

## Appendix 1 Impact of projects in Rice CRC

PROJ No	LEADER	LOCATION	PROJECT DESCRIPTION	Project impact				
				A	B	C	D	E
<b>PROG 1</b>	E Humphreys	CSIRO Griffith	Sustainability of Natural Resources in rice based cropping systems					
Sub-Prog 1.1	Geoff Beecher	NSWAG	Measurement and Mapping					
1102	Geoff Beecher	NSWAG 2990-3	Better prediction of groundwater recharge from ricegrowing	x	x		x	x
1105	Tim McVicar	CSIRO L&W Canb	Remote sensing of irrigated crop types and it's application to regional water balance estimation	x	x		P	x
1107	Saud Akbar	NSWAG	Assessing the effect of compaction and clay lining on seepage from on-farm channels and drains.	x	x		x	x
Sub-Prog 1.2	E Humphreys	CSIRO L&W Griffith	Net Recharge Management					
1201	Shahbaz Khan	CSIRO L&W Griffith	Optimising agronomic options at the farm scale.	x	x		x	x
1202	A Van de Lely	Dept L&W Griffith	Improving soil salinity assessment and prediction model					x
1203	A Van de Lely	Dept L&W Griffith	Rice hydraulic loading policy review using groundwater models					x
1204	John Thompson	NSWAG Deni 2988-3	Strategies for improving the water use for rice	x	x	x	x	x
1205	E Humphreys	CSIRO L&W Griffith	Quantifying and maximising the benefits of crops after rice	x	x		x	x
1207	Shahbaz Khan	CSIRO L&W Griffith	Develop a GIS Based Tool for Net Recharge Management in Rice Based Farming Systems.	x	x		x	x
Sub-Prog 1.3	Wendy Quayle		Surface Drainage Management					
1301	Wendy Quayle	CSIRO L&W Griffith	The persistence of rice pesticides in floodwaters & how this is influenced by water management and layout.		x			x
1302	Stuart Helliwell	CSU	Ph D Studentship - downstream impacts on the environment (Greg Doran)		x	x		x
1303	Dr J Oakeshott	CSIRO Ento	Bioremediation of pesticide residues in drainage waters.PhD (Heidari)	P	x	x	P	x
1304	Dr J Oakeshott	CSIRO Ento	Enzymatic bioremediation for pesticide residues in irrigation tailing water. PhD. Kahli Weir	P	x	x	P	x
Sub-Prog 1.4	Dr Shahbaz Khan	DLWC P'Matta	Groundwater Management at Regional Scale					
1401	Charles Demetriou	DLWC P'Matta	Estimation of salt transport and salinisation in rice based irrigation areas PhD			x		x
1401A	Y Shao	UNSW	Modelling of salt transport and accumulation in irrigated areas.			x		x
1401B	N Merrick	UTS	Modelling & optimisation of groundwater dynamics at irrigated farm scale rice based irrigation areas			x		x
1403	Dr Shahbaz Khan	CSIRO Griffith	Quantifying climatic and management impacts on soil salinity and shallow watertables.	x	x		x	x
1403A	Dr Shahbaz Khan	CSIRO Griffith	Risk Based spatial modelling to identify regional soil salinity trends in irrigation areas.	x	x	x	x	x
1404	Dr Shahbaz Khan	CSIRO Griffith	Risk Based Irrigation Demand Management Under System Constraints PhD					
1405	N Merrick	UTS	Continuous salinity imaging along canals & drains David Allen PhD.					
Sub-Prog 1.5	E Humphreys	CSIRO Griffith	Program 1 Administration.					
1501	E Humphreys	CSIRO Griffith	Program 1 Administration.					
<b>PROG 2</b>	Dr G Batten	NSWAG Yanco	Sustainable Production Systems					
Sub-Prog 2.1	S Black	CSU Wagga	Managing soil chemical, physical and biological properties to achieve yield and environmental quality.					
