Australian Government

Cotton Research and Development Corporation

SUMMER and HONOURS SCHOLARSHIP APPLICATION 2014-15 SEASON

1.	**Project Title** (Maximum 85 char)	:	Farm-scale factors influencing riparian plant recruitment
2.	**Proposed Start Date**	:	1/12/2014
	Proposed Cease Date	:	1/3/2015
	Scholarship Type (summer or honours)		: summer
3.	**Summer or Honours Scholar (If known) and University**	:	Peta Zivec, Griffith University
4.	**Organisation & Location for the project**	:	Australian Rivers Institute, Griffith University, Nathan, QLD
5.	**Administrative Contact**	:	Ms Barbara Shaw
	Telephone	:	(0)7 3735 7510
	Facsimile	:	(0)7 3735 7615
	Postal Address	:	Australian Rivers Institute, Griffith University, Nathan Campus, Nathan, Queensland, 4111
	Email	:	barbara.shaw@griffith.edu.au
6.	**Project Supervisor**	:	Dr Samantha Capon & Dr Stephen Balcombe
	Position in organisation	:	Research Fellows
	Telephone	:	040 221 7899
	Facsimile	:	as above
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	Postal Address	:	

Project Collaborators (Name and Organisation): N.B. Ms Stacey Vogel (CRDC) will be consulted with regards to the final selection of experimental treatments in relation to the development of current riparian best practice and monitoring guidelines.

* If the project is based at ACRI, who is the onsite supervisor?

7. Project Aims and relationship to CRDC Strategic Plan (max 200 words):

Regeneration is poorly understood for most common riparian plant species of inland Australia, despite their ecological and cultural significance, widespread distributions and concern, in many places, over their condition and status. Where research has been conducted, it has tended to focus on effects of flooding and drought on regeneration, often with a view to informing water management at catchment or wetland scales. In contrast, little attention has been given to influences of local factors on recruitment, or their effects in determining regeneration responses to hydrological conditions. With respect to farm-scale management, however, it is the local factors (e.g. canopy and ground cover or grazing pressure) where interventions can best be targeted to maintain or improve riparian ecosystem condition.

This project aligns with the CRDC's Farming Systems program by contributing to the industry's capacity to adopt resilient, adaptive farming systems and to understand its natural resources challenges. By determining how local, farm-scale factors influence riparian plant regeneration, the project will better enable Australian cotton producers to protect and restore floodplain, riparian and wetland vegetation. Knowledge generated by this research will inform the development of best management practice and monitoring guidelines currently being developed by the CRDC for riparian lands.

8. Summary Research Proposal **(max 200 words):**

This project will investigate the influence of local, farm-scale factors on the regeneration of common riparian plant species from the northern Murray-Darling Basin (e.g. river red gum, coolibah, river cooba, lignum). A range of glasshouse experiments will be conducted to examine the effects of a suite of local environmental factors on germination and seedling establishment responses to broad hydrological conditions (e.g. flooding, waterlogging, drying). Local, farm-scale factors to be explored may include: i) canopy cover (i.e. shade); ii) various ground covers (e.g. litter, wood, sediment); iii) grazing pressure (e.g. trampling, mechanical damage, clipping), iv) sediment characteristics (e.g. soil type, burial) and v) weeds (e.g. competition with Noogoora burr). Final experimental treatments will be determined in consultation with Stacey Vogel and the CRDC in relation to those most likely to be influenced by riparian management practices.

The project will utilise an existing seed collection which will be supplemented with field collections as necessary along with any additional materials required with which to conduct experimental treatments.

Results will be interpreted with respect to best management practices and monitoring guidelines for cotton farms with riparian lands.

9. Budget

Salary:	$ 4 000	(maximum salary or stipend is $4000 ($500 a week)
Travel:	$ 500	(including any special transfer entitlements)
Operating:	$ 500	(day-to-day running expenses. Maximum operating is $1000)
Total:	**$ 5 000**	

Please email application to research@crdc.com.au .