

GRAIN AND GRAZE II

Scoping Study Livestock Training

Final Draft December 2009



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Executive Summary

Producers in the mixed farming regions have the opportunity to increase farm profit and resilience through the adoption of best management practices for mixed farming systems. However, should “best management practice” be the targeted outcome for future investment in mixed farming systems?

While pursuit of best practice is valid in ordered systems, it may not lead to the most desirable outcome in complex farming systems. Following best practice systems can actually discourage farmer innovation by prescribing systems that may not be appropriate, and/or may not provide the best solution available. (Snowden, 2003)

It is important to further develop the synergies between the cropping and livestock enterprises for an integrated whole farm approach.

Decision-making and practice change in a mixed farming system is complex. Increased knowledge and capacity of producers and advisers to make better decisions through a collaborative training program is required to facilitate the adoption of improved management practices for mixed farming systems.

Producers in the mixed farming regions have the opportunity through this program to increase farm profit and resilience through the development of skills to make better management decisions for integration of livestock and cropping systems rather than just targeting “best practice” per se.

During the development of the Grain & Graze II Program, it was identified that a coordinated approach to livestock training was required to avoid duplication of efforts across farming systems groups, agencies and industry bodies. There was also an opportunity tap into regional farming systems groups and existing regional networks in order to make delivery of training programs more efficient and effective. To this end the Agricultural Excellence Alliance (SA) was contracted to develop a Scoping Study for Livestock Training, in consultation with GRDC, MLA and the participating regions of Grain & Graze II.

This Livestock Training Program would be delivered from 2010 to 2013 in the Grain and Graze II regions of Western Australia, Eyre Peninsula of South Australia, Eastern South Australia, Northern Victoria, Southern Victoria, Southern New South Wales and Northern New South Wales and Southern Queensland. The regional Grain and Graze II Co-ordinators would be responsible for the co-ordination of this training program.

An important finding from consultation in development of this document was the increasing role that advisers/consultants play in providing information and assisting in decision-making. Therefore, a key component of this proposed training program includes the up-skilling of the adviser/consultant sector. This is considered to be an effective

strategy to directly influence practice change. It is also considered an efficient and cost-effective method because each individual adviser/consultant will influence the management decisions of an estimated client base of thirty producers.

This Scoping Study for Livestock Training identifies a three-pronged approach to increasing livestock management skills of farmers, advisers and consultants in a mixed farming context;

- Consultant mentoring: livestock and cropping consultants sharing their knowledge with each other in the field, developing networks of expertise
- Facilitated learning groups: enable small groups of farmers to identify their specific training needs and support active on-farm adoption.
- Farmer and adviser forums: upskilling consultants/advisers and agribusiness resellers in state-wide forums, upskilling farmers at local and regional forums in collaboration with other key events where possible.

The key features of this innovative approach to training include;

- builds the capacity of producers and advisers to make complex decisions,
- collaboration at all levels (research and development organisations, training providers, producers and industry networks and advisers and consultants),
- improved connection with producers in the mixed zones,
- expanded target audience (consultants and advisers),
- improved effectiveness of training through facilitated learning groups,
- increased adoption of best management practices,
- whole farm business approach that is not segmented based on enterprises,
- opportunity for co-investment and leveraging of funds,
- efficient use of limited resources,
- reduced competition between training programs,
- linkages to advisers and farming systems groups with established relationships.
- mentoring relationships established between livestock and cropping advisers
- considers and influences the relationships between advisers and farmers to cause adoption and produce outcomes

The adoption of best management practices will result in optimised whole farm profit and/or reduced risk in the mixed farming zone.

Ideally this regionally based program would be a partnership between GRDC and MLA.

Collaboration and co-investment could include the following organisations:-

Australian Wool Innovation Limited (AWI);

FarmReady;

Various State and Federal Government agencies;

Elders Limited and AWB Landmark and other resellers;

Co-operative Research Centres (CRC's);

State based Universities;

Agronomic and Livestock Consultants;

Numerous farmer based groups including farming systems groups.

Key Recommendations

1. Focus on profit and driver of profit-
 - benchmark enterprise and farm profit (current situation);
 - Identify drivers of profit in livestock enterprise;
 - identify changes or best management practices of profit drivers.
2. Advisers/Consultants/Resellers directly influence practice change-
 - advisers/consultants to become a specific target audience for training;
 - engage resellers and agribusinesses;
 - up-skill this sector through forums and mentoring programs.
3. Whole farm holistic approach-
 - organisations that provide training need to improve collaboration;
 - reduce competition for producers' limited time for training;
 - amalgamate cropping and livestock training activities;
 - funding for co-ordinators or facilitators of producers network/farming systems groups will build regional capacity;
4. Opportunities to improve the effectiveness of training for producers-
 - ad hoc training activities should only be used to raise awareness levels;
 - facilitated recruitment of participants that will implement and influence change;
 - collaborative learning model to be applied to ensure (i) learning agenda is determined by participants, (ii) action plans to implement practice change and (iii) monitoring and evaluation of implemented change.
 - diversity of training activities is required to cater for a range of learning styles;
 - small groups (5 to 10 participants);
 - training must include support required to drive, monitor and evaluate change;
 - audit of consultants, advisers and training organisations to determine (i) who and what specific training products have been developed and (ii) who and what specialist knowledge and skills that individuals possess;
 - utilise existing products and resources but tailor training to specific needs and farming systems;
 - focus training on the guiding principles rather than detailed more specialist information.

Objectives and Outcomes

The information below is an extract from the Consultancy Agreement between GRDC and Ag Excellence Alliance that outlines the brief for this Scoping Study.

The Services are to develop a nationally coordinated action plan for the delivery of livestock management training activities in conjunction with Meat & Livestock Australia (MLA) ready for implementation in January 2010 as outlined in the attached Communiqué. The scope of these services relates in particular to:

- consultation and workshops with other regional project proponents involved in the program and MLA;
- provide strategic and tactical mixed farming input at proposed MLA training and delivery review workshops;
- utilization of existing market intelligence and research on mixed systems conducted by regional proponents to identify content, delivery methods and target audiences to inform and shape existing and planned MLA and AWI delivery programs;
- the development of a methodology and mechanism as to how existing and planned MLA and AWI delivery programs can engage with mixed famers and advisors through the proposed GRDC / MLA Mixed Farming Systems Program.

A detailed Action Plan for the delivery of livestock management training activities by MLA and AWI within the proposed GRDC / MLA Mixed Farming Systems Program will be submitted to the Corporation at the completion of the project.

Methodology

A Management Committee* was established to undertake the GRDC funded Scoping Study for Livestock Training component of the Grain and Graze II Project. The methodology and processes for this Scoping Study are summarised below.

1. Collate information (Scoping Studies, Theme Work and Action Plans) from G&GII regions;
2. Identify training needs for each of the regions (Appendix 4);
3. Clarify issues identified in consultation with G&GII Co-ordinators, including collaborating organisations;
4. Identify a list of livestock training products and programs from MLA, AWI, CRC for Sheep, CRC For Beef Genetic Technologies, CRC for Future Farm Industries and others (Appendix 5);
5. Consult with key persons within the above organisations to provide a synopsis of each of the products and programs;
6. Identify any gaps in products and training needs;
7. Determine how to use or adapt existing training programs for mixed farming zones to increase the adoption of best management practices;
8. Survey advisers, consultants and producers from each of the regions to (a) identify any gaps in the regional lists of training needs; (b) prioritise training needs, and (c) identify target audience and methodology for training;
9. Draft proposed plan for Livestock Training under the G&GII project (including objectives, outcomes, strategies/processes, activities and budget);
10. Consultation and review of proposed plan with stakeholders (G&G Co-ordinators, GRDC and MLA);
11. Final product (including reports for each of the above).

* Management Committee comprised Ag Excellence Alliance (AEA) committee members – Mick Faulkner, Bill Long, Jeanette Long, Heather Baldock and Jen Lillecrapp. Eyre Peninsula Farming Systems and Grain and Graze Project Manager Naomi Scholz.

Opportunities to increase the adoption of best management practices for livestock in the mixed farming systems.

Methodology

The suggested uses and possible improvements outlined are based upon feedback from those involved, or have previously been involved, in livestock training and extension programs. Representatives of agribusiness resellers were also consulted.

A list of consultants/advisers included in the consultation process is listed in Appendix 2.

Results

Those involved in the consultation and feedback unanimously believed that there is adequate information and a suite of training products and tools to address the issues that limit productivity and profitability of livestock enterprises in the mixed farming zones. The consensus was that despite the range of training and extension products, adoption of best management practices has been low. This anecdotal information or perception is supported and quantified from bench-marking exercises and surveys. Can this statement be substantiated?

Discussion

Economic barriers

A major barrier, if not the most fundamental barrier to adoption of best management practice, is the perception by a minority of growers in some districts that livestock are not profitable in the mixed zone (personal communication Heather Baldock, Gary Hallam, Ashley Herbert and Ken Severson). Three of the four persons considered that the perception was not accurate and not based on objective financial information. Therefore, it is essential to overcome the perception through objective and accurate financial analysis. Until the perception is overcome, no amount of training or extension will effectively drive change and the adoption of best management practices. However, it is critical that the majority of farmers recognise the value and contribution of livestock to farm profit and risk.

The opportunity for increased profitability is to focus on those factors that will have maximum impact on increasing profitability; that is the profit drivers. This is a major strength and point of difference of the "Sheep's' Back Program" in Western Australia. Extending this program across all regions could be one strategy to address the issues of objective financial benchmarking and improving the performance of the key profit drivers.

The role and benefits of livestock in the mixed farming system is increasingly being recognised in some of these regions. This trend has been accelerated in the lower rainfall districts or where there has been a succession of poor seasons. There are four major constraints to producers increasing their livestock enterprises, productivity and profitability. These underlying constraints include:-

- on-going drought or a succession of poor seasons and profitability;
- lag time to build livestock numbers and the historically high price for breeders (sheep);
- lack or deteriorated condition of infrastructure (fencing, yards and wool sheds);
- up-coming generation of farmers have a preference for mechanisation, technology and the associated work of cropping compared to that of livestock.

Awareness of training opportunities

In the mixed farming zone there are a range of farmer groups and individuals who do not have established relationships with advisers/consultants who specialise in livestock. As a result these groups and individuals have a limited awareness of the opportunities and resources for livestock information, knowledge and training.

In the report published by MLA – “Southern Meat Producers – Training Needs Analysis” the role of “brokers” was identified to monitor “felt” needs, create awareness and aggregate demand for livestock training.

Training barriers

Issues of importance identified by producers to improve livestock productivity and profitability are often interpreted as being met through the development and delivery of training products, or more specifically, workshops. This interpretation can lead to identified needs not being fulfilled. Therefore, it is important that organisations and advisers/consultants develop a range of appropriate strategies and activities that will fulfil these identified issues and needs.

It is important to recognise that only a small percentage of producers identify training as a tool to address issues, and an even smaller proportion of these producers actually attend training. Producers are reluctant to invest in training for a range of reasons, including time commitment and often previous experiences. Training is often identified by producers as attending workshops, while the training provided during their relationship with a trusted adviser, mentor or active learning group is often overlooked.

An identified barrier to engaging in training is a lack of confidence in the ability of training to meet their information needs to adopt practice change. This may only be a perception or based upon prior experience.

Collaboration to avoid competition

It is important that organisations and advisers/consultants delivering in livestock training work collaboratively to ensure there is not competition for limited training participants. This collaboration must extend to and include farm business management and integrated cropping and livestock enterprises.

Collaboration should go one step further to integrate a holistic approach to management rather than focussing on enterprise or commodity specific issues.

