Evaluating irrigators responses to declining groundwater supplies: a case study

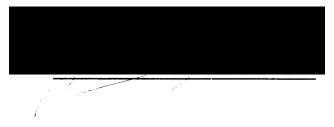
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Declaration

I certify that the substance of this dissertation has not already been submitted for any degree and is not currently submitted for any other degree.

I certify that, to the best of my knowledge, any help received in preparing this dissertation, and all sources used, have been acknowledged.



Abstract

This study examines the profitability of adopting subsurface drip irrigation and alternative activities such as horticultural crops and redclaw crayfish production by a case study irrigation farm experiencing declining groundwater supplies.

A multi-period linear programming model was developed to assess the profitability of these approaches. The model demonstrated that the use of subsurface drip irrigation and annual horticultural crops was a profitable response for the case study farm. It was also shown that a lucerne hay production activity was an integral part of the optimal farm plan across the range of groundwa er supply situations examined. This is despite the high consumptive use of irrigation vater by this activity.

This study provides an economic analysis of subsurface drip irrigation and redclaw crayfish production - both recent developments in Australian agriculture. In addition, economic analysis of a range of traditional and alternative field and horticultural crops for this location is provided.

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Acknowledgements

I wish to thank the following people for their assistance in the conduct of this research:

- Trevor and Lyn Stringer, 'Vorelle', Biloela who own and operate the farming business which is the subject o' this study. Their innovation in dealing with the declining groundwater supplies of the Callide Valley and willing assistance during model development was invaluable.
- Paul and Leah Van Itallie, Central Queensland Crayfish, Biloela who gave freely of their time and knowledge about the fledgling redclaw crayfish industry.
- Cameron Milne, Rockhampton who provided cost detail for his recent redclaw crayfish development.
- Steve Pratt and Don Milne, Agr cultural Requirements, Biloela who provided detail on irrigation systems and their associated costs.
- Rob Badman, Primac, Biloela who provided the cost detail for inputs associated with the alternative activities investigated in this study.
- Ian Baker and Ashley Bleakley, Department of Natural Resources (formerly the Queensland Water Resources Commission) for detail on the management of the groundwater resource in the Callide Valley.

I wish to thank my supervisor Dr Os car Cacho for his support and suggestions during the course of the study and the preparation of this dissertation. His assistance in model development is gratefully acknowledged.

The assistance of my employer, the Department of Primary Industries and its team of dedicated staff, is duly acknowledged and appreciated.

Finally, it would not have been possible to undertake the Master of Economics degree, and this dissertation, without the support and understanding of my immediate family - my wife Julie, and children Nathaniel, Jessica and Luke (our special boy), and my father-in-law, Arthur.