MEAT & LIVESTOCK AUSTRALIA

on farm

The Breeding Edge

A design for an education package covering reproduction, genetics and animal health for beef producers in northern Australia

Project number NBP.201
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Info Category

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1. Background

For the last fifteen years, MLA has supported research, development and extension in the northern beef industry through its North Australia Program. That support is continuing through its new Northern Beef Program (NBP), initiated in July 2001.

Extensive market research was undertaken to assist in strategy formulation to guide this program. This research uncovered the five top priority outcomes (in order of importance) for northern producers.

i. Be confident that markets for Australian cattle and beef are maintained and developed
ii. Have the management and production skills to cost effectively meet market specifications for your cattle
iii. Know how to improve live weight gains in a cost effective way
iv. Know how to improve calving and weaning rates in a cost effective way
v. Know how to manage pasture for optimum production

This research also indicated a willingness among northern producers to spend time and money on training

The NBP strategy is available as Appendix 3.

In addition to NBP, MLA has also constituted the EDGE project to manage its involvement in the development and delivery of training and education for red meat producers.

EDGE strategy for northern Australia (Appendix 4) identified Nutrition, Grazing Land Management and Reproduction, Genetics and Animal Health as the three education and training products to cover the production aspects of the beef business. Nutrition and Grazing Land Management education products are available or under development.

This document addresses a proposed education package to assist producers in enhancing their management of the breeder herd, covering reproduction, genetics and animal health. The project brief, detailing intent scope and deliverables, is presented as Appendix 1

1.1 Project Scope

The package is to be developed for the north Australian beef industry. The content will focus on dry land pasture based enterprises. Where possible the product will be integrated with other existing and potential education programs (Appendix 5).

This project seeks to provide beef producers with a better understanding of reproduction and genetics, enabling them to evaluate and improve current practises and to make informed judgements on the value of advice to benefit their business. This will be done through the addressing of the outcomes identified by the market research, striving to increase the satisfaction levels for each outcome to their planned level.

2. Market Research

2.1 Process

The design of this package followed the standard QFD (Quality Function Deployment) approach used in designing earlier products. A schematic representation of that approach follows.

