



Australian Government

**Department of Agriculture,
Fisheries and Forestry**

FarmReady Industry Grants

Final Report

Monaro Farming Systems

R2#290

Project Title: Extension of the GrassGro model as a decision support tool in assisting producers to manage climate variability

Term of Deed: 1 March 2010 to 31 March 2012

The final report will be used by the department to assess how well projects have met the objectives of the FarmReady Industry Grants. The report has five parts:

Part A: How your project met the FarmReady Industry Grant objectives.

Part B: The story of your project.

Part C: Feedback about your project.

Part D: Activity and financial summary.

Part E: List of reports and other documents.

Part A: Please describe *how* your project met the FarmReady Industry Grant Objectives listed below.

- Promoting increased awareness of options and uptake of strategies for dealing with climate change and climate variability.
- Accelerating the uptake of climate change adaptation and mitigation education and training activities.
- Encouraging the uptake of best practice management techniques and strategies to reduce the gap between climate change research and practical practices.
- Complementing other government and industry programs and initiatives by facilitating the delivery of integrated solutions to dealing with the impacts of climate change.

Objective 1:

Promote increased awareness of options and uptake of strategies for dealing with climate change and climate variability?

Comment:

The main focus for this project was integrating the use of the “Grassgro model” as the “tool” or strategy to make more informed farm management decisions in the face of increasing climate uncertainty and volatility.

This objective was achieved primarily through a combination of delivery mechanisms which included educational and interactive workshops, both in a large and smaller group situation, a Forum scenario as well as emailed report information. These activities were included in all three milestones.

In terms of “how” this was achieved, the project process worked through was initially an “education and awareness” stage which included a two day training workshop delivered by CSIRO to train 12 MFS producer members in the competent use of the GrassGro model in the management of their farm business.

This training was then backed up/reinforced by regular meetings of this “core group” and also one-on-one mentoring of individuals in the core group by Doug Alcock, NSW DPI Cooma. The aim was to get individuals in this core group to build their own “farm system” using specific pasture, animal, soil and weather data thereby building on the training and giving these producers an increased awareness of how the model can be used to adopt risk management strategies to deal with internal business risk factors as well as external climate seasonality risk.

To extend this increased awareness of risk management strategies to the wider member base it was hoped the delivery of the “seasonal outlooks” at strategic times of the year using Grassgro would promote to members a number of strategies to combat seasonal variability. This would then be reinforced by Grassgro modelled scenarios developed by the core group addressing a range of “management questions” to be shared among the wider member base, demonstrating scenarios for each of the representative soil types. The wider group could then select a “report” which is most “relevant” to his or her own farm system (soil and pasture type and enterprise type).

This project responded to this objective

1 – Low 2 – Medium Low **3 – Medium** 4 – Medium High 5 – High

Objective 2:

Accelerate the uptake of education and training activities on climate change adaptation and mitigation issues?

Comment:

This project certainly helped raise the awareness profile in the district of the whole issue of climate change and the importance of moving towards adaptation strategies. Whether it

actually accelerated the uptake of training activities on climate change adaptation is hard to answer conclusively. Certainly within the MFS member base, this project accelerated training activities for the core group of approximately 12 producers.

The Climate Change Forum held in June 2011 which attracted 210 participants included a presentation by Doug Alcock (NSW DPI) on “The impact of Projected Climate Change on Monaro Farms” which addressed a range of issues relating to mitigation strategies at a local level. This presentation covered adaptation strategies such as drought lots (ground cover management), genetic improvements, grazing management, new species development, enterprise changes and changes to timings of lambing and calving times. The take-home messages to the 210 participants would certainly have had flow-on effects in terms of stimulating interest in further training for these participants on mitigation strategies.

This Forum also included a presentation by Dr Lachy Ingram (Sydney University Researcher) which highlighted the pasture trial work at a local level in regards to cropping and pasture strategies to adapt to climate variability and changing seasonality. This also can be assumed to have a flow-on effect in terms of stimulating more producers to increase their learning in this area.