There would appear to be a perception, by advisers/consultants that there is some conflict and/or competition between the research, development and extension organisations. Marketing of training programs has been reportedly difficult because at the producer level, there is confusion in differentiating and recognising the synergies of some training products. For example, there have been reports and examples of difficult negotiations as to which organisation should fund particular activities delivered under the Making More From Sheep and the AWI Network program. It has been suggested that MLA and AWI develop an agreed policy to define funding responsibilities and/or cost-sharing arrangements for training activities.

Without exception, concerns were strongly expressed that there are too many events with a similar target audience which results in competition for producer's involvement and time. This is being reflected through a lack of demand or attendance at many workshop type training programs and extension activities.

A strategy suggested by many advisers/consultants to improve collaboration is to combine and/or amalgamate training activities and extension to cover a broader range of topics that relate to both the cropping and livestock enterprises.

It has also been suggested that in some regions there is a need to reduce the number of workshops and field days and concentrate on other forms of extension that may engage a different audience.

Funding of training programs

Training delivery in some regions has significantly reduced with the completion of the Federal Government's FarmBi\$ funding. A limited number of training products and advisers/consultants have been approved under the FarmReady Program. This program can provide funding for producers to subsidise the cost of training. The onus for gaining accreditation for FarmReady funding is with the individual adviser/consultant and not the training product. However, there may be a role for MLA, AWI and CRC's to facilitate this process and ensure consistency across States, increase the accessibility and reduce the cost of training to producers.

The completion of the FarmBi\$ program and the funding of EdgeNetwork and other training programs exposed the weakness of organisations that were one dimensional in funding of training activities.

Timing of training activities

The lack of time producers will commit to training is primarily due to competing demands and commitments on time. It has been suggested by many advisers/consultants that training should be limited to two or a maximum of three events for local producers per annum. Additionally, many producers have opted for one on one training as provided in their normal relationships with one or more trusted advisers. It is clear this is an increasing trend and one that should be influenced to reach target objectives.

The poor attendance or participation in training activities can somewhat be attributed to incorrect timing given the commitment of producers running mixed enterprises. The identified windows of opportunity for training activities are generally in February, March and August. However, it is also important to consider that there are often a number of other events and activities competing for the limited time of producers during these times. This again reiterates the need for collaboration at a farming systems level (as discussed below).

Facilitated recruitment

General advertising and invitations sent to a client data base is not considered to be effective in recruiting training participants that will implement or influence practice change. Facilitated recruitment involves funding the appropriate person with established networks and an understanding of relationships to motivate and sell training to the producers. The facilitated recruitment ensures that those who are targeted are those that will directly affect or implement change. This recruitment method will often result in a reduced number of participants, but is deemed to be more effective in affecting change and adoption.

Incentives to attend training

Linking devolved grants and other funding opportunities for producers with attendance of an accredited training program has been another strategy to increase the adoption of best management practices. This strategy has been successful in getting producers to attend training. However, it does not ensure engagement or commitment.

Target audience

Producers are increasingly concentrating their time and expertise in managing the business. Consequently, there is an ever increasing trend towards the use of consultants and agribusiness reseller advisers to provide specialist technical expertise at the whole farm, tactical or enterprise level to assist the decision-making process. Stone (2005) estimated that over fifty per cent of Australian farmers use specialised farm consultancy services to assist them with farm production, marketing and management issues.

Organisations that target producers for training need to recognise the trend and the influence these consultants/advisers have on the decision-making process. It is essential to incorporate this sector within the target audience and would require a fundamental cultural change. This approach increases the efficiency of delivery and adoption because an individual consultant/adviser can directly influence approximately thirty producers each.

Another consequence of this trend is that there is the expectation (by producers) that these consultants/advisers will undertake professional development to build their skills and continually update their technical knowledge. As a result producers themselves are becoming less inclined to undertake training.

MLA, AWI and CRC's have traditionally targeted training directly at producers. However, there is a strong belief amongst this group that, to improve adoption, the organisations should instead target those currently providing advice and strategic implementation plans to growers on a continuous, trusted basis.

Network and producer groups

Clearly the role and influence of groups need to be defined. There is a diversity of group types, structures, size and operations. Groups vary from small discussion groups to facilitated learning groups, semi formal farm groups, politically active groups, single issue to professional farm management groups and landscape health to profit focussed groups. Groups can have a small geographic area of operations or a broad regional operation. There is considerable opportunity to work with existing farming systems groups and form (or use current) distinct smaller groups to achieve targeted outcomes.

There was a diversity of opinions amongst advisers/consultants as to the role and purpose of producer groups and networks. There were those that believed that it is important to foster the producer groups and work to identify training needs and facilitate pathways to build levels of knowledge. However, there were also those that considered that groups do not need to be structured and perpetuated and only exist to meet a specific need. Another theory was that these groups must be autonomous and do not become dependent on an adviser/consultant. Autonomy and the success and succession of producer groups and networks were considered to be dependent upon establishing appropriate structures. These structures would ensure an on-going purpose and performance beyond a project and/or training activities. Therefore, it is important to acknowledge that producer groups and networks establish for a range of needs and have a range of levels of required support. Organisations that have provided funding for training activities focus primarily on the development and delivery of discreet training products. This strategy allows for more objective measurement and evaluation. However, a small number of advisers within State Government agencies felt that there is a need for an ongoing more flexible approach. This could be delivered through existing groups that include discussions and field days/farm walks. This approach has a number of advantages, (i) the issues addressed are directed from within the group; (ii) knowledge and experience is being contributed from the experiences of peer farmers and advisers; (iii) allows members to continually build their knowledge. However, the questions remain as to how these groups are supported, funded and best serviced.

Agribusiness Resellers

The major agribusiness resellers (AWB Landmark and Elders) have a national network that is estimated to service 85% of all livestock producers and grain growers (pers comm, Craig Hole). Representatives of these corporations have identified the opportunity to expand livestock production services. For example, Elders are in the process of appointing up to 150 livestock production advisers. The major limitation identified by these corporations is the ability to recruit staff with the necessary knowledge and skills. Therefore, training and mentoring of these appointed advisers is going to be significant.

AWB Landmark and Elders also feel that the livestock research and development organisations have not engaged advisers at the branch level.

Up-skilling of Advisers/Consultants/Resellers

Almost without exception all consultants/advisers and agribusiness resellers identified the need for State Forums for advisers/consultants and agribusiness. It has been suggested that these forums should be convened on annual basis. These forums would provide the opportunity to:

- undertake professional development;
- networking with peers;
- improve their technical knowledge;
- update their awareness of industry issues and trends;
- provide useful feedback to the research and development organisations on key issues;
- facilitate further collaboration and awareness of training products.

This concept has been trialled to some extent, on a national basis in Melbourne in 2009 and at a state level in Western Australia. There is considerable support to further expand these forums to include a broader target audience and on a State basis.

Personalised training

Training providers need to always remember that, there is a range of learning styles within any producer group. Therefore, to accommodate these differences it is important to provide a range of activities to fulfil a range of learning styles.

Coaching and mentoring of small groups (less than five participants) allows for more personalised training. Examples of programs that use this approach include “BeefCheque”, “Beef Profit Partnerships” and the “Lifetime Ewe Management” programs.

Customising training products

Advisers and consultants must customise training activities to the specific needs, conditions and farming systems of clients and not solely rely on “off-the-shelf” products.

Aligned with this issue, is that organisations consider the knowledge needs of the producers and how to best meet these needs, rather than focussing on developing training products and/or extending results of research and development programs.

Audit of training products and providers

Another strategy identified to increase efficiency and improve the development of training activities was to undertake an audit of advisers/consultants. The audit would identify what activities are currently being delivered and by whom. This would be beneficial to (i) avoid duplication; (ii) capitalise on specialist knowledge and skills within the delivery networks and (iii) improve the quality of the training products and delivery.

Specialist and/or general Advisers/Consultants

There was a diversity of opinions on the issue of advisers/consultants increasingly demanded to provide more specialist or generalist information to clients. This diversity may be a reflection of the personal preferences of the individuals. This resulted in the conclusion that there is a need to further segment the market and more clearly define the role of organisations and the role (or services) that individual advisers/consultants provide to producers. This could be achieved through the audit of advisers/consultants.

Guiding principles

In the mixed zone the livestock enterprises are generally not the profit drivers of the farm businesses. A general observation, often repeated, is that producers' level of interest and motivation to undertake livestock training is low. However, advisers/consultants generally considered that the level of livestock knowledge and management expertise amongst producers in these zones is relatively low. Therefore, it is important to initially consider only training activities that provide the basic guiding principles. It was identified that training developed and marketed at the more specialist level would immediately segment the audience as producers in the mixed zone do not want to develop specialist or expert levels of knowledge of livestock issues..

Special interest issue based groups

Traditionally producers groups have been formed on the basis of geographical locations for a number of valid reasons. However, there is the opportunity to better meet the needs of producers by delivering more effective training to "issue" focussed groups of producers. The other major advantage is that specialist skills and knowledge of consultants/advisers are able to be matched with groups based upon issues rather than geographical location. In an effort to overcome the costs and logistics associated with producers being spread across a range of locations it is important to consider methods for delivery. Suggestions include the use of the internet for web-based learning and seminars, intensive training and farm visits on a less frequent basis.

On-line training

The Queensland Department of Primary Industries has championed the application of "webinars" to deliver seminars via the World Wide Web. The use of this technology reduces the significant time, travel and associated costs for those presenting and attending training events. This also allows for the more efficient use of specialist expertise across regions and the opportunity for delivery of information to producers on a basis of issue rather than geographical location. There has been considerable interest expressed in the use of this format although adoption has been relatively low and requires a cultural shift of producers to regularly use this tool.

On-farm research and demonstrations

Incorporating on-farm research and demonstrations were unanimously deemed to be an integral tool to build upon workshops and training events to further enhance rates of adoption. These projects also provide an important focus for producer groups and build capacity which often results in a need for further information and on-going training.

Collaboration with regional producer updates

The concept of forums for producers has been used by a range of organisations including AWI/DPI Victoria with the Best Wool/Best Lamb Conference and GRDC Farmer Updates. These forums can provide a platform for:

- extending research and development outcomes¹;
- promotion of products (including decision-support tools);
- practice change experiences of producers;
- outcomes and benefits of group activities.

The content of these forums should be determined by regional stakeholders who understand the important local issues and conditions. A successful model for these forums has included the use of break-out for more specialist information to be delivered through small group concurrent sessions. These sessions should facilitate discussion and include panels that comprise specialists and producers.

In recognising the lack of time and competition for growers/producers attending training activities there is the need for all stakeholders to collaborate. There is an extensive network of existing farming systems and grower groups. A large percentage of these groups are involved in driving local forums, demonstration and training activities. Therefore, rather than duplicate these forums for livestock training and extension, it is recommended that the regionally topical livestock issues are incorporated within the existing regional training activities or forums.

Regional co-ordination

It is important to consider the structures, resources and established relationships of delivery agents and producers within each region when delivering or co-ordinating training activities. Co-ordination at a regional level is critical to the success of training programs.

Building and supporting regional capacity

The traditional extension network of advisers funded through the State Government agencies is continuing to decline. The farming systems groups and consultants have evolved and grown their organisations and businesses to meet this need and market. These consultants and groups have primarily focussed on cropping and natural resources management issues. This focus has been in part driven by the opportunities for on-going funding provided through GRDC and the Federal Government in supporting these groups and activities. This on-going funding has contributed to supporting staff salaries and groups. This support is essential to build capacity within the regions. These existing networks and structures may provide an opportunity for MLA, AWI and CRC's to further integrate and collaborate on research, development, extension and training activities.

Follow-up support for training

Ad hoc training activities will increase the level of awareness, but cannot directly change practices. Therefore, it is important to consider a range of extension methods and activities with significant follow-up to support this process.