2101	S Black	CSU Wagga	Development of Nitrogen soil test					x
2102	D Lamb	CSU Wagga	Ph D - Application of spatial data analysis (Sarah Spackman)	x	x	x	x	x
2103	H Gill	NSWAG 2987-3	Influence of rice on soil properties					x
2104	S Black	CSU Wagga	Project costs - administration					
2105	J Thompson	NSWAG Deni.	Rotation trial	x	x		x	x
2106	G Beecher	NSWAG 3602-3	The estimation of soil sodicity and pH using NIR spectroscopy	P	P		P	x
Sub-Prog 2.2	Laurie Lewin	NSWAG Yanco	Crop Management in relation to environmental change					
2201	Laurie Lewin	NSWAG 2985-3	Screening cold tolerant varieties (PhD Tim Farrell)	x	x	x	x	x
2205	Shu Fukai	Uni. Of Qld	PhD Effect of nitrogen & low temp. on reproductive development and spikelet sterility in rice. ( Thusitha Gunawardena)			x		x
2206	R Reinke	NSWAG Yanco	Screening reproductive-stage cold tolerance for the NSW Rice Improvement Program			x	x	x
Sub-Prog 2.3	G Batten	NSWAG Yanco	Grain Quality					
2301	G Batten	NSWAG 2980-3	PhD - mineral nutrition ( Robert Duncan)			x		x
2302	G Batten	NSWAG 2984-3	Rice - mineral requirements	x	x		x	x
2303	P Williams	RCL/NSWAG 3354-3	Investigating links between minerals in rice grain & straight head.	x	x		x	x

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Sub-Prog 2.4	Ric Cother	NSWAG OAI	Sustainable Crop Protection					
2401	Ric Cother	CSU	PhD Bio Herbicides - Rhynchosporium alismatis a potential control agent of Alismataceae.(Wayne Pitt)			x		x
2402	Ric Cother	CSU	Honours- Stefan Hansen 99 - Use of rice snail as a biomonitor for pesticide contamination in irrigation drainage water.			x		x
2403	Ric Cother	NSWAG OAI	Sustainable pest and disease control strategies (Discretionary funding)	P	P		P	x
2404	Mark Stevens	NSWAG / CSU	PhD Biodiversity assessment of MIA rice fields using stable isotope analysis ( A Wilson)	P	x	x		x
2405	Mark Stevens	NSWAG 3316-3	Postgraduate projects on the sustainability of rice production systems.		x	x		x
2407	Gavin Ash	CSU	Risk assessment of exotic plant diseases to the Australian rice industry	P	P		P	x
2408	Alistar Robertson	CSU	PhD Skye Wassen "Conservation biology of the Southern Bell Frog in irrigation areas"	P	x	x	P	x
2409	Gavin ASH	CSU	Stem diseases in rice - PhD Vincent Lanoislet	P	P	x	P	x
<b>PROG 3</b>	Dr E Dennis	CSIRO PI Canberra	Genetic Improvement for Sustainable Production					
Sub-Prog 3.1	L Lewin	NSWAG YAI	Improved Yield Efficiency					
3101	L Lewin	NSWAG 2982-3	Hybrid rice production					x
3102	Dr Tony Condon	CSIRO PI	New indirect selection techniques for improving rice yield potential.					x
Sub-Prog 3.2	Dr E Dennis	CSIRO PI Canberra	Tolerance to Abiotic and Biotic Stress					
3201	Dr E Dennis	CSIRO PI Canberra	Molecular basis of cold tolerance					x
3202	Bruce Sutton	Syd Uni	Postgraduate - cold biochemistry (Mohammad Ezaz I Mamun)			x		x
3202A	Bruce Sutton	Syd Uni	Postgraduate - S Alfred commenced 30.7.2001			x		x
3202B	Bruce Sutton	Syd Uni	Postgraduate - Z Li commenced 7.12.2001			x		x
3203	Dr E Dennis	CSIRO PI Canberra	Engineering rice for resistance to blood worm.	P	P		P	x
3205	Jim Pratley	CSU	Allelopathy in Rice to control weeds in NSW. <b>PhD</b> (Seal)			x		x
3206	Prof. B Rolfe	ANU	PhD Characterisation of the developmental pathway of pollen maturation in rice anthers (Kerim)			x		x
3207	Prof. B Rolfe	ANU	PhD Investigation of molecular mechanisms causing cold induced sterility in rice.			x		x
3208	Dr R Dolferus	CSIRO PI Canberra	Identification of rice genes involved in cold-induced pollen sterility					x
3209	Dr R Dolferus	CSIRO PI Canberra	PhD Sandra Oliver "Identification & characterisation of genes affected by cold treatment of rice anthers"			x		x
3210	Bruce Sutton	Syd Uni	Refurbishment of Zeiss LSM 410 confocal microscope					
3211	Bruce Sutton	Syd Uni	Control of callose degradation & re-use in pollen development in rice					x
Sub-Prog 3.3	Dr N Darvey	Uni of Syd, Cobbitty	Enhancing the technology base for rice improvement					
3301	Dr N Darvey	Uni of Syd, Cobbitty	Improved protocols for isolated microspore culture of rice. Application of molecular approaches to rice improvement.					x
Sub-Prog 3.4	A Blakeney	RCL Leeton	Breeding for quality attributes					
3402	M Fitzgerald	NSWAG 3319-3	Understanding amylose structure: what it controls and what controls it.			x		x
3403	C Blanchard	CSU	Investigation of the molecular mechanisms of starch quality. PhD Andrew Eamens.			x		x
3404	Prof. Bob Gilbert	Syd. Uni.	PhD Jef Castro - Customising molecular architecture of starch for rice quality- biochemistry aspects.			x		x