This project responded to this objective

1 – Low 2 – Medium Low 3 – Medium 4 – **Medium High** 5 – High

Objective 3:

Encourage the uptake of best practice management techniques and strategies to reduce the gap between climate change research and practical solutions?

Comment:

Again, the main process for delivering the message of best practice “strategies” for applying climate change research options “on the ground” was aiming to empower producers in the competent use of the Grassgro model. The model would then enable producers to run scenarios/predictions of mitigation options promoted by the research bodies and make a calculated assessment as to if they would actually be practical and beneficial to implement.

This is the major strength of Grassgro modelling by allowing producers to model the outcomes and see the impact of certain decisions on both physical and financial business drivers BEFORE they commit any resources.

This project aimed to demonstrate how modelling can be used to “test” recommendations made by researchers against their own farm system thereby helping to bridge the gap between research and adoption.

This project certainly clearly demonstrated the advantages of decision support software to reduce this gap between the research and on-ground practice change and encouraged the uptake of the “tool” to “ground truth” climate change research recommendations.

Farming systems groups are extremely good at facilitating change as they often attract a large majority of the “early adopters or innovators” in a farming community which are

more likely to have the mind-set to adapt quickly to change.

Even if the integration of GrassGro as a decision making tool was not fully explored to all members of MFS, this Project certainly was very effective in getting farmers to start asking the right questions about their farming systems and examining profit drivers and environmental indicators etc more closely.

This project responded to this objective

1 – Low 2 – **Medium Low** 3 – Medium 4 – Medium High 5 – High

Objective 4:

Complementing other government and industry programs and initiatives by facilitating the delivery of integrated solutions to dealing with the impacts of climate change?

Comment:

Throughout this project, MFS worked closely in conjunction with NSW DPI through the continual involvement of Doug Alcock and aligned very closely with the Departmental core business priority of addressing climate change mitigation strategies. This partnership enabled both organisations to deliver programs relating to impacts of climate change.

This was highlighted in the fact that following the success of the MFS “seasonal outlook” program at strategic decision making times of the year, NSW DPI made the decision to extend this “seasonal outlook” program across six other locations across NSW. This is an excellent example of a direct complementary partnership between MFS and the NSW DPI in the delivery of different solutions to address the impacts of climate change.

Other complimentary partnerships included Sydney University and Southern Rivers CMA which all share a priority on climate change adaptation.

This project responded to this objective

1 – Low 2 – Medium Low 3 – Medium 4 – **Medium High** 5 – High

Part B: Tell us about your project. Please write the story of your project. Include a statement of your project’s objectives.

Project Story

This Project was initiated by the vision of a group of progressive and innovative Monaro farmers who saw the potential of decision support tools in playing an integral role in ensuring a viable farm management system in the face of a changing climate.

This project aimed to increase the number of landholders with the skills and knowledge to incorporate GrassGro® modelling as a management tool to examine strategic, operational farming decisions based on sound risk management principles. 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 modelling.

GrassGro® is such a powerful tool which can be used to examine strategic decisions on farming systems or to look at the effect of anticipated weather conditions within a growing season. It provides powerful facility for analysing risk (climatic, economic and environmental) over both the short and long term.

GrassGro®'s strength is that it enables land managers to see the “big picture” and take a holistic approach to land management. Producers can evaluate the impact certain management decisions will have on their business enterprise before committing resources.

This project was envisaged to create confidence in land managers and encourage ownership of the process by directly engaging individual producers to utilize their own climate and production records. Over time it was hoped trained individuals could run simulations unaided thereby becoming self sufficient and increasing the skilled resource base for Monaro farmers.

This Project development also recognised and integrated the principles of the Capacity Building Framework/ladder which provides a structure for on-going motivation and change management by optimising information access, programmed learning, empowerment, mentor guidance and technology development.