Training is often delivered on an ad hoc basis through the presentation of a workshop. It is unrealistic to expect that training in isolation will lead to complex practice change. All respondents involved in the consultation identified the requirement for follow up with those that participated in activities to identify levels of adoption and/or identifying strategies to overcome the barriers to adoption. Follow-up activities are essential and must be an integral component of all training. A participatory approach to training that includes action plans and on-farm monitoring and evaluation would further increase adoption rates of best management practices.

Training modules need to progressively build knowledge and skills. Workshops and workshop series that provide guiding principles need to be followed up with smaller group activities. These activities need to concentrate on applying this knowledge and skills to implement change that will improve management practices.

Another major strategy identified to increase adoption rates from the awareness stage was to address specific barriers through collaborative learning. Regular on-farm visits to undertake monitoring and evaluation of practice change are crucial for collaborative learning to be effective.

A new principle of progressive knowledge and adoption is to provide information and awareness to both the producer and their trusted adviser and then channel progression through the adviser. This method has been adopted widely in the cropping regions.

Evaluation

The evaluation of training activities through the MLA programs and others is reported in terms of numbers of workshops and workshop participants. Evaluation also rates the content and quality of the workshop and its delivery. However, feedback consistently identified that evaluation only considers producers intent to change. Often, evaluation of a workshop is conducted at the immediate conclusion of the workshop and therefore cannot measure the effectiveness of that workshop on practice change. There is little evidence that practice change at the farm level can be attributed to any single workshop attendance.

However, it is understood that MLA does in fact undertake follow-up surveys of members, to assess practice change or adoption and a subjective ranking to measure the success of practice change.

It is recommended that the results of these follow-up surveys are fed back to the respective training deliverers and associated advisers. This would provide useful information to monitor rates of adoption, identify barriers to practice change and possible strategies for further refinement or improvement.

Adapting specific products for the mixed zone

EdgeNetwork

This network has provided a suite of products that are continuing to be delivered by a small number of advisers and consultants. These workshops are also providing the basis for the development of tailored workshops.

The delivery of EdgeNetwork products per se has become very limited. This can be attributed to completion of the FarmBis Federal Government funding program that had subsidised training delivery. These workshops were extensively delivered to producer groups, but demand has become limited.

PROGRAZE

PROGRAZE and the issues pertaining to feed budgeting and nutritional requirements of livestock, grazing management and strategies were identified by all regions as priorities for training needs. The PROGRAZE objectives include providing growers with the tools and skills to meet these needs. However, it was consistently raised that this product must be adapted for the mixed cropping/livestock zones.

MLA has previously provided funding for the development of a supplement of PROGRAZE specifically for the mixed cropping/livestock zone. It would appear that those advisers and consultants who are delivering training in the mixed cereal/livestock zone are unaware of this supplement. This PROGRAZE Supplement may require validation and refinement. A series of "train the trainer" workshops would also be required to update the skills of those delivering this program.

However, there was also the feeling, by the more experienced advisers/consultants, that adapting the PROGRAZE program to producers in the mixed zone was limited only by the level of the trainers' knowledge and experience. Although this sector did acknowledge that a resource package with updated relevant technical data would be welcomed.

PROGRAZE should not be considered the only tool to meet the identified training issues of feed budgeting and nutritional requirements of livestock, grazing management and strategies. These basic principles are also incorporated in a range of other training products including "Lifetime Ewes Management".

Making More from Sheep and More Beef from Pastures

These programs are considered to be orientated towards change and adoption of best management practices. The manuals provide guiding principles with planning processes and steps for implementation.

The major barrier to the delivery of activities under these flagship programs is that delivering advisers/consultants have found it is difficult to develop generic workshops. The inability to develop generic workshops reduces the opportunity for repeat delivery and therefore economies of scale to cover development time.

This issue of funding is not confined to the MLA products. The funding for delivery of the Lifetime Wool program is not considered to cover the associated costs and salaries of advisers/consultants.

Specialist road show

It has been suggested that this is where the “road show” model may be a more cost-effective method of delivery. This model would allow for advisers/consultants with specialist knowledge to develop specific, high quality workshops and undertake repeat delivery across a wider geographical zone.

Identified gaps in existing training products and programs

Responsive training opportunities (short-term)

It is recognised that capturing these opportunities pose challenges for planning and deploying resources, particularly where staff are funded to deliver specific projects.

Listed below are specific "gaps" in training products or resources identified by those involved in the consultation.

Comparative analysis of sheep enterprises

Training products and resources have not been developed to assess the issues related to flock structure and/or alternative sheep enterprises.

The alternative sheep enterprises include composite breeds (medium to high rainfall zones only) and shedding type breeds such as Damaras and Dorpers (low rainfall zones). The adoption and interest in these alternative breeds is particularly topical at this time and therefore a high priority for selected regions.

Commercial numbers of these breeds are building and financial comparisons of these breeds with the traditional self replacing Merino and first cross enterprises has been undertaken by at least one group of consultants. These consultants have also undertaken an analysis of strengths, weaknesses, opportunities and threats (SWOT).

It has been recommended that the comparative analysis cannot be based upon financial performance in isolation. Financial analysis would generally conclude that the "easy-care, shedding type" alternative breeds are less profitable than the tradition Merino and first cross enterprises. However, these alternative enterprises are being introduced for reasons other than improved financial returns. The major justification for adoption has been the reduced level of management and time demanded. These are important factors driving adoption of these breeds in farming systems where livestock returns and/or area generally equates to less than 10 to 30 percentage of farm income and/or area.

MLA is in the process of finalising a situation analysis of the sheep meat industry which value adds to existing industry data on enterprise performance.

Feedlotting of lambs

The issue of feedlotting lambs is again topical and of particular interest given the relative commodity prices for lamb and grain. The timeframe to meet this opportunity is very short and advisers/consultant must be responsive to capture this felt need for information and knowledge. This need has been fulfilled in some regions and could be delivered on demand.

The issues identified for feedlotting lambs include:

- calculating break-even price on lambs;

- sensitivity analysis (lamb and grain prices);
- storing grain (marketing options versus value-adding by feeding lambs);
- nutritional requirements of lambs for target growth rates and markets;
- planning and costing of rations;
- animal health.

There is not necessarily a gap in the training products available for feedlotting lambs per se. However, there is a need to filter and customise the information into an effective training activity. The emphasis should be on the methodology and tools to analyse a range of scenarios on projected financial returns. This training should be delivered using a co-ordinated approach that utilises specialist skills and knowledge within the network of advisers/consultants and producers.

Please note that workshops are being delivered in some regions where the opportunity has been identified. An example is DPI Victoria delivering these workshops for Local Government and agribusiness.

MLA is currently undertaking a review of lamb finishing options and intensive feeding code of practice.

Future training needs (strategic)

Professional Development for Advisers, Consultants, Veterinarians and Agribusiness

The concept of these forums was identified by the majority of those included in the consultation. The background and rationale are discussed previously.

Strategies and tactical responses to manage climate change and variability

Producers and consultants/advisers identified the need to develop strategies and guidelines for tactical responses to manage climate change and seasonal variability. Workshops aiming to address these issues have been developed in many States with collaboration from a range of government departments and other organisations. Feedback suggested that these workshops have generally not fulfilled this need. This prior experience may pose a barrier to producers committing to further training activities on this issue. The other issue raised, was that generally these workshops did not consider a whole farm approach which integrated the cropping and livestock enterprises. Feedback also suggested that producers were not clear how this information could be applied to implement on farm changes.

There is an opportunity to progress this theme and build upon these workshops which have only heightened producers' level of awareness. The next step in this progression should be individuals preparing guidelines and timelines for decision-making and policies for tactical responses and strategies for their farm business.

Sheep handling equipment

The adoption of alternative sheep handling equipment has been identified in various regions as a tool to improve labour efficiency. The decision by producers to investment in

this equipment is not a complex process of adoption. However, the application of this equipment has been relatively poor despite some investment by producers and the realisation of potential advantages.

It has been suggested to increase the adoption and use of sheep handling equipment that further training needs to be delivered. The suggestion has been that "Master Classes" are conducted by resellers or manufacturers for individual producers or small groups. These "Master Classes" should provide on-farm coaching to ensure that the participants become confident in the use of this equipment to get the best out of it.

Regional livestock training priorities, methodologies and target audiences

The tables listed in Appendix 5 list the training issues identified from the Grain and Graze II Scoping Studies in order of priority. These tables also identify any additional issues identified by survey respondents.

Conclusions

Generally the target audience identified by the survey respondents was both producers and consultants/advisers/resellers. This outcome was supported by respondents unanimously answering “Yes” to the question “Do you see benefit in farmers/producers learning about livestock management alongside their cropping adviser/agronomist”.

Another necessity to achieve practice change at a more complex level was identified, being to include the consultants/advisers/resellers and training through facilitated learning groups. The facilitated learning groups have been a successful model for affecting practice change.

Training activities that heighten the awareness of research and development outcomes or best management practice are also considered an important strategy for livestock training. Awareness training activities may be the most efficient methodology for promoting best management practices, where the issues and processes for decision-making are not complex. Examples of issues include, sheep handling equipment and infrastructure and grazing strategies for cereals and stubbles. Awareness activities are considered the first phase of the continuous improvement model. A consequence of the heightened awareness may be the need for further information and knowledge and thus a progression of training to build knowledge and skills through facilitated learning groups.

Various consultants/advisers commented that up-skilling the sector would increase the understanding of synergies of crop and livestock enterprises and improve the advice for farming systems or businesses.

The survey respondents commented on the importance of accurately quantifying the economic and risk management benefits of livestock within a farm business. This could be achieved by producers bench-marking their current situation and identifying the profit drivers and opportunities to improve profit. Many of the respondents believed the information could provide the impetus for producers to implement practice change.

Livestock Training Model and Processes

Expected Outcomes

1. The adoption of best management practices will result in optimised whole farm profit and/or reduced risk.
2. Increased adoption of best management practices for livestock will be achieved through the implementation of this innovative approach for training.

Background and Rationale

This model and the processes it recommends have been developed based upon the key principles underlying the “Adaptive Management” theme. The design principles from “Adaptive Management” include:-

- Key drivers will be the local advisers and farming groups who will co-ordinate the groups that will develop locally based champions;
- Producers use trusted advisers to identify and help implement practice change
- Skill development and capacity building to establish a culture of continuous improvement;
- Adult learning principles of plan, act and review;
- Group individuals must develop an action plan, identify outcomes, review and complete an evaluation of individual action plan;
- Facilitation model where participants increase their own capacity to define goals and learning needs;
- Training model is about delivering specifically designed training workshops to targeted groups;
- People orientated focussing on the how and why questions;
- Quality training that allows complex decision-making to evolve
- Understanding of the “big levers” that could potentially change farming businesses;

This Livestock Training Scoping Study has undertaken a range of activities as listed below:-

- explored livestock training needs of each Grain and Graze II Region;
- compiled a summary of livestock training products and programs;
- suggested adaptations or improvements required to existing training programs to increase the adoption rates of best management practices for livestock in the mixed farming systems;
- identified gaps in existing training products and programs to meet livestock training needs in the mixed farming zones;
- surveyed producers, advisors, and other key stakeholders to determine regional livestock training priorities and extension methodologies and target audience.

The recommendations and strategies listed below form the basis and rationale for the development of this project submission and action plan.

Recommendations and strategies

Focus on profit and driver of profit-

- benchmark enterprise and farm profit (current situation);
- Identify drivers of profit in livestock enterprise;
- identify changes or best management practices of profit drivers.