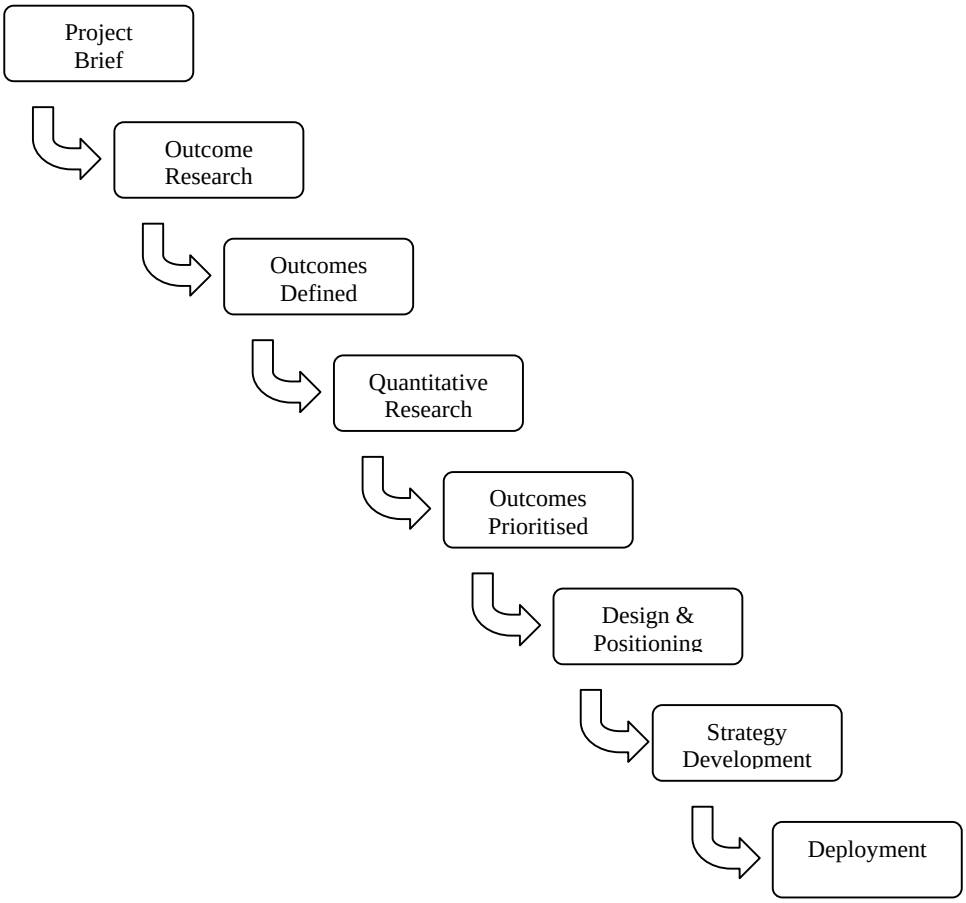


Figure 1 QFD pathway

This process was overseen by a core team, which directed and analysed the research then formulated the concept and direction for the product. That team consisted of Mick Tierney, Geoff Fordyce, Andrew Phillips, John Bertram, Peter Dundon, Peter Loneragan, Richard Apps, Jay Simms, Anne Stunzner, Shane Blakeley and Ian McLean.

The quantitative survey across the customer base, conducted by NFS Market Research, Brisbane, was central to this exercise. In this total, 142 producers were surveyed across three zones of Queensland (endowed, intermediate and harsh) and a fourth region comprised of the Northern Territory and Western Australia. The questionnaire (Appendix 2) sought information on customer demographics attitudes and experience towards training and extension and the importance of the following outcomes, derived from the earlier qualitative research:

Unranked outcome statements used in survey of producers

How relatively important to you is it to .....
1. Use genetics to increase weight and fertility of cattle while maintaining other desirable traits.
2. Know how to improve and maintain good temperament in your cattle.
3. Be able to understand how genetics work, and apply it in your business.
4. Know how to select cattle that are suitably adapted to your country.
5. Know how to select bulls that will produce the progeny that will meet market specifications.
6. Know how to select physically and reproductively sound bulls.
7. Understand and be able to use EBVs with confidence.
8. Have an effective bull-breeding program on your own property.
9. Know how to use composites and cross breeding.
10. Be able to correctly identify heifers and cows that should be retained for breeding and those that should be marketed.
11. Understand the female reproductive cycle.
12. Understand mating management options and know when the best time is to mate your cows.
13. Improve the conception rate in your heifers after having their first calf.
14. Determine the optimal bull joining percentage for your conditions.
15. Know when and what to wean, the tradeoffs involved, and the impact on the cow and calf.
16. Able to manage nutrition and husbandry of weaners.
17. Know what diseases are financially important and how to control them.
18. Maximize sale returns from female's surplus to breeding requirements.
19. Have a process to analyse profitability and viability of new ideas.
20. Be able to prepare and document a herd management plan.

Twenty-five internal customers were interviewed from different areas of industry, breed societies, agents, pastoral companies, feedlots, processors, producer groups, researchers, veterinarians, extension and technical personnel.

Encouragingly, there were no consistent concerns among internal customers that indicate this would pose an obvious problem to their businesses. There was wide spread support for such an education package and nearly all were sure of a benefit to their business or organisation if producers were to undertake this education activity. Indeed, many expressed an interest in playing a part in the delivery of the product, either as actual deliverers or by organising groups from their client base to complete the course. Research organisations identified it as a specific opportunity to interact with clients.

The consistent recommendation was to encourage the adoption of practical, research-based management skills and to avoid developing a sense of false confidence among participants with an emphasis on the basics to enable them to seek information and advice.

2.2 Data Summary

The quantitative data are presented in summary form on this and the following three pages. The full data set is presented in Appendix 7.