Project Objectives

This project has the following objectives;

Develop and deliver interactive, educational sessions to Monaro landholders at critical/strategic times of the year (March and Aug/Sept) to analyse and evaluate GrassGro® simulations. These sessions will assist landholders to make enterprise shift choices, identify strategies to plan for increased seasonal uncertainty as well as manage stock numbers and supplementation based on pasture growth predictions during these critical periods of the season. Overall, these sessions aim to encourage landholders to make more informed and tactical decisions as well as respond constructively to atypical seasonal events such as prolonged drought and variations in rainfall seasonality;

Deliver a public Climate Change Forum in conjunction with MFS partners which will discuss and explore future climate change predictions at a local level as well as the possible consequences for production and management. The Forum will demonstrate the applications of decision support tools like GrassGro® to help farm businesses adapt and prepare for change while also capturing productivity gains.

During the final phase of the project, be able to electronically transfer relevant GrassGro® “farm system files” to members which will deliver relevant/targeted reports of predicted pasture growth curves and animal performance for the representative soil types, based on climate/weather data inputs;

Deliver training sessions to increase the number of landholders on a regional basis who are able to utilise this software directly into their farm enterprise systems and also then demonstrate the benefits of this technology to other landholders.

Use the GrassGro3® model to analyse MFS research trial data which will value add onto existing experimental trials.

Part C: Feedback

1. Please indicate how *satisfied* the project group is with the project outcomes in terms of helping your industry to adapt to climate change and climate variability? (attach another sheet if required)

() Very dissatisfied, () Dissatisfied, (60%) Neither, (40%) Satisfied, () Very satisfied.

Please describe why this is the case.

The Project has evolved throughout the three years and like most things, initial goals and expectations are often set un-realistically high especially when involving the issue of technology adoption in a traditionally conservative Industry such as the Grazing industry.

Although MFS does include a high % of “innovators” and embracers of new technology, even these members who had very high expectations of their own Grassgro learning, underestimated the time needed to become a competent user.

The initial Project aims, objectives and outcomes were developed with little or no prior knowledge of the complexity of the GrassGro model and the level of skill as well as time commitment needed to become a competent end user of the model. This level of time commitment was significantly under-estimated when developing project goals. As a result, only 2 members of the core group reached a standard whereby they could confidently integrate the use of the model in their farm management systems and

realise the full benefits of this tool.

Additional time is needed to enable more members of this core group to increase their skill level to the same confidence level. This is well on the way, with approximately 8 of the 10 core group having built a sound farm system base from which to be able to analyse issues.

Several options for progressing into the “analysis of issues” stage has been discussed at the last group meeting on the 4th of May (see evaluation report).

The level of satisfaction with the project outcomes must also be analysed in terms of Adult Learning principles which go some way in explaining why certain expectations may not have been fully realised.

Knowing how and why adults learn are relevant to the outcomes of this project. These include the fact that all adults learn in a different way, at a different pace and use different ways to process information. Most adults (especially in the farming community) are internally motivated and self-directed as well as goal orientated and therefore need to see a real reason to change or embrace new technology. The inability for some MFS members to see the “real value” in using GrassGro would have been a contributing factor in the reason they did not commit the time needed to become competent in using the model. This will always be a major challenge in increasing the adoption rate of end users of the technology.

2. What was the best part about the project and why?

This best part about this Project would be the Climate Change Forum held in Cooma on June the 29th 2011. The forum was hosted by Monaro Farming Systems and made possible by the Farm Ready funding. The quality of the speaker presentations (Mick Keogh, Australian Farm Institute, Prof. Ross Garnaut, Aust. Government advisor, Doug Alcock, NSW DPI and Dr Lachlan Ingram, Sydney University) and the attendance at this event highlighted the level of interest and community engagement in the whole issue of carbon pricing and carbon farming opportunities and projected climate change impacts.

This event enabled the MFS organisation to showcase itself as a leading, reputable farming systems group who is able to address the “big issues” that are facing our grazing Industry in a timely, relevant and professional way. MFS was also able to bring together some of the leading speakers in this debate and give the community an opportunity to contribute to this debate.

Another highlight for the Project was the event where the Hon. Steve Whan, NSW Minister for Primary Industries officially launched the MFS GrassGro® Project with Hon. Dr Mike Kelly AM MP, Parliamentary Secretary for Agriculture, Fisheries and Forestry (DAFF) also being present.

