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Secretary: <i>[Signature]</i>

19 March 2009

The Secretary
Primary Industries and Resources Committee
House of Representatives
PO Box 6021
Parliament House
CANBERRA ACT 2600

Dear Committee,

RE: Inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change - Submission

Monaro Farming systems would like to put forward the following submission relating to the Australian farmers and climate change new inquiry. In this submission we will firstly outline our organization and then address the specified terms of reference.

MFS is a Producer initiated and driven incorporated association, with a membership base of forty five farm businesses which equates to over eighty individuals who own and manage approx. 20% of the privately held land in the Monaro region and account for approx. 40% of the farm production output.

The AIMS of MFS are as follows;

- Provide members with proven, relevant and up to date information that improves knowledge and profitability.
- Provide a forum to focus on and manage Research, Development & Extension on the Monaro.
- Provide opportunities for members to interact and exchange ideas.
- Be member owned and driven.
- Consolidate and foster existing partnerships (University of Sydney, CSIRO, NAB, Boyce Chartered Accounts, Southern Rivers Catchment Management Authority and NSW DPI) and foster and initiate new partnerships in the pursuit of our objectives.

We see one of the main challenges for our producers is adaption to climate change. MFS is made up of dynamic and innovative individual members which, working together, have a real ability to take control and direct research and extension activities at the grass roots level. Regional farmer groups have the capacity to move industry towards increasing self-reliance and to promote and accelerate practice change which can only be initiated at the individual farm level.

MFS and other regional farmer groups' role in the adaptation to the impacts of changing climate are helping individual farm business to implement new technology and proven innovative practices. Governments can help in funding both at a national level, into research into climate variability (such as future climate forecasting) but also at a regional level into research, development and extension to help implement change at the farm level.

Terms of Reference

- **Current and prospective adaptations to the impacts of climate change on agriculture and the potential impacts on downstream processing.**

MFS's proposal to assist the grazing industry to adapt to the impacts of climate change at an economic, environmental and social level has been in the roll out of the decision support tool - *GrassGro*®.

The threat of climate variability and uncertainty has the potential to impact significantly on the grazing industry due to the reliance on rainfall and seasonal conditions to optimize production and enterprise profitability. The grazing industry therefore endures a significant exposure to risk compared with many other industries.

Projections of increased climate variability with the onset of climate change contribute to the growing pressure on producers to continually increase the efficiency of their enterprise and to make strategic and tactical decisions based on sound, risk management principles if they are to remain competitive in the marketplace.

The use of decision support tools can play an integral role in ensuring a viable farm management system in the face of a changing climate. Because grazing systems are very complex it is impossible for producers, land managers and advisors to accurately predict the impact of changes to management, economic conditions or climate without the use of simulation modeling.

CSIRO has developed a unique decision support program called *GrassGro*® which has been used extensively in other parts of southern Australia. The core of the program is a dynamic model of pasture production based on soil type, rainfall and climate data and pasture species for any given site.

GrassGro® can assess the effect of management options on gross margins, pasture and animal production, supplementary feeding as well as a series of environmental indicators such as persistence of species, ground cover, drainage etc. It can be used in one of two major ways; to examine strategic decisions on farming systems such as long term stocking rates, time of lambing etc; or it can be used to look at the effect of anticipated weather conditions within a growing season.

GrassGro® is a unique decision support tool which can assist primary producers and advisors in identifying key profit drivers in their enterprise in the context of temporal variations in pasture growth and supply. As such *GrassGro*® provides powerful facility for analysing risk (climatic, economic and environmental) over both the short and long term.

CSIRO have recently updated the *GrassGro*® model to include the impact of CO₂ fertilization and developed a new weather generator that will allow the impact of projected climate change on pasture systems to be modeled. This work supported by AWI and NSW DPI will give added facility to the *GrassGro*® Decision Support System in analysing both the likely impact of climate change and exploration of changes in optimal management.

GrassGro®'s strength is that it enables land managers to see the “big picture” and take a holistic approach to land management. By developing and applying this model to the Monaro, producers will be able to **evaluate** the impact certain management decisions will have on their business enterprise including a better understanding of the risks imposed by seasonal climate uncertainty.

Tactical simulations using historical climate/weather information (and the new weather generator of projected climate variability) allows producers to explore the likely impacts on their pasture growth at critical times of the year which can then be linked to likely stock condition and implications for market specifications, and economic returns.

Using this modeling tool, producers are able to better understand and anticipate the risks to their business enterprise from changing seasonal conditions. They can therefore capitalize on opportunities created and plan to manage the threats of prolonged droughts and atypical seasonal rainfall / extreme weather events etc.

By running “What If?” scenarios, GrassGro® can demonstrate the likely impact of any options available to producers to optimize their production in the context of climate risks and give indications of the economic viability of these options. Using modeling, producers can test new management methods & enterprises before committing resources.

It is anticipated the uptake of this tool by producers will assist in the development of long-term business plans which will also contribute to long-term viability. It is also anticipated Grass Gro will play a major role in identifying future research projects which also will help to deal with climate variability and drought.

Currently there is very little information on climate variability that can be used as an advisory tool at an individual, local or regional level. Grassgro® is a tool with the potential to be very empowering as it will allow many scenarios to be run in a short time.

MFS see that the roll out of the decision support tool Grassgro® is of highest priority in helping the adaption process to the impact of climate change.

The role of government in:

- **augmenting the shift towards farming practices which promote resilience in the farm sector in the face of climate change;**
- **promoting research, extension and training which assists the farm sector to better adapt to climate change.**

MFS sees the role of government is to strengthen their support and investment in regional farmer groups and to provide funding support which is accessible to independent, non-Government, member owned and driven groups.

The Federal government could also place more emphasis on facilitating communication and fostering synergistic relationships between local representatives and farmer groups such as MFS and national research bodies (AWI, MLA, GRDC) to provide a forum for information exchange.

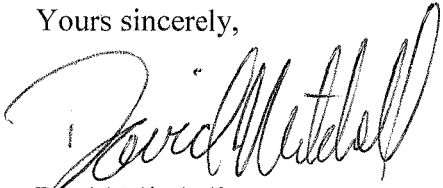
By supporting regional projects MFS believes Government will increase the resilience of farm business in the face of increasing climate variability and also encourage a move towards more systems based agriculture. By supporting these type of projects, the government will encourage attitude change, practice change and increased confidence in the rural industry in managing uncertainty in climate and markets thereby moving the industry towards greater self-reliance.

For the Federal government to support the adaptation to the impacts of Climate Change at a farm level, it will need to have strong relationships with both the national research bodies as well as the regional farmer groups.

Government needs to realise that for many farmers the impacts of climate change policies will have more effect than the actual change in climate. Groups such as MFS can play a key role in explaining to members why the policies are necessary. But these groups will need support and assistance from Government to be useful in this role.

We look forward to an opportunity to further these ideas.

Yours sincerely,

A handwritten signature in black ink, appearing to read "David Mitchell". The signature is fluid and cursive, with a large initial "D" and "M".

David Mitchell

Chairman – Monaro Farming Systems