	All Respondants													
		Zone				Sex		Age			Management			
	Total	NT & WA	Qld End	Qld Inter	Qld Harsh	Female	Male	<40	40 - 55	>55	Owner	Manager	Particapte	>$500
Total	142	36	31	37	38	25	117	46	53	43	117	25	106	37
Zone														
NT&WA	25%	100%	0%	0%	0%	20%	26%	37%	19%	21%	19%	56%	28%	46%
Q End	22%	0%	100%	0%	0%	20%	22%	13%	25%	28%	26%	4%	20%	38%
Q Int	26%	0%	0%	100%	0%	36%	24%	26%	26%	26%	28%	16%	25%	57%
Q Harsh	27%	0%	0%	0%	100%	24%	27%	24%	30%	26%	27%	24%	26%	46%
Sex														
Female	18%	14%	16%	24%	16%	100%	0%	22%	15%	16%	20%	8%	18%	14%
Male	82%	86%	84%	76%	84%	0%	100%	78%	85%	84%	80%	92%	82%	86%
Age														
<40	32%	47%	19%	32%	29%	40%	31%	100%	0%	0%	27%	56%	38%	30%
41-55	37%	28%	42%	38%	42%	32%	38%	0%	100%	0%	37%	40%	42%	43%
>55	30%	25%	39%	30%	29%	28%	31%	0%	0%	100%	36%	4%	21%	27%
Production Mix														
Commercial	92%	94%	90%	92%	89%	84%	93%	93%	91%	91%	90%	100%	92%	97%
Stud	8%	6%	10%	8%	11%	16%	7%	7%	9%	9%	10%	0%	8%	3%
Ownership														
Owner	82%	61%	97%	89%	84%	92%	80%	70%	81%	98%	100%	0%	78%	76%
Manager	18%	39%	3%	11%	16%	8%	20%	30%	19%	2%	0%	100%	22%	24%
Enterprise Mix														
Beef Only	79%	94%	77%	78%	66%	84%	78%	80%	81%	74%	75%	96%	83%	86%
Beef/ Sheep	6%	3%	0%	0%	21%	4%	7%	2%	8%	9%	8%	0%	6%	5%
Beef/ other	15%	3%	23%	22%	13%	12%	15%	17%	11%	16%	17%	4%	11%	8%
Herd Size														
<300	10%	0%	26%	11%	5%	8%	10%	9%	6%	16%	12%	0%	8%	5%
300-1000	25%	0%	39%	43%	21%	28%	25%	17%	32%	26%	28%	12%	25%	19%
1-5000	42%	33%	32%	43%	55%	52%	39%	41%	40%	44%	44%	32%	40%	38%
>5000	23%	67%	3%	3%	18%	12%	26%	33%	23%	14%	16%	56%	27%	38%
Area (median)														
('000 ha)	15.2	313.6	1.6	6.4	19	15.2	16	39.2	9.2	12	10.8	200	17.4	24
Prodn B.marking														
Yes	78%	89%	77%	76%	71%	68%	80%	87%	77%	70%	76%	88%	82%	95%
No	22%	11%	23%	24%	29%	32%	20%	13%	23%	30%	24%	12%	18%	5%
Fin B.marking														
Yes	60%	64%	55%	62%	58%	44%	63%	67%	58%	53%	59%	64%	63%	73%
No	40%	36%	45%	38%	42%	56%	37%	33%	42%	47%	41%	36%	37%	27%
Participation														
Yes	75%	83%	68%	73%	74%	76%	74%	87%	83%	51%	71%	92%	100%	100%
No	25%	17%	32%	27%	26%	24%	26%	13%	17%	49%	29%	8%	0%	0%
Cost to you														
<$500	73%	61%	77%	84%	68%	80%	71%	76%	70%	72%	74%	64%	65%	0%
$500-$1,000	19%	31%	16%	8%	21%	16%	20%	15%	21%	21%	18%	24%	25%	70%
>$1,000	8%	8%	6%	8%	11%	4%	9%	9%	9%	7%	8%	12%	10%	30%
Duration														
4+	10%	8%	3%	19%	8%	12%	9%	11%	11%	7%	8%	20%	12%	22%
3	19%	33%	19%	11%	13%	0%	23%	15%	23%	19%	18%	24%	24%	38%
2	34%	39%	32%	35%	29%	36%	33%	41%	34%	26%	34%	32%	37%	38%
1	37%	19%	45%	35%	50%	52%	34%	33%	32%	49%	40%	24%	27%	3%
Accreditation														
Yes	51%	61%	52%	38%	53%	40%	53%	52%	55%	44%	45%	76%	60%	62%
No	49%	39%	48%	62%	47%	60%	47%	48%	45%	56%	55%	24%	40%	38%