Approximately 20 people attended the launch and both politicians spoke of their support for the Project and Monaro Farming Systems as an organisation.

3. What was the biggest frustration about the project and why?

The biggest frustration about the project would be the apathy that is inherent in any farming community to embrace new technologies and respond proactively rather than reactively to change. The wide range of producer attitudes and beliefs within MFS were both a strength and a weakness in the delivery of this Project.

The lack of uptake of the model by the core group and inability to get to the expected standard of competency at the “official” completion of the Project was a frustration but can be well understood when considering all the surrounding influences and forces operating.

The promising and positive feedback comments made in the evaluation report are encouraging and do demonstrate that the process of integrating decision support tools into farming community decision making has begun.

Another frustration MFS encountered was the challenge to source service providers or find presenters with the appropriate experience and technical knowledge to present the seasonal outlooks. MFS did engage Stuart Burge (local private agronomist) and Jim Shovelton (pasture agronomist for Mike Stephens and Associates), to deliver these “outlooks” to shift the reliance away from Doug Alcock (NSW DPI) who obviously had his own work commitments and obligations.

However, it did become apparent that Doug Alcock, is well recognised as the leading authority within NSW on the use of the GrassGro model and extension to the farming community. This can be seen as a very valuable resource for MFS into the future.

4. Were there any unexpected outcomes – positive or negative? Please briefly describe.

An unexpected positive outcome is the uptake of the “seasonal outlook” program (instigated by this Farm Ready GrassGro project) by NSW DPI to be extended across six other regions throughout NSW.

This outcome extends the delivery of targeted and strategic information to a much wider farmer base which will assist in producers making more informed decisions based on accurate data. This can only help move the Grazing Industry towards a much more accurate systematic and self-reliant approach to decision making.

5. Are there future activities that will be pursued as a direct result of this project? If so, please identify.

Future activities include the ongoing “seasonal outlook” sessions which will continue as a regular component of MFS operations. These outlooks will deliver, relevant and timely information to producers at critical decision making times of the year (Spring, Summer and Autumn). It is anticipated over time, these reports will become more relevant to members by the presentation of these “outlooks”, not so much from NSW DPI advisor Doug Alcock, but a gradual shift towards emphasis on presentations by

the core-group producers themselves. It is recognised that uptake of information is directly facilitated by farmers learning from their peers and from examples presented by others in the farming community therefore this avenue will continue to be explored.

MFS will also pursue the development of “grassgro reports” using local, relevant trial data such as our Evergraze perennial pasture trials (two active sites on the Monaro) and utilising data from a current MFS genetic evaluation trial (wether trial).

These two reports will use grassgro to compare the impacts of perennial pasture systems on business performance and also the impact of genetics and bloodline on business viability.

Part D:

Activity & Financial Summary -

Please provide details of: (if applicable)

- any delays to activities and the reasons why these delays occurred
- any activities not conducted or changed and why; and

Please see Milestone reports which have more details of all this information.

Milestone 1

There have been some delays to the setting up of the “farm systems” / ground truthing the model to Monaro conditions. This (as explained above) is mainly due to the delays experienced in receiving the soil analysis results from the NSW I&I accredited laboratory. The soil tests requested are quite extensive and do require substantial laboratory analysis therefore adding to the turn-around time. Another factor contributing to the delay was errors made by the laboratory in their calibrating equipment which required a re-analysis of the samples.

This process also involves some substantial time inputting the model and acceptability testing etc and (in the Monaro region) can only be done by Doug who has the knowledge and expertise of the Monaro conditions as well as GrassGro. We would still expect, at least, the three “soil types” to be calibrated into a farm system by Dec 2010.

After consultation with GrassGro users (as explained above) and Horizon technology who sell the software, the training plan has been slightly altered to ensure optimum uptake and applicability to the users ie. principally MFS members. MFS received advice from several industry sources to conduct the training at two levels because of the complexity of the program. The Level 1 training conducted, because of the skill level required of the presenters, cost more than was originally budgeted. The MFS Board recognised the need for flexibility in the roll-out of the training component and therefore a final decision on further training is still being debated. Significant consultation with Industry has been conducted on this issue. The remaining funds allocated to training may be better and more efficiently utilised by providing more Q&A sessions amongst members and by the trained producer members, presenting demonstrations of GrassGro model runs to the wider, member base. Progress on this issue will be regularly reported.