Advisers/Consultants/Resellers directly influence practice change-

- advisers/consultants to become a specific target audience for training;
- engage resellers and agribusinesses;
- up-skill this sector through forums and mentoring programs.
- involve farmers, advisers and project providers as equal partners

Whole farm holistic approach-

- organisations that provide training need to improve collaboration;
- reduce competition for producers' limited time for training;
- amalgamate cropping and livestock training activities;
- funding for co-ordinators or facilitators of producers network/farming systems groups will build regional capacity;

Opportunities to improve the effectiveness of training for producers-

- ad hoc training activities should only be used to raise awareness levels;
- facilitated recruitment of participants that will implement and influence change;
- collaborative learning model to be applied to ensure (i) learning agenda is determined by participants, (ii) action plans to implement practice change and (iii) monitoring and evaluation of implemented change.
- diversity of training activities is required cater for a range of learning styles;
- small groups (5 to 10 participants);
- training must include support to drive, monitor and evaluate change;
- audit of consultants, advisers and training organisations to determine (i) who and what specific training products have been developed and (ii) who and what specialist knowledge and skills that individuals possess;
- utilise existing products and resources but tailor training to specific needs and farming systems;
- focus training on the guiding principles rather than detailed more specialist information.

The specific background and rationale for each component of this model is addressed within the explanation below.

Objectives

- improved livestock management knowledge and skills of farmers and advisers in the mixed farming zone;
- increased adoption of best management practices for livestock in the mixed farming zones;
- increased business skills and resilience of mixed farming businesses;

- expanded networks and collaboration amongst and between farmers and consultants.
- leave a legacy of more capable farmers, advisers and researchers to continue on farm adoption of practice change

Outputs

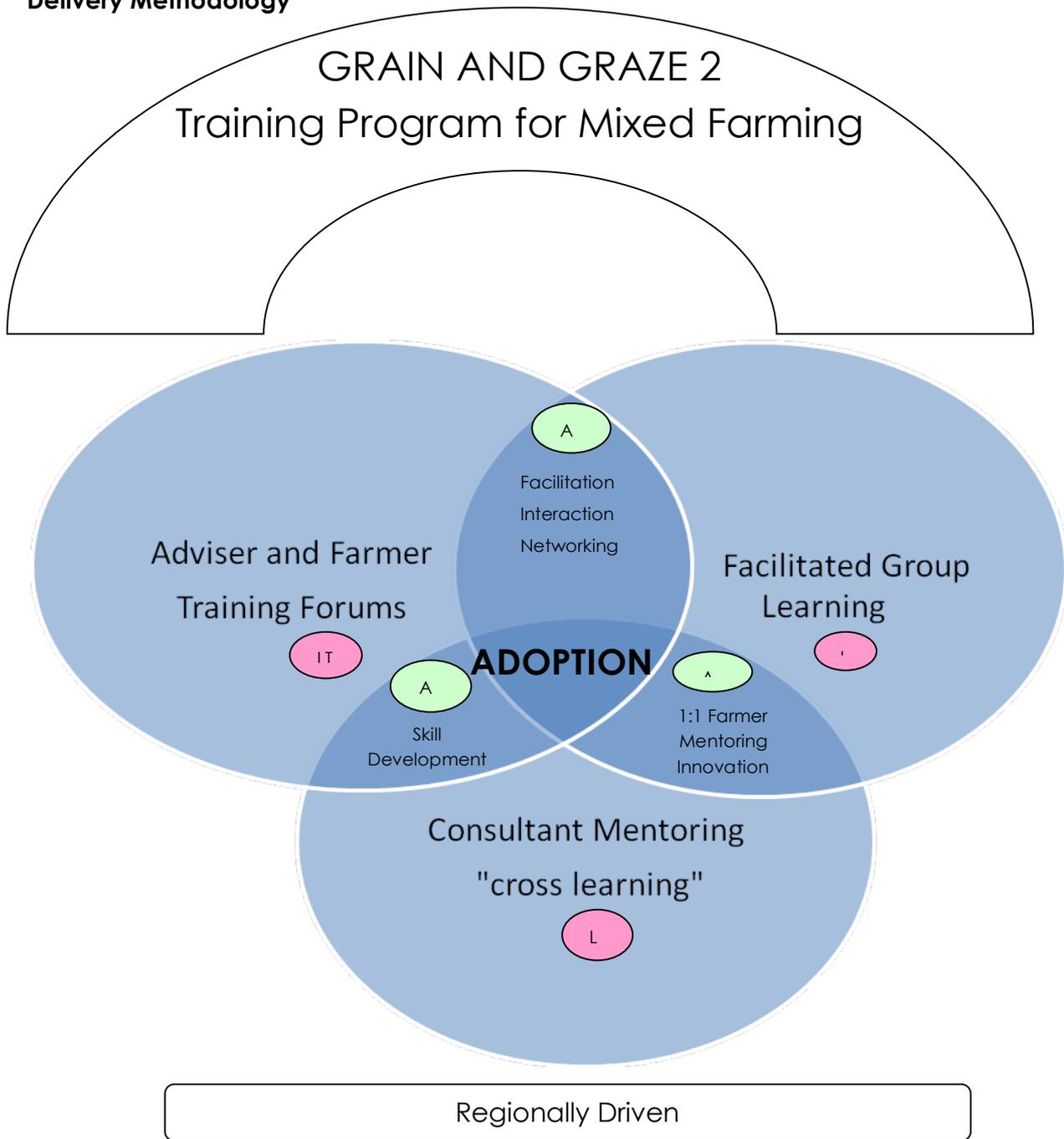
6 Adviser Forums convened annually;

14 Regionally based Livestock Updates for Farmers per annum;

22 Facilitated Learning Groups meeting annually;

30 consultants undertake mentoring program - three facilitated sessions and two one-on-one consultancy sessions on an annual basis.

Delivery Methodology



LT = MLA Livestock Training

AM = GRDC G&G2 Adaptive Management

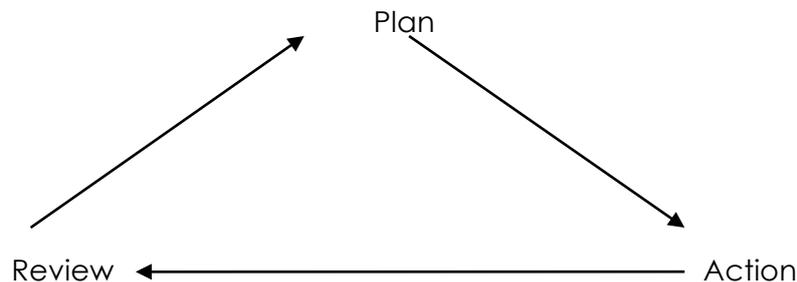
Description and explanation of model -

This is a proposed generic model for livestock training throughout the Grain and Graze 2 regions. However, each of regions will identify and submit proposed activities and budgets based upon costings provided (Appendix 1).

The expectation is that there will be a shift of emphasis from "awareness and information" toward "facilitated group learning". The facilitated group learning approach would

enable the groups to identify their specific training needs. There is also the expectation that the target audience for training will increasingly include consultants and advisers.

The Cycle of Continuous Learning as depicted below will underpin each component of the training program.



A consequence of moving from awareness training to facilitated group learning activities is that the scale would be reduced but will result in an increased impact.

The funding of the components of this models have been broadly identified as “Livestock” MLA Programs and GRDC “Adaptive Management” Program. Although funding should not be limited to these two programs and must include additional funding opportunities such as FarmReady.

Consultant Mentoring

The rationale for including consultants in this model is based upon the fact that at least 60% of farmers are using cropping consultants. This trend is expected to increase as farmers employ consultants/advisers/resellers to provide specialist technical expertise to assist decision-making. These consultants, through the provision of technical knowledge and established relationships have significant direct influence over practice change. This model would also increase efficiencies, as one consultant can potentially influence practice change of an average of thirty producers.

These consultants tend to have specialist knowledge of cropping enterprises and are not necessarily conversant with the farm livestock operations. There are also livestock consultants who have specialist livestock knowledge but have limited knowledge of cropping systems. The consequence is a real need for true farming systems knowledge through up-skilling of these groups of consultants.

The model for Consultant Mentoring would be based upon the following activities as described below.

Facilitated Session Number1 -

- Identify training priorities for cropping and livestock consultants;
- Match livestock and cropping consultants for mentoring sessions;
- Develop group and individual learning action plan;
- Learning plans shared amongst group

One-On-One Consultancy Session Number 1-

- Livestock and cropping consultant spend one day in field together (cross learning for both consultants);
- Telephone support provided as a result of establishing a mentoring relationship.

Facilitated Session Number 2 –

- Review and report on individual learning action plan;
- Review of one-on-one client visit;
- Delivery of technical training as identified in Session 1.

One-On-One Consultancy Session Number 2 -

- Livestock and cropping consultant spend two days in field together (cross learning for both consultants);
- Telephone support provided

Facilitated Session Number 3 -

- Review of learning action plan;
- Overview of year program;
- Deliver technical training.

Adviser and Farmer Training Forums

The forums are segmented based upon the target audiences and training needs.

Adviser Forums

Annual State based one day forums on best management practices and integration of livestock in the cropping zone would be convened for advisers (including consultants and resellers).

Consultation with representatives from this sector clearly identified the need for technical updates. These forums were identified as a major strategy to provide:-

- updated technical knowledge;
- on-going professional development;
- developing networks and understanding of skills of peers;
- feedback (issues and trends) to industry and research and development organisations.

The topics and related issues to be included in the forum programs would be identified by a sub-committee of representative consultants, advisers and resellers.

Farmer Forums

A strategy to reduce competition for training hours, and improve integration of livestock and cropping enterprises is to combine livestock training activities into existing farming system group programs. This could be achieved through the provision of funds to farmer groups for livestock “experts” to present at forums and field days. It is important that these forums are not replicated where already in existence.

These forums would provide a platform for:

- extending research and development outcomes;
- promoting products and outcomes;
- practice changes implemented through the facilitated group learning programs.

The content of forums should be determined by regional stakeholders (farmers, consultants, resellers, farm system groups and industry representatives).

Facilitated Group Learning

The Facilitated Group Learning model will be delivered through small groups (5 to 10 participants) which include growers and consultants and/or resellers. It is important that growers targeted for involvement are those “early adopters” and “influencers”. It would be advantageous to include a livestock adviser from one of the local agribusiness resellers. The facilitated group learning approach would enable the groups to identify their specific training needs.

These groups must be supported by a facilitator who would lead the group through the following processes.

- Identify issues to improve livestock management practices to increase farm profit and diversify risk;
- Determine education and training programs;
- Develop action plans for implementation of practice change;
- Monitor and evaluate implemented change;
- Review

Specific activities undertaken by Facilitated Learning Groups that have been identified to increase adoption or practice change may include:-

- on-farm research and demonstrations;
- regular visits to participating farms;
- monitoring and evaluation of practice change;
- targeted training to address specific knowledge gaps identified by the group;
- group facilitation;
- group facilitators will ideally be local agronomists/consultants who have received training in adult training principles and facilitation processes. The training may be provided under the adaptive management component of G&GII.