		Zone				Sex		Age			Management			
	Total	NT & WA	Qld End	Qld Imter	Qld Harsh	Female	Male	<40	40 - 55	>55	Owner	Manager	Particapte	>$500
	142	36	31	37	38	25	117	46	53	43	117	25	106	37
Technology use														
EBV	23%	28%	10%	22%	32%	24%	23%	26%	28%	14%	22%	28%	24%	35%
X breed	71%	72%	77%	65%	71%	72%	71%	78%	79%	53%	68%	84%	74%	68%
Bull exam	50%	58%	48%	46%	47%	48%	50%	59%	47%	44%	49%	56%	52%	59%
Cont join	51%	28%	74%	59%	47%	48%	52%	50%	60%	42%	52%	48%	50%	57%
Botulism	52%	89%	32%	27%	58%	52%	52%	57%	51%	49%	47%	76%	53%	57%
P test	74%	78%	71%	73%	74%	80%	73%	80%	77%	63%	74%	76%	77%	78%
A.I.	12%	8%	23%	8%	11%	12%	12%	4%	15%	16%	13%	8%	9%	14%
Willis	29%	72%	10%	16%	16%	12%	32%	43%	25%	19%	23%	56%	31%	41%
Flank	30%	33%	32%	41%	16%	36%	29%	28%	40%	21%	30%	32%	33%	41%
Gene mkr	4%	3%	0%	8%	3%	4%	3%	0%	2%	9%	3%	4%	1%	3%
Wet supp	24%	47%	13%	19%	16%	28%	23%	30%	28%	12%	20%	44%	27%	27%
Dry supp	85%	72%	87%	92%	89%	92%	84%	91%	89%	74%	83%	96%	87%	84%
Home Bred Bulls														
Yes	35%	39%	32%	35%	32%	44%	32%	33%	28%	44%	34%	36%	34%	32%
No	56%	53%	61%	59%	50%	44%	58%	52%	62%	51%	54%	64%	57%	57%
Sometimes	10%	8%	6%	5%	18%	12%	9%	15%	9%	5%	12%	0%	9%	11%
%	20%	49%	18%	15%	18%	5%	20%	10%	20%	50%	20%	15%	18%	30%
Bull Selection														
Self	86%	81%	94%	81%	89%	76%	88%	85%	85%	88%	91%	64%	84%	73%
Agent	3%	6%	0%	5%	0%	4%	3%	4%	4%	0%	3%	4%	4%	3%
Bull Buyer	3%	8%	0%	3%	0%	4%	3%	2%	4%	2%	2%	8%	2%	3%
Stud	1%	0%	3%	0%	0%	4%	0%	0%	0%	2%	1%	0%	0%	0%
Co. HQ	3%	6%	0%	0%	5%	0%	3%	2%	6%	0%	0%	16%	4%	5%
Other	23%	14%	26%	32%	21%	60%	15%	37%	19%	14%	22%	28%	26%	24%
Confidence Ratings														
Cow fertility	7.9	7.7	8.0	8.0	8.0	8.0	7.9	7.8	7.8	8.1	8.0	7.6	7.8	7.5
Bull fertility	7.4	7.3	7.7	7.6	7.0	7.5	7.4	7.2	7.4	7.7	7.3	7.6	7.3	7.0
Animal health	8.1	7.9	8.0	8.2	8.2	8.2	8.1	7.9	8.2	8.2	8.1	8.0	7.9	7.9
Genetics	6.9	6.8	7.0	7.2	6.8	7.0	6.9	6.9	6.8	7.2	7.0	6.5	6.8	6.8
Bull breeding	6.6	6.6	7.0	6.4	6.8	7.6	6.4	6.4	6.5	7.1	6.6	6.7	6.6	4.7
Calving rate	82%	77%	83%	84%	83%	82%	82%	81%	80%	84%	83%	76%	80%	78%
Embryonic losses	4%	6%	4%	4%	4%	4%	4%	6%	4%	3%	4%	7%	5%	4%
Confidence level														
Very	33%	21%	57%	32%	24%	16%	36%	26%	36%	36%	36%	19%	31%	36%
Mod	44%	41%	43%	54%	38%	53%	42%	51%	39%	42%	46%	33%	45%	33%
Uncert	24%	38%	0%	14%	38%	32%	22%	23%	25%	22%	18%	48%	24%	30%
EQ importance	7.9	6.3	8.1	8.3	8.6	8.3	7.8	7.7	8.0	7.8	7.8	8.3	7.7	6.9
Markets														
Live Export	39%	92%	16%	11%	34%	32%	40%	43%	36%	37%	33%	64%	41%	41%
Feedlot Steers	24%	19%	19%	30%	26%	32%	22%	15%	32%	23%	25%	20%	20%	22%
Stores	18%	8%	19%	24%	18%	36%	14%	17%	21%	14%	21%	4%	16%	19%
Slaughter	52%	14%	58%	76%	61%	56%	51%	48%	55%	53%	55%	40%	48%	51%
Other	11%	3%	23%	8%	11%	20%	9%	13%	8%	12%	10%	12%	10%	11%