3405	Prof. Bob Gilbert	Syd. Uni.	PhD Herbert Chiou - Customising mol arch of rice polymers for rice cooking quality - characterization aspects.			x		x
<b>PROG 4</b>	David Welch	RCL Leeton	Product and Process Development					
Sub-Prog 4.1	Nathan Cutter	RCL Leeton	Grain quality in the pre-milling phase					
4101	Nathan Cutter	RCL Leeton	Grain quality in the pre-milling phase.	x		x	x	x
Sub- Prog 4.2	Mr Scott Brindley	RCL Leeton	Development of rice milling in-line process control					
4201	Mr Scott Brindley	RCL Leeton	Development of rice milling in-line process control	x			x	x
Sub-Prog 4.3	David Welch	RCL Leeton	QA systems and post harvest pest management					
4303	Tim Norris	RCL Leeton	Sustainable Fumigation Practices		x			x

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Sub-Prog 4.5	Mr P Williams	RCL Leeton	New rice-based food products					
4501	Mr P Williams	RCL Leeton	New rice-based food products	x	x	x	x	x
4501A	Les Copeland	Syd Uni	Operating funds PhD studentship (Dang)			x		x
4502	Mr P Williams	RCL Leeton	Development of a new vitamin & mineral fortification technique for rice.	x	x		x	x
4503	Mr P Williams	RCL Leeton	New applications for rice flour	x			x	x
4504	Prof K Robards	CSU	Starch-lipid interactions & their role in ageing processes in rice PhD Zhong Kai Zhou			x		x
<b>PROG 5</b>	Phil Eberbach	CSU	Education, Skills Development and Technology Transfer.					
Sub-Prog 5.1	TBA	NSWAG Griffith	Sustainable rice prod. through farmer education and community awareness					
5101	TBA	NSWAG 2981-3	Sustainable rice prod. through farmer education and community awareness	x		x		
Sub-Prog 5.2	A Dunn	CSU Wagga	Extension and information technology methods					
5204	A Dunn	CSU Wagga	The Research & Development of Agricultural Extension: Cultivating Sustainable Rice in Australia PhD A Brown			x		P
Sub-Prog 5.3	G Creek	NSWAG Yanco	Sustainable rice production through skills development					
5301	G Creek	NSWAG 2983-3	Sustainable rice production through skills development			x		
5302	G Creek	NSWAG 3298-3	Rice CRC Education Officer			x		
Sub-Prog 5.4	Phil Eberbach	CSU Wagga	Professional development for sustainable rice production					
5401	Phil Eberbach	CSU Wagga	Professional development for sustainable rice production			x		
5402	L Lewin	NSWAG Yanco	Chair of Irrigation at CSU \$10000 pa for 5 yrs. Board Approval 9/11/98			x		
5403	L Lewin	NSWAG 3318-3	Visiting scientist program, conference attendance and scientific visits.			x		
5404	L Lewin	NSWAG 3394-3	CRC training program.			x		
Sub-Prog 5.5	Phil Eberbach	CSU Wagga	Studentships					
5501	Phil Eberbach	CSU Wagga	Post Graduate Students Scholarships and work experience.			x		
5502	Phil Eberbach	CSU Wagga	Prog. 5 administrative costs					
5503	Phil Eberbach	CSU Wagga	Summer student program.			x		
5505	Chris Blanchard	CSU Wagga	Honours student program (Ella Whitelaw)			x		x
5505a	Phil Eberbach	CSU Wagga	Honours student program (Craig Perkins)			x		x
5506	Siva Sivapalan	CSU Wagga	Reducing the impact of muddy water on rice crop establishment. Nicholas Addison - Honours student 2003			x		x
5507	Stuart Helliwell	CSU Wagga	Factors affecting oviposition site selection in the rice bloodworm. Andrew Burll - Honours student 2003			x		x
5508	Dr Adrienne Grant	Sydney University	"Are excess nutrients responsible for nuisance algal colonies in rice fields?" Anita McGarrigle - Honours student 2003			x		x
5509	Liz Humphrey's	UNE & CSIRO L&W	Effect of water management and layout on rice growth, development & yield. Ben Dal Broi - Honours student 2003			x		x
Sub=Prog 5.6	Mick Cook		External Communications					
5601	Mick Cook	NSWAG 3515-3	External Communications			x		
<b>PROG 6</b>								
Sub-Prog 6.1	L Lewin	NSWAG Yanco	CRC Administration					
6101	L Lewin	NSWAG 2945-3,6	CRC Administration			x		
Sub-Prog 6.2	L Lewin	NSWAG Yanco	Economic evaluation of Rice CRC projects & socio-economic research.					
6201	R Singh	NSWAG 3539-3	Economic evaluation of alternative resource management strategies in a risky environment.					x
Legend								
A	Resulting technology can be implemented on farmers fields or industry							
B	Developed technology will impact on the environment							
C	Project impacted on education							
D	Developed practices resulted in financial and/or economic impacts							
E	Techniques developed that impact on future research practices							
P	Potential impact if conditions arise							