Budget

Livestock Forum for Advisers

G&G Region	Regional Activity	No. of Forums (per annum)	No. of Advisers (per annum)	Practice change impact (per annum)	No. of Farmers Adopting Practice Change as a result of training initiatives (per annum)	Budgeted Expenditure (\$ per annum)
WA	Yes	1	20	200	200	\$26 200
EP	Yes	1	10	100	100	\$26 200
Eastern SA	Yes	1	30	300	300	\$26 200
NW Vic	Yes	1	30	300	300	\$26 200
Sthn Vic	No					
Sthn NSW	?	?	?	?	?	?
NthnNSW&QLD	Yes	2	20	200	200	\$52 400
TOTAL					1 100	\$157 200

Impact on Level of Adoption = 4 (on a scale of 1 to 5 where 1 is minimum and 5 is maximum)

? = awaiting response

Regionally Based Livestock Updates for Farmers

G&G Region	Regional Activity	No. of Updates (per annum)	No. Farmers (per annum)	Practice change impact (per annum)	No. Advisers (per annum)	Practice change impact (per annum)	No. Farmers Adopting Practice Change as a result of training initiatives (per annum)	Budgeted Expenditure (\$ per annum)
WA	Yes	3	75	75	10	150	187	\$42 000
EP	Yes	2	50	50	5	75	100	\$28 000
Eastern SA	Yes	3	110	110	20	300	355	\$42 000
NW Vic	Yes	2	50	50	20	300	325	\$28 000
Sthn Vic	No							
Sthn NSW	?	?	?	?	?	?	?	?
NthnNSW&QLD	Yes	4	100	100	15	225	275	\$56 000
TOTAL							1 242	\$196 000

Impact on Level of Adoption = 3 (on a scale of 1 to 5 where 1 is minimum and 5 is maximum)

? = awaiting response

Facilitated Group Learning for Farmers and Advisers

G&G Region	Regional Activity	No. of Groups (per annum)	No. of Meetings (per annum)	Practice change impact (per annum)	No. of Farmers Adopting Practice Change as a result of training initiatives (per annum)	Budgeted Expenditure (\$ per annum)
WA	Yes	4	2	40	40	\$58 000
EP	Yes	2	3	20	20	\$29 000
Eastern SA	Yes	3	3	30	30	\$43 500
NW Vic	Yes	4	2	40	40	\$58 000
Sthn Vic	No					
Sthn NSW	?	?	?	?	?	?
NthnNSW&QLD	Yes	9	3	90	90	\$130 500
TOTAL					220	\$319 000

Impact on Level of Adoption = 5 (on a scale of 1 to 5 where 1 is minimum and 5 is maximum)

? = awaiting response

Mentoring of Advisers

G&G Region	Regional Activity	No. of Advisers (per annum)	Practice change impact (per annum)	No. of Farmers Adopting Practice Change as a result of training initiatives (per annum)	Budgeted Expenditure (\$ per annum)
WA	Yes	5	150	150	\$103 500
EP	Yes	3	90	90	\$52 000
Eastern SA	Yes	5	210	150	\$103 500
NW Vic	Yes	5	150	150	\$103 500
Sthn Vic	No				
Sthn NSW	?	?	?	?	?
NthnNSW&QLD	Yes	12	360	360	\$155 500
TOTAL				900	\$518 000

Impact on Level of Adoption = 5 (on a scale of 1 to 5 where 1 is minimum and 5 is maximum)

? = awaiting response

Collaborators

Grains Research and Development Corporation (GRDC);
Meat and Livestock Australia (MLA);
Australian Wool Innovation Limited (AWI);
FarmReady;
Various Federal and State Government agencies;
Elders Limited and AWB Landmark and other resellers;
Co-operative Research Centres (CRC's);
State based Universities;
Agronomic and Livestock Consultants;
Numerous farmer based groups including farming systems groups.

Appendix 1: References

- Day, P. (2009) "Draft Grain and Graze II (Mixed Farming Systems) Business Plan."
- Doudle, S. *et al* (2008) "Exploring adaptive responses in dryland cropping systems to increase robustness to climate change"
- Grain and Graze Project Specification - Mixed Farming Systems Program, Queensland
- Krause, M, Lynch, B and Hunt, E. (2008) "What influences farm profitability". A discussion paper for Eyre Peninsula Grain and Graze and Eyre Peninsula Farming Systems Projects.
- Llewellyn, R and D'Emden (2009) "Adoption of no-till cropping practices in Australian grain growing regions." Report for SA Not-till Farmers Association and CAAANZ.
- Long, J and Honner, S. (2006) "FarmBis targeted Industry Initiatives Project"
- Mixed Farming Systems Program – Program Logic and Project Activities for Eyre Peninsula, South Australia
- Mixed Farming Systems Program – Program Logic and Project Activities for Western Australia
- Mixed Farming Systems Program – Program Logic for Eastern South Australia
- Mixed Farming Systems Program – Program Logic for Northern New South Wales
- Project Specification Log Frame – Northern Victoria
- Rickards, L. (2008) "Southern Meat Producers – Training Needs Analysis." Meat and Livestock Australia Limited.
- Rural Directions Pty Ltd, Lynch Farm Monitoring, Solly Business Services Pty Ltd (2007) "Beyond Training and Development – Achieving On-Farm Adoption" commissioned by FarmBis SA and Ag Excellence Alliance.
- Scoping Study for Mixed Farming Systems – Southern New South Wales
- Snowden D.J. (2003) Managing for serendipity or why we should lay off "best practice" in knowledge management. ARM Knowledge Management Vol 6 Issue 8.
- Stone, G. (2005) "Agribusiness Role in Extension, Education and Training : A Case Study" RIRDC Publication No.05/086.

Appendix 2 : Names of consultants and advisers involved in the consultation process

Richard Apps	Meat and Livestock Australia
Nick Christodoulou	Department of Primary Industries, Queensland
Jodie Dean	Central West Farming Systems/ Dept Industry & Investment, NSW
Gary Hallam	Department of Primary Industries, Victoria
Bob Hall	Bob Hall and Associates/AWI The Sheep's' Back Program
Bruce Hancock	Rural Solutions SA
Ben Hebart	Primary Industries and Resources SA
Ashley Herbert	Agrarian Management
Geoff Hinch	University of New England/CRC for Sheep
Craig Hole	Landmark
Geoff Knights	Department of Primary Industries, Queensland
Ian McFarland	Sheep Connect/Rural Solutions SA
Malcolm McPhee	Department of Industry and Investment, New South Wales
Mark Pedlar	Elders Limited
Tim Prance	Rural Solutions SA
Dougal Purcell	Department of Primary Industries, Victoria
Alistair Rayner	Department of Industry and Investment, New South Wales
Kelly-Anne Semple	Department of Primary Industries, Victoria
Ken Severson	Farmanco, Western Australia
Ken Solly	Solly Business Services
Jane Weatherley	Meat and Livestock Australia
Ashley White	Department of Industry and Investment, New South Wales

Appendix 3: Identified Livestock Training Needs for G&GII Regions

The following information has been prepared from the review of a number of documents and provided by the Grain and Graze Co-ordinators, including Program Logics and Program Specifications for Grain & Graze II. Personal communications were also undertaken with Grain and Graze Co-ordinators and other relevant collaborating staff to clarify and confirm the issues of priority.

The review of a number of reports related to Training Needs Analysis Reports has also contributed to the compilation of these lists. References for the relevant reports are included in Appendix 1.

It is important to consider that training in isolation will not necessarily satisfy knowledge needs and/or change in practice or adoption. Therefore, in the majority of circumstances training needs would be supported by additional activities. The activities that may contribute to, and compliment training include research and demonstration sites, case studies and farm visits. This is reflected in the Program Logics developed for each of the Grain and Graze II Regions.

Western Australia

- best management practices for sheep enterprises;
- economic impacts of changing between a range of sheep enterprises;
- analysis of alternative sheep breeds and enterprises on farm profit;
- key principles for livestock management based upon farmer case studies;
- livestock forum/updates;
- economic modelling and benchmarking of the impacts of applying best management practices for livestock on whole farm profit and risk;
- marketing;
- “exit and entry” strategies for livestock enterprises;
- “Pastures from Space” as a decision support tool;
- management of weaners;
- sheep handling equipment.

Eyre Peninsula, South Australia

A Strategic Plan will be developed for livestock research, development and extension in consultation with stakeholders. The Strategic Plan will develop a co-ordinated approach to livestock research, development and extension programs.

Livestock training needs identified for the Eyre Peninsula of South Australia -

- cost of production and profit drivers;
- nutritional requirements of sheep;
- stock numbers and stocking rates to match availability of feed;

- grazing strategies (rotational and strip grazing);
- nutritional value of feed (including grain);
- feed budgeting;
- perennial species;
- containment feeding (including establishing and rations);
- grazing cereal crops;
- infrastructure and livestock equipment.

Eastern South Australia

The Program Logic for Eastern South Australia identifies training needs for both growers/producers and advisers/consultants as strategies to increasing adoption of strategies to meet defined outcomes.

- benchmarking for farm businesses;
- drivers of profit (enterprise and farm levels);
- assessing impacts of change on farm profit;
- nutritional requirement of livestock classes;
- feed budgeting (including assessment of dry matter production);
- feed utilisation;
- confined feeding;
- supplementary feeding;
- fodder conservation;
- dual purpose crops;
- decision-support tools;
- strategies to increase fodder crop and pasture production;
- perennial pasture species;
- tactical and strategic management for seasonal conditions and climate change;
- infrastructure and livestock handling equipment;
- syndication for livestock management.

Northern Victoria

- technology and infrastructure;
- containment (design and feeding);
- best management practices;
- precision livestock (performance recording and data interpretation);
- understanding of livestock markets and marketing options;
- nutritional requirements of a range of livestock enterprises and classes and supply options to meet nutritional requirements;
- knowledge and skill development in livestock for consultants.

Southern Victoria

The Southern region of Victoria has been traditionally a livestock zone. The consensus of feedback from this region was that growers and producers were well serviced by consultants, advisers and agribusiness networks with sound knowledge and technical skills

of livestock. Training in livestock skills has not been identified within this region's Scoping Study.

The limitation of skills identified from within this region for mixed farming systems was the lack of advisers, consultants and agronomists with knowledge and experience in high rainfall crop production.

Southern New South Wales

- grazing cereals and canola (grazing intensity and timing relative to crop growth stages and associated risks with variable seasons);
- perennial pasture technology (species, grazing strategies, application for filling the "feed-gap");
- pastures in the cropping rotation (ley system, short-term pastures, legumes to build soil N, species selection, general management to optimise production);
- grazing stubbles (grazing strategies to improve utilisation and specific supplementation requirements for livestock maintenance);
- analysing enterprise mix to maximise farm profitability (extension of Grain and Graze Farm Model);
- filling the "feed gaps" utilising pastures and early sown dual purpose crops to optimise whole-farm feed base;
- weed management strategies in the pasture phase;
- woody perennials/fodder shrubs for alley-farming (animal production data, grazing strategies and supplementary nutritional requirements of livestock).

Northern New South Wales

Livestock training was not considered a high priority and therefore was not included in the Project Specification. The following issues were extracted from the Program Logic.

- integration of pastures and livestock into the cropping system;
- impacts of systems change to incorporate livestock on farm profitability;
- economic and risk analysis of a range of grain, crop and pasture rotations;
- perennial and legume pastures;
- increased crop/forage/pasture type frequency (increased diversity of rotation);
- soil and pasture nutrition for increase production;
- pasture and fodder utilisation;
- feed budgeting tools;
- strategic changes to livestock systems to adapt to climate change;
- forage crop options;
- integrating ley pastures;
- fodder conservation and tactical storage;
- livestock management strategies to adapt to climate change and variability;
- improving the knowledge of supply chain (livestock training for agribusiness/resellers, stock agents and distributors).

Southern Queensland

This region will adopt the approach of participatory and collaborative research and development methodology. Therefore, the issues identified below are not specifically training needs but issues that will be included within their program.

- benchmarking production and profitability (current situation);
- decision support tools to assess enterprise mix to optimise whole farm profitability, natural resource condition and risk management;
- livestock nutrition (understanding the functions of the rumen and selecting the right supplements for production using a variety of base pastures and crops);
- feed budgeting for dryland crops and forage crops;
- strategic feed planning practices;
- tools to calculate feed demand (including MLA calculators);
- grazing management strategies (stubbles and fodder crops);
- integration of ley pastures including customised LeyGrain tool;
- soil and pasture nutrition;
- integration of short-term forage crops and pastures;
- fodder conservation;
- livestock composition and marketing;
- options for strategic feeding practices;
- establishment and management of long term and permanent pastures;
- tactical on-farm storage as a strategy for improved flexibility for marketing grain;
- cover crops;
- management strategies to adapt to climate variation;
- supply chain risk management planning.

Further Validation and Prioritising Training Needs

The above listed issues for training have been clarified and confirmed with the respective Grain and Graze Co-ordinators.