		Zone				Sex		Age			Management			
	Total	NT & WA	Qld End	Qld Imter	Qld Harsh	Female	Male	<40	40 - 55	>55	Owner	Manager	Particapte	>$500
Total	142	36	31	37	38	25	117	46	53	43	117	25	106	37
Access unbiased info on;														
Female reproduction														
DPI	44%	56%	39%	24%	55%									
Cannot access	26%	33%	29%	24%	18%									
Vet	20%	17%	16%	24%	24%									
Other producers	6%	3%	13%	3%	5%									
Rural Publications	4%	6%	3%	8%	0%									
Male reproduction														
DPI	44%	42%	32%	49%	50%									
Vet	28%	17%	23%	41%	32%									
Cannot access	19%	28%	19%	8%	21%									
Bull Breeder	13%	11%	19%	19%	3%									
Rural publications	4%	6%	10%	0%	0%									
Genetics														
Cannnot access	30%	36%	26%	24%	34%									
DPI	23%	28%	19%	19%	24%									
Bull breeder	16%	8%	19%	32%	5%									
Breed societies	10%	14%	13%	3%	11%									
Rural publications	6%	8%	0%	8%	5%									
Animal health														
DPI	51%	67%	52%	24%	61%									
Vet	42%	33%	48%	35%	53%									
Cannot access	6%	6%	3%	8%	8%									
Rural Publications	6%	8%	6%	5%	3%									
Other producers	3%	0%	6%	0%	5%									
Bull breeding														
Cannot access	35%	53%	29%	24%	34%									
Bull breeders	16%	14%	13%	30%	8%									
DPI	13%	11%	13%	19%	8%									
Breed societies	8%	11%	3%	8%	8%									
Magazines	4%	8%	0%	3%	3%									
Most Important Charecteristics that you breed for														
Temperament	20%	21%	15%	23%	20%									
Fertility	12%	19%	7%	9%	12%									
Weight	9%	6%	16%	8%	9%									
Carcass quality	8%	7%	8%	10%	7%									
Conformation	7%	7%	8%	9%	5%									
Ealry maturing	6%	9%	3%	2%	9%									
Growth	4%	2%	4%	8%	2%									
Sound structure	4%	4%	3%	3%	4%									
Type	3%	6%	3%	2%	2%									
Marketability	2%	0%	4%	0%	4%									
Goal Setting														
Lifestyle	26.5	26.4	24.0	26.3	29.0	26.8	26.5	26.5	25.8	27.5	25.7	30.3	27.1	28.2
Sustainability	35.1	37.0	32.9	34.5	35.8	35.9	35.0	35.8	35.2	34.4	36.0	31.2	35.7	34.6
Profitability	38.3	36.6	43.1	39.2	35.2	37.3	38.5	37.7	39.0	38.1	38.3	38.5	37.2	37.2
Management Mix														
Breeder herd mngmn	21.8	24.1	20.7	21.1	21.1	23.8	21.4	22.3	22.3	20.6	21.4	23.6	21.9	21.6
Nutrition mngmnt	17.7	16.1	16.8	18.9	18.9	19.6	17.4	18.0	18.3	16.8	17.9	17.2	17.4	17.7
Grazing land mngmn	18.0	19.0	18.6	17.1	17.4	16.8	18.3	17.0	18.2	18.8	18.1	17.5	17.8	19.6
Financial mngmnt	17.5	16.3	18.9	18.2	16.9	16.8	17.7	17.1	16.7	19.0	17.6	17.2	17.2	16.1
Human resource mn	9.8	10.9	10.1	9.2	8.9	9.5	9.8	10.6	8.9	9.9	9.4	11.4	10.3	11.0

2.3 Attitudinal Responses

Survey respondents were asked for their attitudes towards a number of aspects of management and given the opportunity to make open-ended comment.

When asked about both production based and financial **benchmarking**, those respondents who indicated a willingness to compare their businesses performance indicated that the main reason for tracking performance was to get a good handle on their current performance, compare it to similar enterprises, and identify how they could improve.

Respondents said it would give them a better idea of their strengths and weaknesses, it would be a good way to be exposed to different management practices, share ideas and learn from others. The 'competitive spirit' would also drive them to improve their practices.