A significant amount of reporting and evaluation has occurred in MFS Board meetings over the year regarding the progress of this project. Several achievements have been made and all proposed activities completed although it has been a continually evolving process to rethink the most effective way to move forward to address challenges that could not have been anticipated.

The major one being time constraints experienced by producers who (often over-committed), the technical level of expertise and the amount of time required to familiarise and become competent in using the GrassGro model most effectively, time constraints of key consultants involved in the project and analysis delays experienced by laboratories etc.

The Project Officer for MFS, Nancy Spoljaric and the Financial Officer for MFS, Chris Blencowe (Board Member and certified, practising accountant) have had a face-to-face meeting in January to review expenditure for this Project for 2010 in relation to alignment with proposed milestone activities.

Chris has been satisfied that the financial management, expenditure for 2010 and reporting to the MFS Board for this project in this period has been carried out adequately and to the approval of the MFS Board members.

Milestone 3

At this stage the variations to Milestone 3 schedule (Nov 11 to April 12) which can be envisaged as a possibility are as follows;

The “*Workshop which puts local MFS research trial data into GrassGro® model to run scenarios and predictions for members*” may not be completed as the same activity planned in Milestone 2 is still yet to be conducted over the next three months. The MFS Project Officer will keep FarmReady updated on the progress.

The “*Delivery of three education/evaluation group sessions between Oct 2011 to Mar 2012 to run scenarios*” may not be possible in this time-frame as there are only three “critical decision” making times of the season on the Monaro which are autumn/winter (April/May), the start of the spring period (early Sept) and the summer period (November). We have one seasonal outlook organised for the 29th of November 2011 and therefore it will not be timely to try and fit in three more of these sessions before the end of March 2012. This timing and the possible options of extensions will be discussed with FarmReady.

Another contributing factor is the approaching Xmas / holiday period which is a time traditionally when MFS activities are halted as members are spending time at home with families, on holidays and away from work. Previous experience has shown that it is not productive or effective to hold activities from Xmas through to the end of January for producers as attendance is very poor.

Although the core group is progressing well with using the model, it is becoming more apparent the complexity of this tool and the time commitment (both physically and mentally) required by the user to be able to use this tool effectively and confidently.

The “Think Tank” exercise in M3 will be extremely useful in clarifying the optimum delivery method for grassgro modelling information to the farmer and the most effective way to transfer the information in a way that facilitates its uptake by farmers. The Think Tank will also be used to evaluate the applicability of this tool for use by producers versus extension professionals, and both its strengths and limitations as a decision making tool at the farm level.

- any other relevant information affecting the completion of the project

Total Project Expenditure - List of total Project Expenditure and contributions since the beginning of the project.

	\$ Amount GST Exclusive
FarmReady Industry Grant payments to date	\$81,430
FarmReady Industry Grant expenditure to date	\$80,329.19
Grantee’s cash contribution to date	\$1185
In-kind contributions to date (if applicable)	\$35,000

Variations - If there are any shortfalls or over-runs in expenditure on these activities during the project, including the Grantee’s contribution, please provide reasons for this.

Please also see Milestone Reports which provides details of all the under and over spends throughout the Project.

****There has been an underspend during the reporting period for the first two milestone activities.**

For the **first** activity “*On-farm input and manipulation of data in GrassGro model using soil test analysis and landholder records for three soil types*”, the contractor engaged to carry out this work is the local NSW I&I Livestock Officer, Doug Alcock.

Departmental processes are currently underway to allocate Doug’s work in this area to a specific project under which Doug (NSW I&I) can invoice MFS for delivery. The data manipulation and development of the GrassGro farm systems underpins the whole success of the project and Doug has made significant progress with individuals and the core-group in developing robust systems for each Monaro soil type. Collection of quality data to enter into the model has taken time. The analysis of nine representative soils has been completed and weather data sets for specific GPS coordinates have been purchased by MFS to ensure data modelling can be specifically targeted to locations and provide the most relevant and accurate predictions.

