

FUTURE FARM
INDUSTRIES CRC

PROFITABLE PERENNIALS FOR AUSTRALIAN LANDSCAPES

Introduction to the Workshop Objectives

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Future Farm Industries Cooperative Research Centre

- ✱ CRCs result from government seed investment to encourage different institutions to cooperate on research of national significance
 - ✱ Universities, State departments of agriculture, CSIRO, R&D corporations, and industry
- ✱ Usual length of CRCs 7 years
 - ✱ with possibility of extension
- ✱ We are 3 years into the FFI CRC



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FFI CRC



* FFI focus

- * increasing perennials in the agricultural landscape
- * *Perennials for profit* and natural resource benefit
- * Case studies of impact

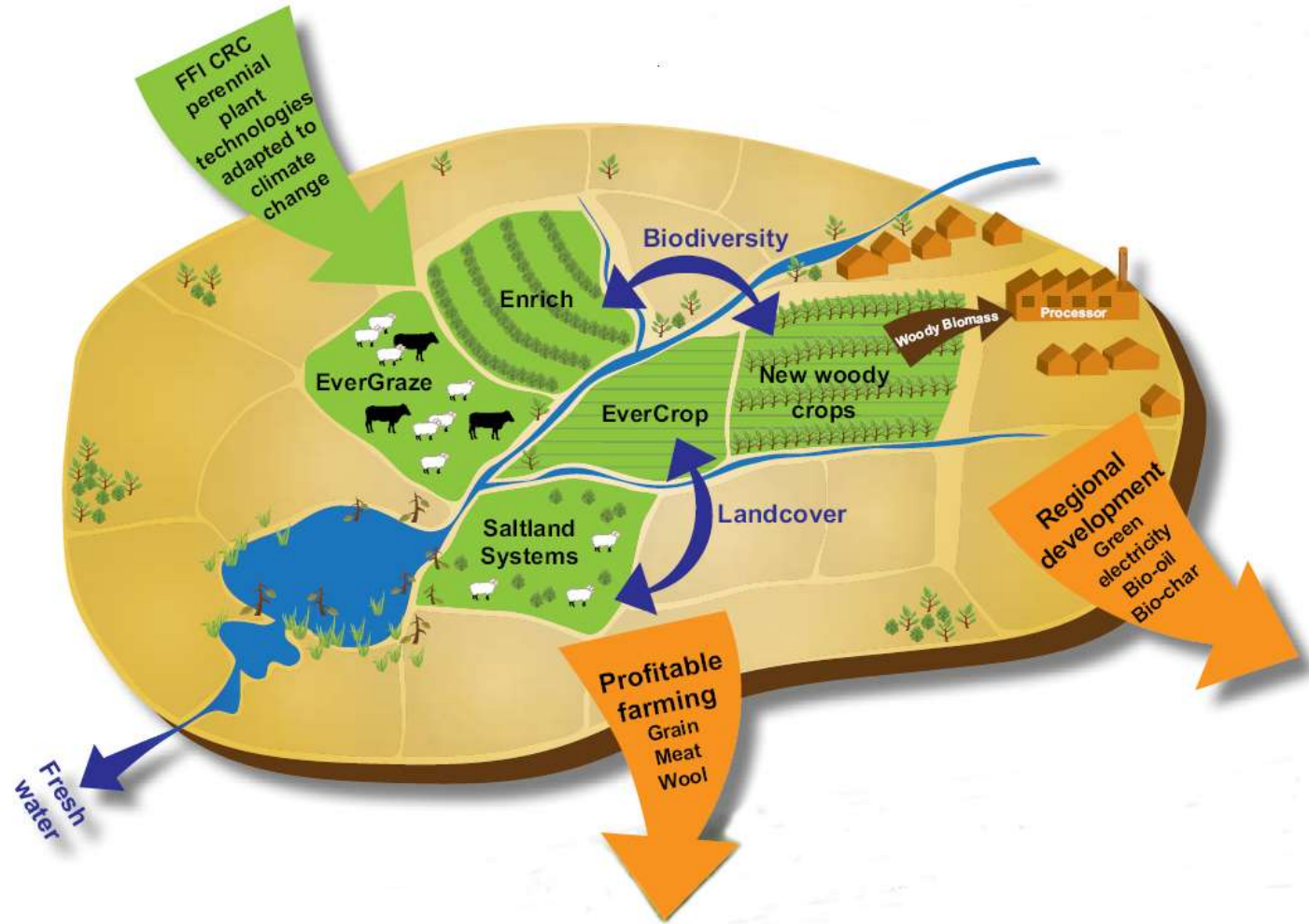
<http://www.futurefarmonline.com.au/case-studies.htm>

- * Mike Ewing, recently retired Research Director
- * John McGrath, the new Research Director
- * Ali Bowman was Program Leader: *Future Cropping Systems*
- * Clinton Revell, the new Program Leader