A survey of producers and advisers/consultants was undertaken in each region to:-

- identify any issues for livestock training that had not been included;
- rank issues in order of priority;
- suggest most appropriate extension methodology to fulfil each of the identified training needs;
- identify the target audience (producers or advisers/consultants) for each of the training issues;

Appendix 4: Summary of Training Products and Materials

The information presented below summarises the training products and materials from the following organisations-

- Meat and Livestock Australia (MLA);
- Australian Wool Innovation (AWI);
- Co-operative Research Centres (CRC);
 - CRC for Sheep;
 - CRC for Beef Genetic Technologies;
 - CRC for Future Farm Industries (CRC – FFI);
- Rural Industries Skills Training (RIST)
- RCS;
- Others.

Meat and Livestock Australia (MLA)

MLA Producer Demonstration Sites (PDS)

This program replaces the Producer Initiated Research and Development projects (PIRDS). This provides funding of up to \$20,000 per annum, for a maximum of three years, for producer groups to be involved in on-farm research and demonstration trials. The PDS projects need to focus specifically on trialling MLA supported research and development or addressing priorities as outlined in the MLA's "On-Farm Strategic Plan 2006-2011".

MLA – Meat for Profit Days and Expo Activities

These programs are run in regional locations and aim to provide producers with an overview of the industry, research and development activities and training opportunities. These activities are co-ordinated by MLA with collaboration from regional steering committees representing stakeholders.

Industry Training

This is a "train the trainer" three day workshop for consultants, advisers, agribusiness (banking and resellers) and veterinarians. These workshops are run based upon demand. This workshop provides an overview and update of research and development outcomes and information on opportunities and products available for training delivery.

Professional Development of Adviser Networks

In 2009 a national forum was convened in Melbourne for a small number of invited advisers/consultants/veterinarians. This provided an opportunity to develop networks and learn and debate current technical research and developments. It is unclear as to whether this will be an on-going event.

MLA – Beef Cattle

More Beef from Pastures is an information and support program that provides practical tools and information to help increase productivity while minimising risk in an ever-changing operating environment. The manual is a one-stop information package delivering essential

processes required to carry-out a successful beef business. The support program is provided through funding of State based co-ordinators and funding for the delivery of workshops. The eight modules are:

- setting directions;
- tactical stock control;
- pasture growth;
- pasture utilisation;
- cattle genetics;
- weaner throughput;
- herd health and welfare;
- meeting market specifications

Cost of Production

Calculating cost of production is an important step in assessing herd performance and identifying steps to make change. The benefits for producers attending this workshop are:

- learn to use the MLA cost of production calculator to measure performance of their beef enterprise year on year;
- compare the health of their business annually with other beef producers and find out if there is scope for improvement, or if their enterprise is already performing well.

The Cost of Production Calculator is split into the following six components:

- total beef production;
- cattle enterprise costs;
- total labour costs for all enterprises;
- overhead costs for all enterprises;
- calculation for allocating overheads to beef enterprise;
- final cost of production calculation.

BeefSpecs Calculator

The BeefSpecs calculator is a tool that can assist cattle producers predict weight and fat specifications of animals destined for store and prime markets. This calculator has been developed by the CRC for Beef Genetic Technologies. The aim of the calculator is to assist cattle producers to make more accurate management decisions that could increase carcass compliance rates for fatness and weight targets specific to various beef markets.

A series of validation workshops are currently being undertaken with producer groups. It is envisaged that following the validation of the calculator that a workshop would be available for producers to promote the adoption of this tool and its application.

Feed Demand Calculator (sheep and cattle)

The MLA Feed Demand Calculator is a learning tool developed by MLA and CSIRO. The calculator allows producers to gain an appreciation of the pattern of feed supply and demand over a twelve-month period, the location of "feed gaps" and the ways in which modifying the livestock enterprise might help to close these gaps.

The aim of the calculator is to help producers to measure:

- the way the numbers and classes of livestock on their property drive the total demand for pasture;
- the match (or mismatch) between the supply of and demand for pasture;
- the proportion of pasture growth that is eaten by livestock;
- the weight of meat produced per hectare.

It can be used to plan:

- times when it is possible to increase stocking rate, so as to use more pasture;
- times when stocking rate may need to be reduced, or supplement fed to livestock, to avoid over-grazing pastures;
- ways to change the structure of the herd to improve the match between feed demand and pasture supply to optimise the weight of meat produced whilst managing the risk of over-grazing.

A train-the-trainer course and producer workshops are available.

Northern Beef focuses on environmental and grazing management and improving animal and herd productivity in northern Australia.

BeefPlan is also a program for cattle producers in northern Australia. The aim of *BeefPlan* is to facilitate producers to work as a management team focussing specifically on property management. The learning agenda is set and controlled by the group members.

Beef Up Forums are convened in northern Australia.

Publications for members include "*Feedback*", "*Prograzier*" and "*Frontier.*" "*Tips and Tools*" are information sheets to deliver research and development to producers that cover eight topics.

MLA – Sheep

Making More From Sheep is jointly funded by MLA and AWI and is a best management practice package for sheep producers. The manual covers the following eleven modules:

- Business based modules
 - plan for success;
 - market focussed wool production;
 - market focussed lamb and sheep meat production;
 - capable and confident producers;
- Resource and pasture based modules
 - protect your farm's natural assets;
 - healthy soils;
 - grow more pasture;
 - turn pasture into product;

- Sheep Technology based modules
 - gain from genetics;
 - wean more lambs;
 - healthy and contented sheep.

Cost of Production Workshop

The key benefits for producers attending this half day workshop include:

- learning to use the MLA's cost of production calculator to measure the performance of their lamb enterprise year on year;
- compare the health of their business annually with other lamb producers and investigate if there is scope for improvement.

The Cost of Production calculator is split into the following seven sections:

- total lamb production;
- lamb enterprise income;
- total labour costs for all enterprises;
- lamb enterprise costs;
- overhead costs for whole farm business;
- calculation for allocating overheads to lamb enterprise;
- final cost of production calculation.

Managing Profit Drivers - pilot

This workshop has been developed to build on the feedback and experiences from the Cost of Production workshop and includes sheep for meat and wool production. This is a multi-stage workshop series that includes an introduction into calculating and using this tool. The producers then collect data required and forward to the consultant who is responsible for calculating the cost of production. Producers meet again to analyse the results of the calculations on an individual and aggregated basis. Twelve months following this workshop the consultant makes contact with the growers to submit calculated cost of production. The development of this workshop has been subsidised by 50% by the Federal Government and is on a fee for service basis with Holmes and Sackett. The pilot workshops were rolled out in mid 2009.

MLA EdgeNetwork

This is MLA's umbrella for a range of training that can be delivered by approved service providers. These products were previously delivered with funding assistance from FarmBi\$. Currently selected workshops are being delivered by a small number of accredited advisers with the funding assistance to producers through the Federal Government's FarmReady Program.

Marketing Workshops

- long-term : setting the direction and strategy for marketing your livestock;
- short-term: choosing the best selling option for your next turnoff.

The aim of these workshops is to provide producers with a greater understanding of the current and past marketing performance of their business, as well as knowing the external marketing environment in which the business operates, enabling producers to develop strategies. This allows producers to make decisions by matching the capabilities of their business with the opportunities that exist in the marketplace.

Natural Resource Management Workshops

These workshops offer tools and information on best practices for effective, profitable and sustainable grazing management. Issues addressed in these workshops range from soil health and land capability to pasture establishment and management and measuring biodiversity.

Business Workshops (BizCheck for Meat and Enterprise Health-Check)

A range of workshops have been designed to help producers gain knowledge and skills to improve their livestock operation. These workshops focus on analysing business performance at the farm and enterprise level. Consultants undertake to calculate each of the indicators based upon the data provided by the producers. The analysis includes the results of the calculations and relative performance compared to the average of all participating farms within the group. Assessment is provided on a three level rating system, that is strong, moderate and poor and need for improvement. The workshops also provide a forum to explore practical tools and skills help to increase profitability of the business through on-farm improvements.

Feedbase and Pastures

PROGRAZE

PROGRAZE is a grazing management skills course. PROGRAZE develops participants pasture and animal assessment skills and demonstrates how to apply these skills to improve grazing management. These skills and knowledge will mean that producers can more effectively match livestock feeding requirements and pasture production.

PROGRAZE Update

These two or three sessions are aimed to further develop and build upon skills and knowledge gained through the PROGRAZE course. The updates include:

- assessing pastures (estimating biomass, botanical composition);
- impacts of pasture quality and quantity on intake and performance;
- strategies to manipulate pasture growth;
- animal assessments and performance targets;
- feed budgeting;
- assessment tool to identify issues impacting upon business sustainability;
- describing pasture and grazing management practices that will improve livestock production;
- documenting tactical grazing management strategies to address a range of seasonal conditions.

Better Grazing Decisions

This one day workshop enables producers to:

- identify and understand the key factors that influence grazing profitability;
- develop strategies to maximise animal performance and best utilise pastures.

Livestock Producer Training

BeefCheque and LambCheque

These programs are about growing and utilising more grass, growing more meat/wool and ultimately making more money. The first year of these programs is primarily directed at understanding the impact of grazing management strategies on pasture growth and animal performance based upon the Prograze training program. The second year provides an opportunity for participants to apply the principles of Prograze. The group is involved in regularly monitoring pastures and livestock and contributing to management decisions for a focus farm.

Making the Most of Mutton

This one day workshop involves group discussions, individual animal and carcass assessments, offal processing and preparing skins. The key topics include:

- markets for mutton;
- processor specifications;
- role of mutton in the sheep enterprise;
- live animal assessment skills;
- breeding to improve mutton production;
- on-farm quality assurance;
- animal health;
- animal nutrition;
- developing a marketing strategy;
- wool value and shearing management.

Breeding and Genetics Training

Money Making Merinos

Key topics addressed in this one day workshop;

- identify the importance of Merinos in wool and lamb production;
- determine the key factors that drive profit;
- identify genetics involved in prime lamb production;
- setting production targets and developing an action plan;
- calculating the value of EBV's;
- EBV's to value a ram;
- investigate the impact of genetic changes on management practices;
- evaluate contract breeding.

Money Making Mums

The aim of this one-day workshop is to provide producers with the skills and tools to increase the genetic value of their crossbred ewes. This workshop will assist producers to:

- use LAMPLAN and/or Merino Genetic Services (MGS) to improve production;

- evaluate maternal performance within their current production system;
- set production targets and breeding goals, based on important traits;
- evaluate the economic return on investment from improved maternal genetics;
- compare and evaluate different systems for sourcing ewes (self-replacing, buying in and contract breeding);
- provide a management environment so that genetic improvements can be realised;
- ensure sustainable genetic improvement.

Terminal Sire Selection

This one day workshop is to address how producers' breeding programs are currently performing and if there are opportunities to improve it.

Wean More Lambs

This one day workshop aims to enable producers to:-

- determine the value of improving reproduction rates;
- identify the important on-farm flock nutrition and reproduction tasks and how they combine with other farm activities;
- benchmark their flock's reproductive performance and establish future targets;
- improve their skills including fat scoring, checking ram health and assessing "wet or dry" ewes;
- determine factors that contribute to reproductive wastage in sheep flocks;
- develop an annual calendar of activities to integrate nutrition and reproductive targets.

The Breeding EDGE

This three day course is designed to assist producers to develop a cattle breeding program, or improve an existing one. The workshops also aim to assist producers to:

- improve and maintain the desirable traits in their herds;
- capitalise on genetic gains;
- effectively manage their breeding herd;
- meet market specifications and maximise returns;
- evaluate the success of strategies and management.

More Beef from Breeding

Participants that complete this workshop will be able to:

- identify the desired breeding gains, (considering target markets and environmental constraints);
- consider the options to achieve desired changes using genetics;
- develop strategies, relevant to their own operation, which optimise genetic gains.