The main reason given by those respondents not interested in benchmarking their business was that they did not think that their business was comparable to other enterprises or that they could not see a benefit.

Producers across the board identified increased profitability through increased productivity and decreasing their cost of production as what they would **most like to change** in their business. They want to turn a more consistent animal off, enabling them to better meet market requirements at a younger age through improved genetics and nutrition (pasture and supplementations) to a more stable marketplace.

They also want to be sustainable in their operations but be able to manage their operation as they see fit and not be constrained by legislation.

Increased communication with other producers was also identified as an area that would like to be improved.

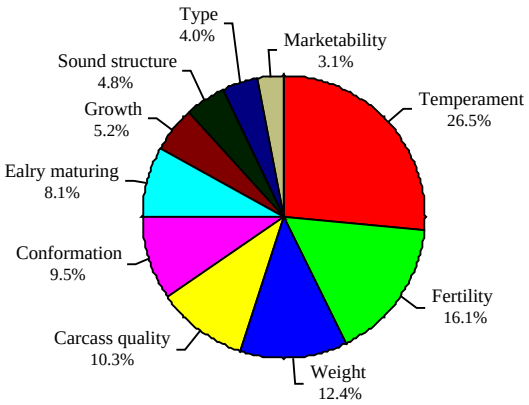
A lack of finance was the biggest factor inhibiting change amongst producers. Other inhibitive factors include lack of management expertise, lack of suitable staff, government legislation (e.g. tree clearing and taxation), climatic conditions and restrictions from senior family members or company policy/ hierarchy.

The main point made by producers when asked what MLA could do to assist this change was for MLA to develop trade and promote beef in both domestic and overseas markets and for MLA to lobby government for changes in legislation (e.g. vegetation management act, fuel excise). Producers want to be kept up to date on industry and consumer demand changes and they more information on exactly what it is that consumers want. Producers want this information provided to them in a simple easy to read format.

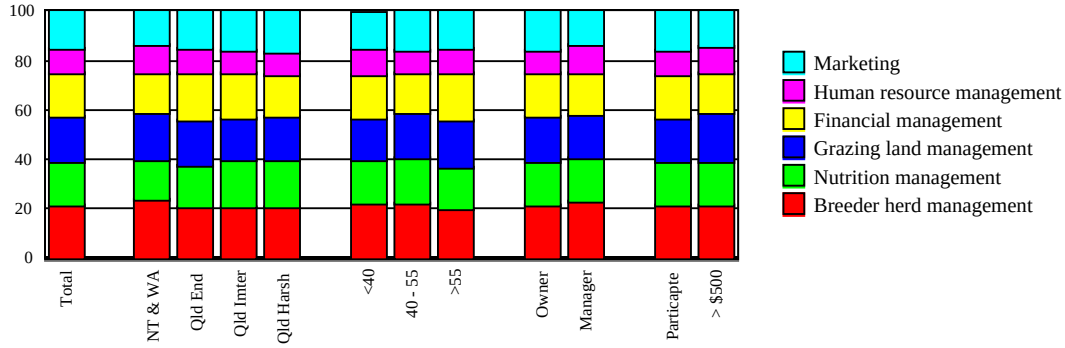
When asked where they could **source unbiased information** on a number of aspects of reproduction and genetics, producers identified state agriculture departments and veterinarians as the most common sources but 20 to 40% of respondents said they could not get access to such information.

Approximately 40% of respondents have **undertaken** some form of **education or training** over the last two years. Computers/accounting and Chemsafe/Cattlecare courses were identified as the being the most common Type of training undertaken by producers Future Profit, Grazing for Profit and "DPI courses" also featured as producer responses.

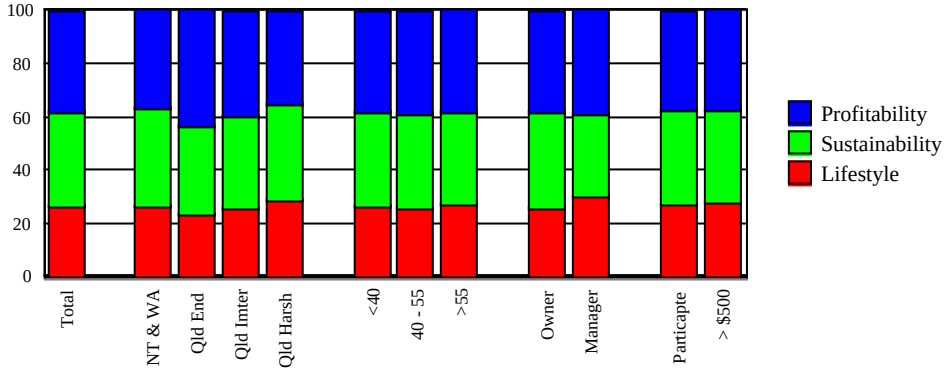
In response to a question asking what traits they breed for, the most common response was temperament. This confirms the high ranking given to temperament in the outcome prioritisation. Other main breeding objectives were fertility, weight, carcass quality, conformation, early maturing, growth, sound structure, type and marketability.



