M082 UWA • 35 Stirling Hwy • Crawley • Western Australia 6009
Tel: 08 6488 7465 • Fax: 08 6488 7466 • www.wantfa.com.au
ABN 33 038 818 613

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NEW FRONTIERS IN AGRICULTURE

The Secretary
Senate Standing Committee on Rural and Regional Affairs and Transport
PO Box 6100
Parliament House
CANBERRA ACT 2600

19 May 2008

Dear Jeanette

CLIMATE CHANGE AND THE AUSTRLIAN AGRICULTURAL SECTOR

On behalf of the WA No-Till Farmers Association I would like to make the following submission to the Senate Standing Committee looking at the issue of Climate Change and the Australian Agricultural sector.

In reference to point (iii).
Rainfall trends in south west Australia over the last decade have shown deficiencies which meteorologists have described as extreme. Current modeling suggests that the south west will have up to a one degree increase in temperature in the next 20 years, with significant rainfall reductions in the winter/spring crop production period. The impact on agriculture from these changes is dependent on a number of integrating factors, however, if the inefficiencies in water use of many current management systems are maintained, then crop yield will certainly decline in the majority of agricultural areas in Australia.

In the short term, rainfall decline over the last two seasons in particular has highlighted some serious deficiencies in current farming systems. Wind erosion has removed large amounts of topsoil, many farmers have lost a significant proportion of their financial equity and large numbers of young farmers are leaving the industry. These losses cannot be taken lightly. Each of these components is essential for the long-term viability of the industry. It is therefore imperative that any future government support for climate change management focuses on improvements to farming systems, to minimize future losses, yet allow for future profits. This is a distinctly different perspective to the approaches to date regarding the management of climate change issues and in particular exceptional circumstance programs.

GRDC has recently identified no-till grain production, coupled with an emphasis on water use efficiency (WUE) as the highest rating management technique that farmers have to cope with climate change. Even with the current spike in commodity prices, it has becoming increasingly important to maximize WUE for the long term productivity of agriculture. Unfortunately GRDC has approached the funding of this issue from a grain yield perspective rather than a climate change management perspective and the Corporation's response is extremely piecemeal and will not impact the broader farming community.

In changing climatic conditions, the most important factor contributing to reduced soil erosion and soil water retention for WUE is the maintenance of ground cover, primarily through the retention of crop residues. The added bonus is that retained residue reduces moisture loss through evaporation. In order to retain residue on the soil surface, no-till sowing methods must be used. One of the benefits of no-till sowing is that less moisture is lost in the sowing process, hence crop establishment is potentially improved. After several years of no-till (including full residue retention), soil organic matter levels increase, and soil structure is improved, and as a result, rainfall infiltration, and water holding capacity is improved. The net result is more rainfall is able to enter the soil, and less is lost through evaporation. This, together with the reduction of moisture loss during seeding, results in a farming system that improves WUE and makes the most of every drop of rainfall, therefore insuring farmers against many of the factors that are identified as risks associated with climate change.

WANTFA believes the following steps should be considered in the government's approach to funding for climate change management:

1. A short to medium term systems approach. Utilising local farmer group networks to develop and demonstrate water use efficient farming systems in low to medium rainfall zones.
2. A medium to long term systems approach that identifies adaptive responses to drying climate issues. Opportunistic cropping and livestock systems scenarios for farmers in low to medium rainfall zones should be included. Such systems should look at the potential for opportunity cropping and livestock and under what conditions such actions may be carried out. This work could potentially link to current climate change scenario information, to identify areas of impact and potential management responses. This approach should also utilise available information and expertise regarding systems components such as carbon farming, carbon sequestration, perennial pastures and other biomass crops, to examine the value such actions will have in reducing risk in farming systems.
3. Extension of the outcomes of point 1 (above) to medium to high rainfall zones to look at quantum improvements in WUE in such zones.

Improved farming systems can also achieve water use efficiency goals in future periods of low rainfall. Further more, if global warming changes our climate as predicted, then the scenario witnessed to date in low rainfall zones will be translated to medium and high rainfall zones in Australia the future. Without government support for improved farming systems to achieve WUE goals many farmers in low to medium rainfall zones in particular will not have the financial capacity to make such long term improvements and the impacts of climate change will be widespread.

Please contact me if you require further information.

Yours sincerely

Don Cummins
Executive Officer
WA No-Tillage Farmers Association