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Carbon in Agriculture

A preliminary study of Wimmera farmers' attitudes and perceptions of greenhouse gas reduction on-farm

Summary Report

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The Study

Scoping Study of Wimmera Farmers

Introduction

This document presents a summary of the findings of a preliminary study of 'Wimmera farmers attitudes and perceptions of greenhouse gas reduction on-farm.' This report was conducted in collaboration between the Department of Primary Industries (DPI) and Water in Drylands Collaborative Research Program (WIDCORP). This research will help to inform DPI in developing a targeted approach to extension programs to assist farmers and farming groups in the future. More background information and detailed findings can be found in the full report located on the WIDCORP website: www.widcorp.com

The implementation of a Carbon Pollution Reduction Scheme (CPRS) within Australia by 2010 will present a number of changes and opportunities for Australian farmers and the wider agricultural sector. Australia's national greenhouse gas accounts from 2006 placed Australian agriculture as the second largest emitter of greenhouse gas (GHG) to that of stationary energy across all sectors; therefore it may be expected to play a major role in emission reduction in the future to meet Kyoto GHG reduction targets.

Scientific research into carbon management on-farm is currently focused on technical approaches through the development of carbon accounting tools and methods of measuring and verifying carbon and greenhouse gases. Research is being completed by a number of research groups to evaluate whole farm greenhouse gas emissions profiles from each agricultural sector and the verification of these emissions. Little research has been completed to determine if farmers are currently actively participating in GHG management on-farm or if they perceive benefits or opportunities from doing so in the future.

This preliminary study will provide input towards the development of future studies and targeted extension activities that will endeavour to help farmers gain a greater understanding of GHG management on-farm and future policy driven by climate change and the introduction of an Emission Trading Scheme (ETS) in Australia.

Significance of this study

This study aims to provide some preliminary information to assist farmers and farm extension personnel to better understand the implications of GHG management as part of a sustainable farming system, and the potential of farmers to engage in a carbon economy in the future.

The Wimmera Mallee Region

Location: West Victoria

Area: 3 million hectares

Population (approx): 70,000

Economy: broad-acre cropping and grazing



Study Objectives & Study Area

Little research has been conducted about farmers' perceptions and understanding of how greenhouse gases impact on agriculture and their businesses. Therefore this preliminary study pilots an approach designed to understand the information needs and perceptions of farmers about GHG emissions on-farm. As carbon accounting tools are being developed, some important questions emerge:

- **Do farmers feel the need to change their farming practices in order to adapt to better management of carbon on-farm?**
- **Do farmers perceive there will be benefits that will influence them to adopt these farming practises?**
- **Are farmers currently thinking about future opportunities of GHG reduction or focusing on perceived threats?**

Primary Aim

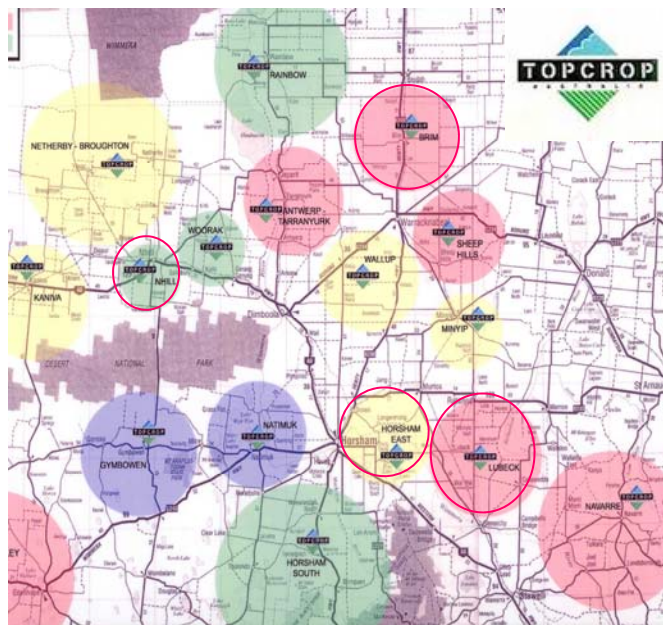
To investigate farmers' attitudes and aspirations towards GHG reduction on-farm and develop understanding of farmers current and future needs to develop targeted and relevant extension activities for these groups in the future.

