop/pasture, pasture/crop, pasture cropping)
 - Where in the landscape (identifying marginal cropping land)
 - Adaptive management (presenting & discussing risk, making decisions, additional work to negotiate and deliver – NRS00009)
- Additional projects to 'pull things together'
 - Pre / post evaluation (DAFF required) by Roberts Evaluation
 - C Farm Options development
 - NRS0009 (Risk / decision workshops, form guides for framing odds - inc price guide, Farm Decision Making booklet and facilitator guide, @ risk analysis, rules of thumb, website revamp).

What came out of it?

- Tools
 - @Risk analysis
 - C Farm Options

- Significant publications
 - Benchmarking and impact studies (Roberts Evaluation)
 - ADOPT
 - WUE Framework / C-Farm Options
 - Outcome calculations & report
 - Farm Decision Making: The interaction of personality, farm business and risk to make more informed decisions
 - Grazing cropped land
 - Groundcover Grain and Graze 2 supplement
 - Livestock skills development needs analysis
 - CSIRO (4 publications – National Integration project of G&G)

- Other things
 - GRDC (Tanya) operated their own website (now through NRS00009)
 - Delivery problems with Northern Region and Sth NSW
 - IP issue with C Farm Options

What we learnt from Grain and Graze 2

- Grazing crops
 - Grain yield losses from grazing potentially higher than first thought
 - Traditional grazing crops approach has little impact on whole farm profit
 - Spring/summer sowing of winter habit crops has big potential
- Big potential in 'better' rotations if integrated
- Mixed farming mitigates risk as enterprises are largely independent
- Systems integration provides the greatest profit benefit but most activities are still component based.
- Quantifying risk important to decision making
- Genuine interest in what influences decision making

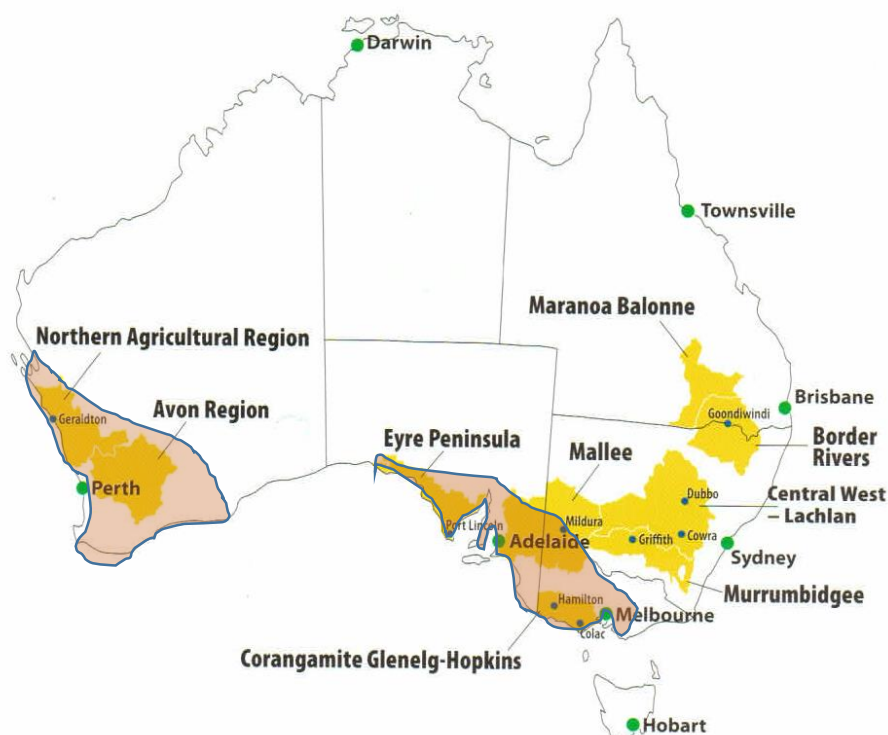
What happened in the transition to Grain and Graze 3

- Regional panels had more say in investment, so Northern region dropped and Sth NSW dropped due to delivery issues.
- Investment from GRDC only but at a much smaller scale – to focus mainly on extension
- Carry over work from NRS00009
- Extensive data from Roberts Evaluation database not fully analysed

Grain and Graze 3 (2014-2016)

Background

- GRDC only (\$1.8M West, \$1.95M South, \$0 North)
- Seen as an extension program (research only on crop stress after grazing)
- Program logic & ADOPT calcs prepared, but no impact calc required
- Managed by Tanya Robinson (GRDC), no one, Gus Manatsa, no one
- Adjustment to regions – 2 regions (WA through Facey, Sth through SFS – SFS, BCG, Minnipa, AgEx Alliance, MSF)



- Cam Sth contact – SFS00028, Danielle England the Western contact
- 3 defined practices
 - **Smarter grazing of crops and stubbles** to optimise business and production risk and increase profits.
 - **Better manage crop and pastures (within) a rotation** to improve crop and livestock production.
 - Farmers **making informed decisions** about farm business mix that best meets their needs.

What will come out of it?

- Tools
 - Stubble assessment tool.
 - Decision making 'game'
 - Interactive price guide (NRS00009)
 - Website (NRS00009)

- Significant publications
 - Farm Decision Making facilitation kit (NRS0009)
 - Why aren't farmers grazing crops?
 - 'Research' paper (impact of stresses after grazing inter crops)

- Other things
 - Extensive amount of extension & grower contact
 - Embed @risk analysis with financial institutions and consultants
 - Prepared an impact evaluation proposal (by request from Gus Manatsa)
 - Requested statistical analysis to help with cross regional data sets (by request from Gus Manatsa)
 - Requested additional resources to develop a rotations decision support tool.

What we are learning from Grain and Graze 3?

- Grazing crops needs a paradigm shift to have an impact – need
 - Much earlier sowing
 - Full system integration (+ increase SR, but lack livestock skills)
- Fodder rotation decisions very complex (weeds, N, using summer moisture). It can be of great benefit if you get it right, limited value if you get it wrong
- Starting to influence decision making (temperament typing with advisors, farm advisory boards)

Where to next?

- MLA have a current tender to prepare a business case for long term investment (CSU / Nicon Rural Services final proposal for consideration)
- GRDC????

NRS00009 (2012-2016)

Background

- Projects to fill the gaps that could not be supported in Grain and Graze 2 (because of CFoC matching \$)
- Had an initial planning phase (2 workshops + multiple meetings), which evolved into:
 - Agreed activities in Adaptive management
 - Outline of the Farm Decision Making Booklet and other projects
 - Program logic for GRDC *Advancing profitable farming systems* theme

Project 1: Form guides

- Analysis undertaken (modelled, historic) & report prepared
- Price guide developed and presented to farmer groups - recommended to be interactive (AgPrice Guide website – Variation to NRS0009)
- Contents delivered at @risk workshops with consultants (3 x WA, 3 x SA, 1 x Vic)

Project 2: Training manual

- Extensive testing of concepts over 2 ½ years
- Farm Decision Making booklet (reprinted variation to NRS0009)
- Facilitator (kit / guide) prepared – Variation to NRS0009

Project 3: Whole farm risk analysis

- Development of @Risk application for farming
- @risk training manual
- 7 training courses for consultants
- AgPrice Guide website (final price update underway)

Project 4: Testing intuition & rules of thumb

- (3 workshops WA, SA, Vic)
- Report with examples
- Included in Farm Decision Making Booklet

Future considerations

- Custodian of website
- Custodian of price guide
- Driving exercises and activities around decision making and risk