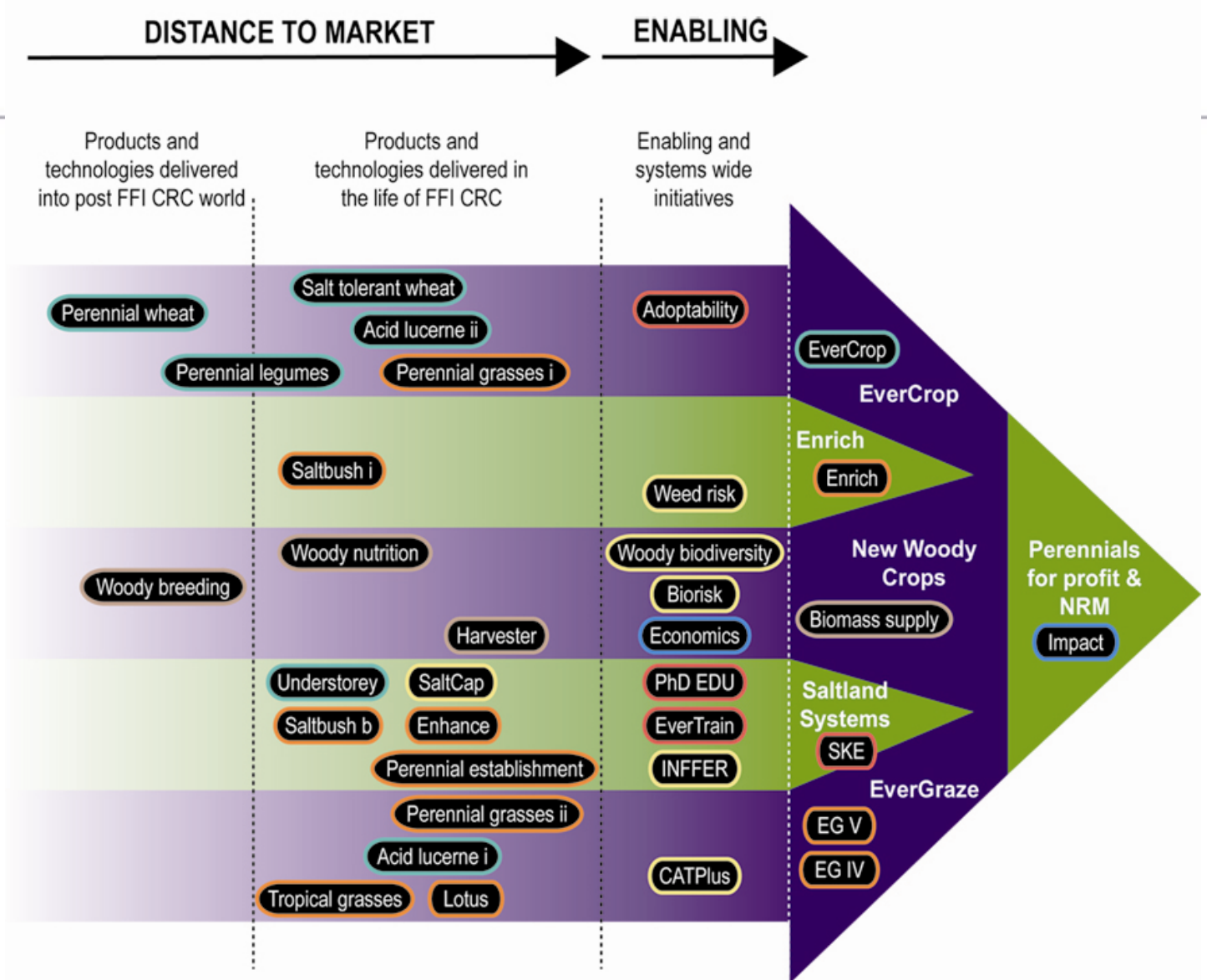
Farming systems on the farm and in the landscape

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PROGRAMS

P1 Future Livestock Production

P2 Future Cropping Systems

P3 New Woody Crop Industries

P4 Biodiversity and Water

P5 Agribusiness and Education

P9 Executive Direction



Research example



- * Two experimental strains (SRDI552 and SRDI550) growing on either side of the current AM medic commercial WSM1115

Understorey (P2 FP19)

- *Melilotus siculus*, an annual legume, shows great promise for saltland
- Two experimental strains of root nodule bacteria look to be well adapted
- Understorey for Oldman Saltbush



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Research example

- * **Drought Tolerant Perennial Legumes - Daniel Real**
 - * Tedera (*Bituminaria bituminosa*) breeding.
 - * Retains its leaf over summer compared with Lucerne
 - * Higher digestibility over summer compared with Lucerne
 - * As drought tolerant as Lucerne
 - * Collaboration with Spanish institutions
 - * Expect commercialisation by 2014



Lucerne in February 2010 – surviving but showing full leaf drop



Tedera in February 2010 – retaining full leaf area and feed quality for grazing animals