Doug’s work is on-going and he is working towards a budget of \$4,000 contract fees plus \$1,000 travel for his involvement in this reporting period.

For the **second** activity, “*Delivery of 4 education / evaluation group sessions between March and December 2010 to run scenarios and ‘what if’ sessions*”, the reason for the underspend includes the fact that several of our consultants/key speakers involved in the GrassGro presentations have not charged MFS for their time and travel costs due to their willingness to help support local farming systems groups. The following presenters have not passed on costs to MFS either for the reason outlined above or because it has been inappropriate to do so ie. conflict of interest reasons; David Sackett (CEO of Growth Farms Australia), Doug Alcock and Phil Graham (NSW I&I), Stuart Burge, local district agronomist and Oli Cay, producer member and chairman of Monaro Farming Systems. Coordination costs have been approximately \$1800 (budgeted \$4,000) and catering and venue hire expenses total \$2685.

As explained in the June 2010 progress report...there was an overspend in the **training milestone activity** due to a decision to make a variation in the delivery of the training from spreading across two years to delivery in a one-off package. This was done after extensive consultation by MFS with several “GrassGro” users and experts in the Industry ie. Doug Alcock (NSW I&I), Rob McCook (Horizon Agriculture), Jim Virgona (Senior Lecturer Charles Sturt University), Bruce Allworth (Fred Morely Centre), Helen Daily (University of Tasmania) and Andrew Moore, CSIRO. It was agreed that a one-off training package with follow-up support and refresher sessions would be the most effective delivery of training and give a better chance of uptake.

The allocation of \$3200 to training in Milestone 2 will now be reviewed by the MFS GrassGro sub-committee and different options to use this training money will be discussed. It is highly likely that some form of training to producers will be relevant and necessary to progress the project. These options will be discussed with FarmReady administrators and approval in writing will be pursued if deemed that a variation in the funding deed is necessary.

****A funding deed variation for this project was completed in March 2011.**

Underspend 1st M2 activity of \$550 – invoice from NSW Trade and Investment did not exactly total \$6,000.

Underspend 2nd M2 activity of \$5,409 – Due to the fact that one of presenters for the seasonal outlook (Sept 8th, 2011) did not charge for the presentation and preparation. Also our summer

seasonal outlook workshop was put back to Nov 29th 2011 due to seasonal conditions and we expect an invoice for this presentation of approx. \$3,000 (Jim Shovelton, MSA) which will be received in early December 2011 and once paid, will bring the underspend for this activity back to only \$2,409. Also once the project coordination costs are paid for this seasonal outlook, this will further reduce the underspend.

Underspend 3rd M2 activity of \$2,000 - Due to seasonal conditions and other project commitments for MFS, this workshop has not yet been completed. Another factor in this delay is the time taken to gather pasture measurements and other soil and animal data at this trial site (Evergraze perennial pasture trial, Greenlake, Bombala) to have sufficient qualitative and quantitative information to use in the Grassgro modelling.

The data has been collated and the group is still fully committed to conducting this exercise and plans to coordinate this activity within the next three months. MFS has the resources and the expertise available to ensure this is a valuable exercise for the members and will add further strength and credibility to demonstrating the applications of grassgro modelling to make strategic decisions regarding pasture management.

Overspend 4th M2 activity of \$3427 – This Forum due to the political timing, attracted a crowd of 210 registrations which was double the initial target number of 100 people. This had flow on costs in the event organising, specifically in the catering costs which were significantly under-estimated in the original budget (est \$1800, actual \$4,420). Because of the number of registrations, the only appropriate venue in Cooma was the RSL Club. A mandatory condition of the MFS booking was that catering had to be conducted by the RSL catering service provider therefore there was no scope to obtain more competitive quotes. This issue was discussed with Naomi Brydon who was also sent a copy of the Clubs catering price list which showed the significant costs per head charged at this venue.