Method

The study involved a literature review of the current context of carbon reduction and an understanding of adoption practices by rural landholders and what drives or prevents on-farm adoption.

Baseline data was collected using a survey approach during farmer workshops. Four TopCrop* groups participated in the workshops which included a survey, information session and discussion group. This method was used to identify attitudes and perceptions of farmers across the region and to determine if information delivery also changed their initial perceptions.

Figure: The map above shows the study area and groups which participated in the workshops circled in red.



The Wimmera Farmers Workshop

The study included a survey and workshop with broadacre farmers from four TopCrop Groups in the Wimmera region.

*TopCrop Groups are farmer focused information networks for mixed farmers, growers, contractors, agribusiness and invited experts. They address local (and regional) issues through regular group meetings.

Key Findings

Summary of the main findings

Key findings

The main findings of Wimmera farmers' attitudes and perceptions of carbon reduction on-farm are:

- Most farmers believe it is important to reduce carbon emissions to address climate change but do not believe they are responsible on-farm for the reduction of greenhouse gases.
- The majority of broad-acre farmers believe that they are carbon stores and not carbon emitters.
- A number of farmers believe they will be involved in carbon management on-farm in the future and most of these farmers see themselves being involved over the next four to six years.
- Wimmera farmers are not currently participating in any carbon schemes or aware of types of schemes available.
- Farmers have limited awareness of any accounting tools to measure GHG on-farm, but would be interested in obtaining an assessment of their on-farm emission profiles.
- Farmers believed that 'relevant' information sessions or update newsletters would be the best method of delivery to provide them with information in the future.

■ *Survey of farmers*

Fifty eight farmers attended the four workshops and forty seven farmers completed the survey. Workshops were conducted with Brim, Horsham East, Winiam/Nhill and Lubeck TopCrop Groups.

■ *Comments from farmers*

"...I have planted a number of trees on my property. Can I claim them as carbon credits?"

"Carbon management will just be more paper work, and we have much better things to be doing with our time."

"Most gas emissions are from livestock so it doesn't really worry us. Why do we have to change, especially when we store heaps of carbon in our soils and crops"

Research opportunities

This study highlights further research opportunities that would enhance the understanding of future aspirations of farmers to GHG reduction.

The importance of research to gain an understanding of farmers' attitudes and expectations will be fundamental in the development of successful extension activities to assist farmers in potential carbon management requirements. These activities will benefit farmers in gaining knowledge and information to facilitate their future participation in a carbon economy and carbon management on-farm. The need for research to be conducted across each agricultural sector is of importance as each sector has a different emission profiles and requirements.

Research Learnings

In future research the following lessons from this study may assist in the development of a robust investigation into farmer's perceptions in this area:

- Longitudinal and action research of all agricultural sectors is required to assess the development of farmer attitudes and aspirations over longer periods of time and in different farming based industries.
- Participation by farmers in future research needs to be carefully planned to ensure that farmers' perceptions and knowledge can be determined and that they feel they are able to benefit from participation in research.
- In-depth case studies of particular farmers would be beneficial in determining an enhanced understanding of farmer perceptions.

Research Reflections

The need to understand the 'human component' in agricultural production systems is important and will complement the research focussing on accounting tools. The need for farmers to perceive that the benefits of reduction of greenhouse gas emissions on-farm not only includes potential environmental benefits but also operational efficiencies is important for farmer adoption. It may also be unfair to expect farmers to adapt to more stringent carbon management if they have little knowledge or are not provided with the benefits of doing so.

The impacts of climate change and potential GHG requirements will not only affect many farming business, also people's lifestyles as well. Future changes or business implications from GHG abatement policies may have more detrimental effects on farmers than those faced by industry. This may be an issue that is leaving farmers exposed or feeling vulnerable to the unknown changes of potential carbon reduction mechanisms, especially after extended periods of hardship many have been facing due to climate variability.

The need to understand the best methods to help extend knowledge of policies being developed in cities back to farming groups is of great importance and is deserved.

By increasing knowledge and information delivery to farmers, they will be able to make more informed decisions and feel confident that potential opportunities exist rather than feel intimidated by the introduction of GHG management and ETS regulation in the future.

Thanks!

WIDCORP and DPI would like to sincerely thank the Wimmera farmers for their participation in this research. Your contribution was an important in the development of future research in this area and will help improve the capacity of DPI to assist the farming community to develop extension activities and provide relevant on-farm information.