The Nutrition EDGE

The Nutrition EDGE is a three day workshop that provides growers with a comprehensive look at ruminant nutrition. This knowledge will enable them to better match pasture and feed options to livestock needs.

This workshop assists growers to:-

- determine the nutritional requirements of livestock;
- estimate the feed value of pasture and the production of livestock;
- find the balance between pasture growth, pasture use and animal production;
- make management decisions that consider a range of seasonal conditions;
- know what supplements to feed;
- save money on supplementary and drought feeding;
- understand a feed product label and know what questions to ask of feed companies.

Rainfall to Pasture Growth Outlook Tool

This tool generates pasture growth curves and a variability index for producers based upon 3000 weather stations and up to 100 years of historical records. The data for each week of the year includes –

- how pasture usually grows in that week of the year;
- how well it has grown in the best 10 years on record for that week;
- how poorly it has grown in the worst 10 years on record for that week;

The graph depicts an index rather than actual pasture growth rates to account for the variables (temperature, soil moisture and light) that affect pasture growth rates.

This is a powerful tool that can assist producers in:-

- planning herd or flock structure (ie. time of joining, weaning, turn-off and livestock trading) to best match pasture growth and variability;
- make better pasture improvement and grazing management decisions by understanding how soil moisture, temperature and light affect pasture growth.

Australian Wool Innovation (AWI)

AWI Grower Networks

Grower networks are an AWI strategy to extend research and development outcomes to producers. The aim of this network is to educate and spread innovation to growers that will lead to adoption of best management practices. AWI provide nation-wide funding for the co-ordination of these grower groups. These grower networks include Sheep Connect, Leading Sheep and Best Wool and Best Lamb. AWI have also previously funded The Sheep's Back and Bestprac grower network programs in Western Australia and the pastoral zone respectively.

Bestprac, Pastoral Zone or Rangelands

Bestprac is a continuous improvement project for a network of woolgrowers in the rangelands. Participants undertake benchmarking to identify priority projects. The network groups provide mentoring support to growers for implementation and action. This program is currently in recess due to a lack of on-going funding.

Leading Sheep, Queensland

The delivery of the Leading Sheep program is through four regionally based co-ordinating committees. The five key outcomes identified to increase productivity and profitability are:

- reduced predation;
- higher reproduction rates;
- increased value of wool and meat;
- more effective parasite control;
- improved resource management.

The regional co-ordinating committees prioritise issues relevant to their region. The committee then determine how to best address these issues and organise events that will transfer information to their regional network group. The activities include training, workshops, field days, demonstration properties and technical information delivery.

The Sheep's Back, Western Australia

The Sheep's Back program was in part funded by AW. The program aims to deliver increased profitability to the sheep enterprise through greater understanding of the relevant profit drivers. This program is a nine module course that aims to identify and demonstrate the key profit drivers of the sheep enterprise. The group of producers then go on to establish limitations and/or barriers to maximising these profit drivers and addressing these issues. Benchmarking is an integral part of this program to drive the change process and then allow the farm business to monitor and analyse the impact of change and implementation on profitability. A point of difference for this workshop series is that participants develop an exit strategy.

This program is not currently being delivered. Although, "The Sheep's Back" Program can continue to be delivered on a private consultancy basis but not through AWI.

Best Wool/ Best Lamb, Victoria

This program assists producer groups to decide how they can lift their farm profitability and productivity. The key benefits to producers are that they are able to access learning opportunities and undertake collaborative learning. Group activities range from formal courses, regular farm walks and information sessions. Topics covered range from issues such as genetics, weaner management, grazing management and strategies to business analysis and succession planning.

Sheep Connect, South Australia

This AWI program aims to utilise existing farmer groups to undertake activities to increase the best management for sheep, wool and prime lamb production. Co-investment has been provided by a number of regional Natural Resource Management Boards. Prioritising key issues and planning strategies and activities is determined by local advisory committees. Activities currently being undertaken include demonstration sites, field days, workshops and publication of farmer case studies.

Lifetime Wool

Lifetime Wool is a research and extension program with the aim of improving wool production and quality of progeny. The major focus is the nutritional management of the breeding ewe delivered by RIST using competency based learning. Resources include a handbook that includes best practice guidelines and decision-support tool for on-farm implementation.

On-Farm Fibre Management (OFFM)

OFFM is an accreditation system that includes an on-line calculator, newsletters and workshops for woolgrowers to assess and employ their own on-farm fibre management strategies.

Making More From Sheep – refer to details outlined under the MLA's products.

Lifetime Ewe Management

Lifetime Ewe Management provides best-bet guidelines for managing ewe nutrition to optimise reproductive performance. This program utilises decision support tools for assessing the economics of different feeding regimes including pastures, stubbles and supplementary feeding. These guidelines and resources have been developed for the high rainfall grazing zone and the cereal-sheep zone and were derived from a large range of Merino bloodlines. This program is based upon collaborative learning principles with small groups of approximately five participants. It is delivered over one to two years with regular farm visits where the group members assist with the monitoring and evaluating the impacts of practice change.

The Lifetime Ewe Management program suggests that the production benefits from implementing new knowledge gained through this program will increase profit by up to 30%.

This program incorporates a range of tools and skills including:-

- MIDAS modelling tool;
- condition scoring;
- optimum ewe condition at various periods of the year;
- efficient feed budgeting;
- assessment of feed on offer;
- supplementary feeding;
- cost benefit analysis (costs versus production gains) to maximise profit;
- important phases in the reproduction cycle;
- quantified impact of nutrition on production of ewes and lambs.

CRC for Sheep

The CRC for Sheep have produced a number of publications ranging from "Individual Animal Management Learner Guide" to "Parasite Control in Sheep Trainer Guide" and "The Sheep Business – Production and Marketing for Australian Merino Wool."

The CRC for Sheep supports the MLA *Making More From Sheep* program. The CRC's role is to provide technical expertise into input into module content.

The CRC for Sheep are actively developing a range of products, including WormBoss, LiceBoss and FlyBoss for moving to mules free sheep. These products and activities will be rolled out and delivered in 2010.

Agricultural Consultant Training

Graduate Certificate in Rural Science (Agricultural Consulting) is a specialised professional development and training for professionals in agricultural extension of consultancy.

Sheep and Wool Education Modules

This is a ten lecture unit for agricultural undergraduates that has been made available to the wider sheep industry. This is delivered under licence by the University of New England through the Australian Wool Education Trust.

CRC for Beef Genetic Technologies

Beef Profit Partnerships (BPP)

BPP has a network of teams across Australia and New Zealand. The aim of these teams is to increase the profitability of individuals' business profit within 2 years. The program provides a facilitator and expertise by specialists. Economists are also involved to monitor and evaluate changes in key drivers of profit indicators. The major point of difference with this program is that the major focus is on capacity building and training sessions to empower participants in continuous improvement/learning and innovation.

Awareness Program

The Awareness Program is this CRC's program to extend results from the research and development programs. The extension is primarily delivered through State agencies and their existing producer groups. Publications, including fact sheets and case studies are also being developed as component of this Awareness Program.

Uptake of Technologies

The CRC for Beef Genetic Technologies is currently developing the next step beyond the awareness phase of the program. The next phase is aimed at enhancing the uptake of the technologies developed by this CRC. The adoption model targets (i) technical experts and facilitators/influencers; (ii) commercial producers and (iii) seed stock producers. The methodology for adoption will be based upon the model of continuous improvement/learning and innovation.

CRC for Future Farm Industries

EverTrain is the principal program for the delivery of training for new technologies developed by this CRC. *EverTrain* is an integrated web-based training management software package and limited group training events. Training utilises materials together with resources developed under the Harvest and Delivery (H&D) activities from the previous

CRC for Salinity and FFI CRC. Delivery of EverTrain is through Landmark, agency staff, CRC FFI Client Group.

EverGraze

EverGraze program is delivered throughout the high rainfall zones (>550mm). The focus is on permanent pastures (perennial and native) for wool and meat production, profit and natural resource management.

EverCrop

This program is currently being delivered across three regions - Victorian and South Australian Mallee, southern New South Wales and northern Western Australian wheatbelt. The focus has been on promoting the use of precision technology to identify marginal cropping land and the opportunity for alternative perennial species. Focus sites have been established in association with farmer groups. The alternative perennial species included at the focus sites include fodder shrubs, chicory, lucerne, perennial rye, phalaris, cocksfoot and others. The monitoring and evaluation of these species include growth rates, grazing regimes and sheep production.

Enrich

The Enrich program focuses on the use of fodder shrubs and native grasses in the low rainfall (<350mm) mixed zones. This program has demonstration sites with producers groups to develop information for best management practices for fodder shrubs. Information gaps that have been identified and included through this program include grazing strategies, feed value, intestinal parasites and methane gas omissions.

Salinity Skills (name to be finalised)

The Salinity Skills program involves pre-accreditation via web-based learning with follow up workshops and field trips. This course targets producers in catchments affected by dryland salinity and focuses on saltland agronomy. Development of this program is nearing completion and there are plans to run pilot workshops in Western Australia.

Rural Industries Skills Training (RIST)

RIST are providing on-going delivery of the MLA's EdgeNetwork training products, BeefCheque and PROGRAZE. This company is also delivering AWI's Lifetime Ewe Management courses in Victoria.

Taking Control of Commodity Prices

This workshop is designed for a range of enterprises including wool, meat and grain producers and those further along the production chain such as lot feeders, processors and exporters. The program is delivered as a four session program that includes information about beef, lamb, wool and graining trading strategies. The key topics that are covered include:

- calculating cost of production;
- setting price targets;
- understanding futures;

- mechanics of hedging;
- basis and its importance;
- managing supply through forward and basis contracts;
- developing a marketing strategy;
- implementing the strategy.

Beef Nutrition

This two or three day course (optional) covers the following topics:

- critical factors in the diet of ruminants;
- importance of early rumen development;
- nutritive requirements of all classes of cattle for maintenance and production;
- seasonal variation in nutritive value;
- vitamin, mineral and trace element deficiencies;
- pasture-based complimentary feeding management strategies;
- cost-effective protein sources.

Sheep Nutrition

This three day course aims to have participants able to achieve the following:

- understand the digestive physiology of ruminants;
- understand the nutritive requirements of ruminants to meet animal requirements;
- utilise available pasture and supplements to meet animal requirements;
- calculate rations taking into consideration feed quality and alternative supplements;
- develop nutritional strategies for maintenance, live weight gain and wool growth;
- understand the effect of disease on production and minimise losses through disease;
- understand how animal behaviour affects feed consumption.

Practical Beef Marketing

A value-based marketing approach is used to develop producers' skills to enable them to maximise returns at point of sale. During the course a group of "focus cattle" are followed through the "finishing" phase of production. The animals are individually monitored for live weight gain and assessed for structural and specification conformance.

Listed below is an overview of the eight sessions of this course:

- industry language and animal assessment;
- market specifications and selling/marketing systems;
- eating quality and cattle handling;
- feeder steers;
- market responsibilities (QA, LPA, NLIS);
- interpreting feedback, review of marketing and production;
- supply chain;
- evaluation of workshop.

Breeders for Profit

This two day course aims to improve producers' understanding of the factors that influence the profitability of a cattle breeding operation and includes both heifer selection and cow

keep/cull decision- making. The Breeders for Profit course develops strategies to monitor and manage beef breeding herds.

RCS

RCS deliver a range of education and training courses that include –

- GrazingforProfit;
- Farming&GrazingforProfit;
- ExecutiveLink- Skill Development;
- ExecutiveLink- Benchmarking and Business Planning;
- GrowthLink;
- Applied Grazing course;
- Ruminant Nutrition workshop;
- Pasture to Pocket workshop;
- Keep in Touch (KIT) Days;
- Field Days;
- Mind over Money – an inner journey to wealth;
- RCS Business Accelerator.