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Research example



* *Lotus corniculatus* breeding

- * NSW I&I managing
- * 4 cultivars for commercialisation in Australia
- * Pre-commercialisation assessment being done by INIA, Uruguay
- * Results confirmed in INIA trials
 - * Tolerant of low soil pH and waterlogged conditions
 - * 30% less methane produced
 - * More drought tolerant than White Clover
 - * Best 3 FFI lines more dry matter than INIA new line
 - * Best 2 FFI dry-matter producing lines flowering much earlier than INIA's new line
 - * Importantly they are also flowering at the same time as white clover
 - * Seed production commencing in Uruguay 2010



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Variety LC07AUF

- Early flowering
- Erect habit
- Prolific flowering



Seed production block of FFI CRC *Lotus corniculatus*



The Perennial Wheat Feasibility Study

- ✦ PW project is a modest investment by the FFI CRC
- ✦ An initiative inherited from a previous CRC for Dryland Salinity
 - ✦ particularly 3 people drove that initiative:
Len Wade, Mike Ewing and Lindsay Bell
- ✦ The participants in our project are
 - ✦ Charles Sturt University
 - ✦ NSW Industry and Investment (I&I)
 - ✦ CSIRO
 - ✦ Landmark/AWB Seeds



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Matt Newell Phil Eberbach Robert Gill Richard Hayes Simon Crane



Len Wade Phil Larkin Nicole Hyde Mark Norton



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Objectives of the meeting

- * A stocktake of progress of our PW project
 - * In context of international efforts
 - * To shape priority research for next 3 year project
 - * To undertake a formal review for the FFI CRC
 - Clinton Revell, Rex Oram, David Van Tassel, Lindsay Bell

- * To enhance international cooperation in perennial grains, for mutual benefit of all our efforts
 - * Our projects are small in scope and resourcing
 - * Sharing of ideas and materials is all the more important for progress
 - * Compelling business case for seed company unlikely for many years
 - * So Government and public-good investment is critical.
 - * Hopeful to move towards international cooperation Alliance
 - * To optimise cooperation
 - * To leverage international funding



Research activities 2009/10

EverGraze – More Livestock from Perennials

Project Review

Commercial in confidence

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EverGraze (P1 FP06, P1 10)

- * Initial report from external reviewers under discussion by FFI CRC, MLA and AWI
- * EverGraze can make effective and original contribution with significant changes
- * Focus on assessing perennial technologies for increasing use, persistence and productivity
- * Work closer with industry and next users on incorporation into systems
- * Manage all EverGraze activity under one roof – FFI CRC



Research activities 2009/10



Enrich (P1 FP03)

- Comprehensive data on shrub performance with Oldman Saltbush as most productive
- Bioeconomic modelling indicates farm profit sensitivity to nutritive value – scope for other species
- Added value activities under climate change funding – adaptation, anti-methanogenic qualities

EverCrop (P2 FP09)

- Research sites in three zones entering second year – Chicory rotation in NSW uniform rainfall zone; saltbush alleys in Vic-SA mallee; and pasture cropping in medium rainfall south-west of WA
- Three technical reports published
- Initial survey, farm-level economic modelling, adoptability assessments, alignment with Grain and Graze.



Research activities 2009/10

Breeding Woody Crops (P3 FP17)

- Breeding population and infusion trials of *E. polybrachea* established at three sites – Lake Grace, WA; Bendigo, Vic; and Condobolin, NSW
- Ongoing assessment of genotype x environment

Biodiversity in Grazed Landscapes (P4 FP23)

- Consultancy report on better integration of biodiversity information into production research projects

Adoptability of Farm Practices (P5 FP30)

- Preliminary adoptability tool developed and applied to 40 different mixed farming practices in conjunction with bio-economic modelling
- Used as part of Grain and Graze II
- Adoptability tool since revised for further application



Commercialisation Activities 2009/10

- ✦ **Improved Perennial Grasses (FP 01)**
 - ✦ Field testing phase to develop potential cultivars of Cocksfoot, Tall fescue and Phalaris initiated in Victoria (2 sites), southern NSW (3) and northern NSW (1)
 - ✦ Same potential cultivars also being tested in Heritage Seeds variety evaluation series
 - ✦ MTA with Heritage Seeds for commercialisation of potential cultivars
 - ✦ Heritage Seeds appointed new CEO who will meet with FFI to discuss next steps and future commercialisation opportunities once he has feet under the desk



Commercialisation Activities 2009/10

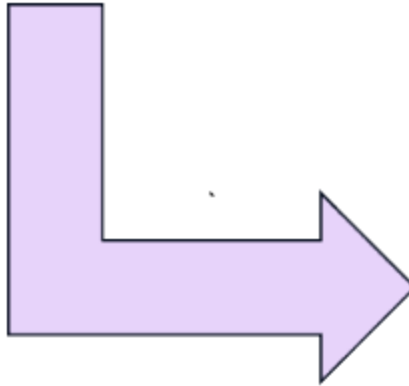
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Woody Crop Harvester (FP 16)

- * Officially launched 13 April, 2010
- * Strong industry interest
- * FFI CRC following up companies to take advantage of current momentum

From this



To this