The survey asked respondents to rate the relative importance of different aspects of management. Breeder herd management was rated the most important. All the management aspects and their importances are given below. (N.B. The '>$500' column in the following graphs represents those producers who indicated a willingness to participate and who would spend over $500.)



Producers were asked to rate the relative importance of lifestyle, sustainability and profitability in the operation of their business, particularly their decision-making and goal setting process. All were important to the producer with profitability the most important followed by sustainability and lifestyle had the lowest, relative, importance. This demonstrates the importance of including sustainability and lifestyle aspects to decision making within grazing businesses.



2.4 Key Findings

2.4.1 Outcomes

It is pertinent to note that survey respondents gave greater importance to issues over which they felt they could practically apply such as selecting physically & reproductively sound bulls, identifying females for replacements & culling, improving & maintaining temperament and

selecting bulls to produce progeny to market specification. (refer to the full data summary for more detailed rankings of the outcomes based on demographics etc)

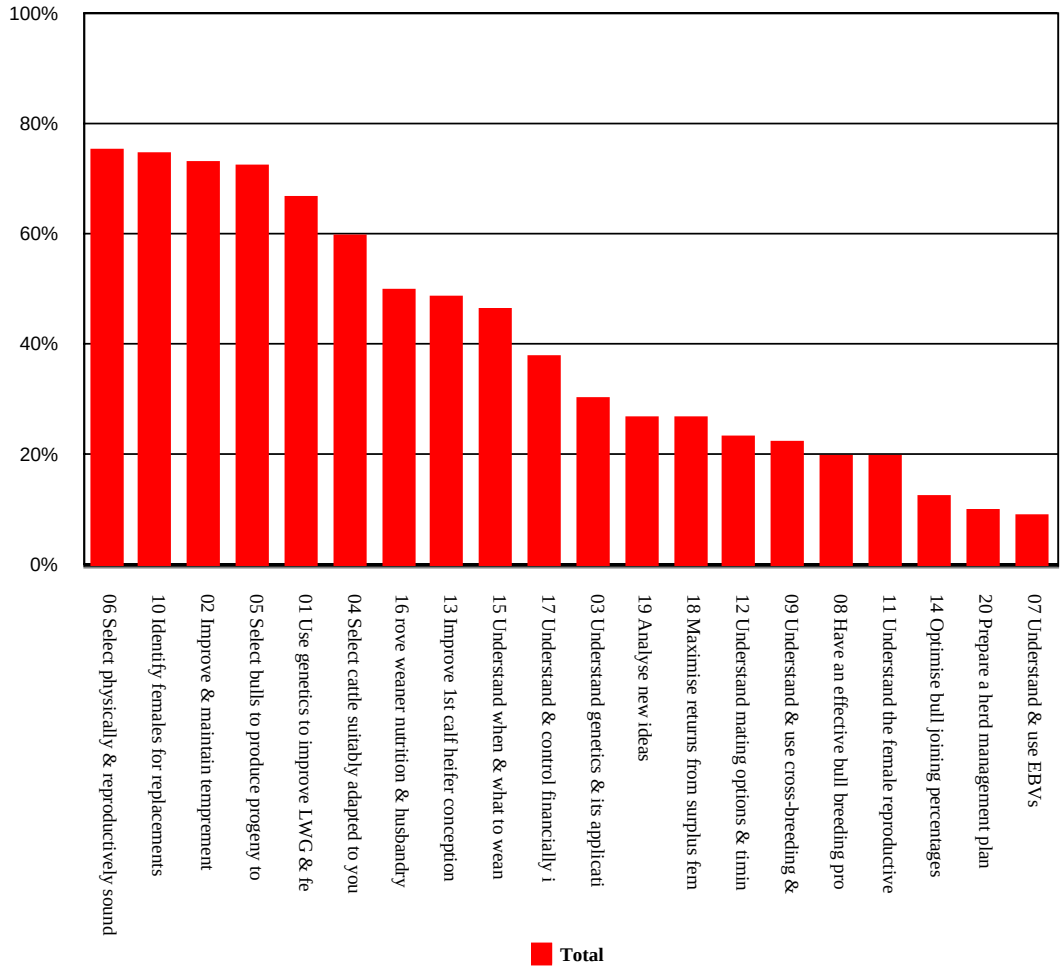