Grains Research and Development Corporation (GRDC)

LeyGrain

LeyGrain is a participatory action-learning and decision-support workshop to enhance the adoption of pastures in farming systems. This package has been developed to provide the skills and knowledge for farmers to confidently and profitably integrate pastures into their cropping land.

The LeyGrain package comprises four basic workshops. Participants also receive a PRECaPS decision-support model which enables the whole farm economic comparison of systems over rotation cycles of up to 10 years.

The delivery of knowledge and skills can be complemented by on-farm research and/or demonstrations.

Others

A number of Livestock Advisers or equivalents of the State Government agencies are delivering a range of extension and training products. The development and delivery of these products are generally a result of funding collaboration between these respective agencies and Federal and Local Government including Catchment Management Authorities and Exceptional Circumstance Drought Funding. The list below is not comprehensive but provides examples of these programs that relate specifically to livestock training.

- Various workshop series to investigate Climate change model predictions and developing strategies, including GrassGrow and Ausfarm;
- Animal health – lice, internal parasites and flystrike;
- Grazing strategies (Holistic Grazing Systems and Graze for Profit);

- “Stockplan” with specific drought management strategies – including financial planning and confinement feeding;
- Opportunities for lot feeding lambs (economics, capital investment, nutrient budgeting);

Appendix 5: Results of survey to determine regional livestock training priorities, methodologies and target audiences

Results

Additional comments provided by the survey respondents are included below each of the respective tables.

Legend –

P = producers

A = awareness

C = consultants/advisers/resellers

F = facilitated learning

Western Australia –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Management of weaners	P		A	F
Livestock forums and updates	P	C	A	
Best management practices for sheep enterprises	P	C		F
Principles for livestock management based upon farmer case studies	P	C		F
Economic modelling and benchmarking of whole farm profit and risk	P	C		F
Economic analysis of alternative sheep breeds and enterprises	P	C	A	
Exit and entry strategies	P		A	F
Sheep handling equipment	P		A	
Pastures from Space		C	A	
Livestock marketing	P		A	
<i>Additional training issues -</i>				
Ewe management to lift lamb survival	P	C	A	F
Targeted training needs – wool handling for owner-classer and mulesing	P		A	

Eyre Peninsula of South Australia –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Cost of production and profit drivers	P	C		F
Stock numbers and stocking rates to match feed availability	P	C		F
Feed budgeting	P	C	A	
Nutritional requirements of sheep	P	C		F
Grazing strategies	P	C	A	
Nutritional values of feed (crops, pastures and grain)	P	C	A	F
Containment feeding	P	C	A	
Grazing cereal crops	P		A	

Identified Training Issues	Target Audience		Extension Methodology	
Perennial species	P		A	
Infrastructure and equipment	P		A	
<i>Additional training issues</i>				
Whole farm finances (crops and livestock)	P	C		F
Economics of supplementary feeding	P	C		F
Ram selection	P	C		F
Labour saving strategies	P	C		F
Making hay and silage	P		A	

Additional Comments –

It is important to up-skill advisers who have primarily been concentrating their service in agronomy related areas. Not all wish to be livestock “experts”, but a broader skill base will help provide better farming systems advice and analysis.

While group processes have been historically useful, they are time consuming and may be avoided by many “time poor” producers. If some “agronomic” advisers who already have a relationship with the farmers have sufficient skill to identify opportunities to increase profit from the livestock enterprise, it may increase involvement in producer groups and learning activities.

Most advisers benefit from regular updates on diverse topics, so an annual seminar aimed at producers may be well received. It may be best to target the seminars for each region so they could be topical. A list of suggested topics identified.

The Advisory Board of Agriculture put together a simple cost of production spreadsheet for farmers to use in their cropping enterprise. Despite carrying out this simple exercise annually with many clients, this simple spreadsheet has been well utilized by those clients who regularly focus on their business. It is perceived as a difficult task to get mixed farmers to apportion costs to their crop versus livestock enterprises (including labour costs), so a simple spreadsheet with rules on calculating costs would be very helpful to many farmers. The spreadsheet could sit alongside the crop production cost spreadsheet to give farmers a basic understanding of the relative risk of each enterprise. The provision of a good data set for several regions and production systems would also be excellent so farmers can see where their enterprise fits in relation to others in a similar environment (I don’t think that provision of “benchmarks” is the answer, but a set of anonymous data from a region is always good for starting a discussion and focusing farmers on areas of their business and operations). A simple farmer friendly cost of production wool would be very useful. Return on investment from the livestock enterprise is often undervalued.

Is there a place for using example farmers how they effectively combine stock and crop? This includes such things as reducing the clashes of stock work with seeding and harvest. How do the best stock farmers use their time well?

The synergies between crops and livestock are often forgotten. We naturally specialise in a field – especially advisers and it is harder to analyse two enterprises running together. The sum of the parts of the business is greater than each enterprise running individually.

Note that it is no good focusing on livestock nutrition if stocking rates aren’t high enough to take advantage of better nutrition.

Eastern South Australia –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Drivers of profit (enterprise and farm)	P	C		F
Feed budgeting	P	C	A	
Strategies to increase fodder crop and pasture production	P	C		F
Tactical and strategic management for seasonal conditions and climate change	P	C	A	F
Confined feeding	P	C	A	
Benchmarking farm business	P			F
Dual purpose crops	P	C	A	
Feed utilization	P	C	A	
Supplementary feeding	P	C		F
Perennial pasture species	P	C	A	
Nutritional requirements of livestock classes	P	C	A	F
Assessing impacts of change on farm profit	P	C	A	F
Fodder conservation	P		A	
Decision support tools	P	C		F
Infrastructure and livestock handling equipment	P		A	
Syndication for livestock management	P		A	
<i>Additional training issues</i>				
Grazing management	P	C	A	F

Additional Comments –

Benefits as the two systems work side by side – better decision-making. Also a chance to ask the question “How do we apply crop thinking to livestock?” (or vice-versa).

Northern Victoria –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Best management practices	P	C		F
Nutritional requirements and feed options	P	C		F
Knowledge and skills of consultants		C		F
Precision livestock	P	C		F
Livestock markets and marketing	P	C	A	F
Containment feeding	P	C	A	F
Technology and infrastructure	P	C		F
<i>Additional training issues</i>				
Grazing management	P			F
Chemical residues (crops and livestock)	P	C		F
Organic farming	P	C	A	

Additional Comments –

It is essential that producers learn about livestock alongside their agronomist, especially as there is evidence that mixed farming has financial benefit.

In many cases “awareness” will have to proceed facilitated learning to ensure uptake.

It is vital that facilitated learning relates to producers own businesses.

The key issue which still faces many producers and consultants is that they do not understand their business. It is all very well having training in the above areas, such as marketing but you need a strong base to progress from. Some training on whole business analysis would be more beneficial in the majority of producers overall but best management practices and nutrition above.

I presume that the end game is the integration of crop and grazing into a flexible system that optimise profitability and leaves risk at an acceptable level.

From a grazing persons point of view the following is obvious:

Croppers (and cropping consultants) as a group do not believe that grazing is as profitable as cropping. Maybe true when gross margins are looked at but not necessarily so when risk is considered – particularly in failed seasons. The risk increases as the rainfall decreases. See Tim Hutchings work for AWI and his current DBM studies.

I would have thought that is the first barrier to overcome – you can run as many courses that you like but unless diesel heads believe there is money to be made out of stock or that there are clearly defined benefits from running both together, nothing will change. This needs examination and discussion across the whole industry and evidence in order to create the need/willingness to change. There is a commonly expressed view in some areas that grazing is detrimental to cropping due to compaction, increasing weed content etc. – true or not?

Secondly there are a whole lot of other structural barriers to change – loss of infrastructure (fences, shearing sheds), lack of water, lack of labour (shearers) etc. Any promotion of grazing into cropping areas – or the retention of grazing needs to consider these impacts.

Thirdly there are a lot of basic skills that are missing, eg:

- enterprise profile (time of lambing, selecting appropriate stocking rates etc);
- management of nutrition – understanding feed demand through the year and the options for;
- grazing management;
- management of disease;
- genetic selection;
- marketing;

These are the high priority skills that need to be developed.

Finally there are then some tactical skills, such as setting up feedlots etc. – There are opportunistic and have to be done when there is a need, otherwise they don't have relevance.

More sophisticated issues such as PSM will take a bit longer to introduce. Spoke to Mick about a major project we are doing with PSM in Victoria. We don't see PSM as things like virtual fencing, but the benefits of the management of sheep as individuals, from marketing, management and breeding perspectives. We see a lot of potential in this aspect and were glad to see it included in your list.

I am somewhat sceptical about the role of agribusiness (Elders etc) in driving this sort of change or responding to the challenge. There is not the money in stock from a sales point of view, as there is in crop chemicals and therefore little incentive. (Maybe \$20/ha) in high stocking rate situations). If there was, it would have happened already.

Southern New South Wales –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Analysing enterprise mix to maximize profit	P	C	A	F
Pasture options and management within the cropping rotation	P	C	A	
Perennial pasture technology	P	C	A	
Grazing practices for cereal and canola crops	P		A	F
Grazing stubbles	P		A	
Filling the “feed gap” utilizing pastures and dual purpose crops	P		A	
Weed management strategies in the pasture phase	P	C	A	
Woody perennials and fodder shrubs for alley farming	P		A	

Northern New South Wales –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Impacts of system change to incorporate livestock on farm profitability	P	C	A	F
Economic and risk analysis of a range of crop and pasture rotations	P	C	A	F
Integration of pastures and livestock into the cropping system	P	C		F
Increasing crop/forage/pasture frequency (increase diversity of rotation)	P		A	
Feed budgeting tools	P		A	F
Pasture and fodder utilization	P		A	F
Strategic changes to livestock systems to adapt to climate change	P	C	A	
Perennial and legume pastures	P		A	
Fodder conservation and tactical storage	P		A	
Forage crop options	P		A	
Improving the knowledge of supply chain (agribusiness, stock agents and distributors)		C		F
Integrating ley pastures	P	C	A	
Soil and pasture nutrition for increased production	P	C	A	

Queensland –

Identified Training Issues	Target Audience		Extension Methodology	
	P	C	A	F
Benchmarking production and profitability (current situation)	P	C		F
Decision-support tools to assess enterprise mix to optimize farm profitability, natural resource condition and risk management	P	C		F
Livestock composition and marketing	P			F
Integration of short term forage crops and pastures	P	C	A	F
Grazing management strategies	P			F
Cover crops	P			F
Livestock nutrition (functions of the rumen and requirements for supplements)	P			F
Management strategies to adapt to climate and seasonal variation	P		A	
Establishment and management of long term and permanent pastures	P		A	F
Supply chain management and planning	P		A	F
Tools to calculate feed demand	P		A	
Fodder conservation	P		A	
Feed budgeting for dryland crops and pastures	P			F
Strategic feed planning practices				
Integration of ley pastures				
Tactical on-farm storage as a strategy for improved flexibility for marketing				
Soil and pasture nutrition				
<i>Additional training issues</i>				
Sustainable management of mixed farming systems in an environment of changing and variable climate and markets				

Additional Comments –

Don't duplicate what already exists eg. livestock nutrition, tools to calculate feed demand and feed budgeting – MLA Nutrition EDGE, grazing management strategies is already in place through RCS Grazing for Profit and ley pastures – Ley Pasture, Queensland program.

Do you see benefit in farmers/producers learning about livestock management alongside their cropping adviser/agronomist – “YES” but only if relevant and language suitable.

Add some human relations/communication/understanding what makes people tick/motivate/influence learning into the equation.

Training for decision support tools to assess enterprise mix to optimize farm profitability, natural resource condition and risk management must train producers “how to use”.