Another reason for the overspend was the advertising budget which was not included in the initial estimations (advertising \$1619) as well as the significant cost of coordination for this event which was done solely by the MFS Project Officer and as you would appreciate with an event of this size, did take a considerable amount of planning and implementation. This coordination cost was also overlooked in the initial budget allocations but totalled \$1890 (also see time sheets).

The Forum was a very successful and informative event both for the MFS organisation and the district and Farm Ready funding support was recognised at the event.

****A funding deed variation for this project was completed in November 2011.**

Underspend 1st M3 activity of \$1,078 – The reasoning behind this underspend was due to the fact that one of the consultants used did not charge the full estimated amount of \$3,000 (Jim Shovelton, Mike Stephens & Associates) and travel costs were slightly below the allocation due to the fact one of the presenters employed was local and travel costs were not significant.

Underspend of 3rd M3 activity of \$85 – the costs of the software purchased was slightly less than the \$350

Underspend of 5th M3 activity of \$2,273 – The total cost charged by the consultant to conduct this evaluation report and think-tank was less than the allocated amount of \$15,000. This \$15,000 was allocated to this activity when initially developing the Project Application and it

was envisaged that a much bigger “think tank” exercise would be required ie. inviting guests to a central location and the facilitation of an in-depth meeting and evaluation exercises. The travel, accommodation and time costs were then factored into this allocation of \$15,000.

Assets - Please list any assets created or acquired in the project during the project.

Asset Purchased	\$ Amount
Intangible asset – GrassGro 3.2.5 software licenses	\$2015
Total assets purchased	\$2015

Part E:

Please list any major reports or papers produced throughout the project. Please attach any that have not already been forwarded to the department. A hard copy attachment or an electronic version is acceptable.

Seasonal Outlooks

1. GrassGro “Seasonal Outlook” Reports (* = attached);
 - May and Oct 2011, Stuart Burge
 - Sept 2011, Doug Alcock
 - Nov 2011, Jim Shovelton
 - Dec 2011, Doug Alcock
 - March 2012, Doug Alcock

2. “Prospects for Spring” – Stuart Burge, Sept 2010

Presentations that have included GrassGro analysis...

3. “Should High Meat Prices Change Your Business” – John Web Ware, The Mackinnon Project, University of Melbourne, May 14th 2010
4. “Is There a Silver Bullet” – Phil Graham & Doug Alcock, NSW DPI, May 14th 2010
5. “Sheep Production, What Really Matters” – Dave Sackett, Growth Farms, May 14th 2010
6. “Time of Lambing for the Monaro” – Oliver Cay, MFS Chairman, Sept 2010

Climate Change Forum, Cooma June 29th 2011 – speaker notes

7. “Farming in a Carbon Priced Economy-implications for farm businesses” – Mick Keogh, AFI
8. “The Impact of Projected Climate Change on Monaro Farms” – Doug Alcock, NSW DPI
9. “C Sequestration on the Monaro, Where are we at?” – Lachlan Ingram, University of Sydney
10. Professor Ross Garnaut’s transcript – carbon pricing and climate change policies
11. Pre and Post media releases
12. Final Project Evaluation Report – Col Langford Agricultural Consultant

Declaration

First, Project Manager, I certify that all the information provided in this Final Report is complete and accurate.

Print Name: Nancy Spoljaric....Sign: see scanned copy....Date: 11/5/12.....

Position: ...MFS Project Officer.....

Second, Certification by a Chairman, Chief Executive, Financial Officer of the Grantee, I declare that all the financial information provided in this Milestone Report is complete and accurate.

Print Name: Oliver Cay.....Sign: ...see scanned copy.....Date: ...11/5/12.....

Position: ...MFS Chairman.....

1. Please email completed signed report to Elaine.Roffe@daff.gov.au

OR

2. Post signed hard copy to:
Elaine Roffe
Project Officer
FarmReady Industry Grants
Dept of Agriculture, Fisheries and Forestry
GPO Box 858
CANBERRA ACT 2601