Figure 2 Outcomes ranked by customer importance

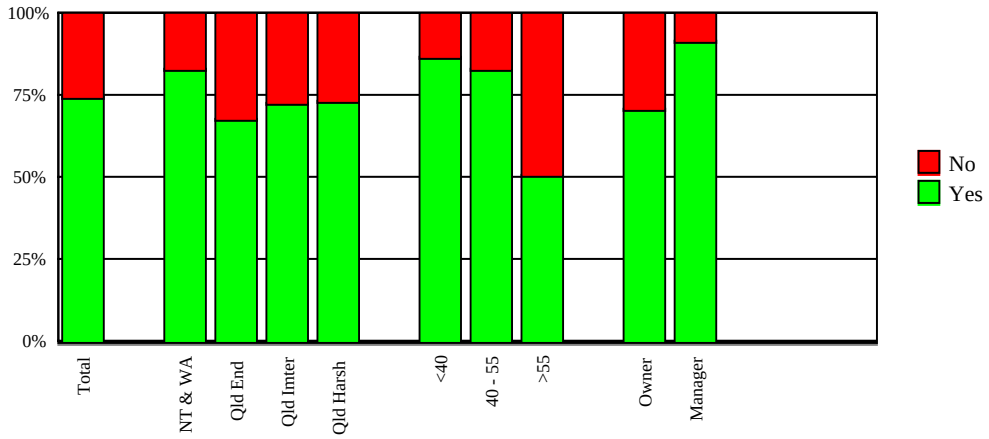
Conversely, single-issue outcomes, some distance removed from actual management and production, eg EBVs and bull joining percentages, were most lowly rated. This is not to say that these issues are unimportant but they are significantly less important that the higher order outcomes or that links to achievement of higher order outcomes were not well understood.

2.4.2 Demographics

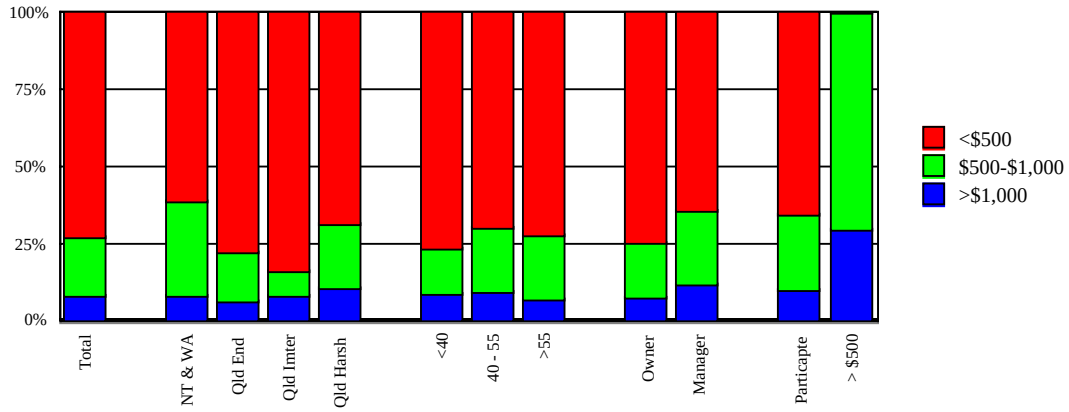
There were no unexpected differences associated with demographics. Naturally, property size, herd size and market orientation changed according to region Nor did region have any real bearing on outcome ranking. The top five outcomes were consistent across all regions with only minor re-ordering within that grouping.

2.4.3 Purchasing Intentions

The survey revealed a readiness to undertake a training activity of this type with 75% of respondents indicating they would consider participating in the proposed education package. The willingness of producers to participate in training appeared to be greater in NT and WA, among younger producers and with managers (these three categories are, to an extent, inter-related). Older operators on smaller properties with fewer cattle were less inclined towards participation.

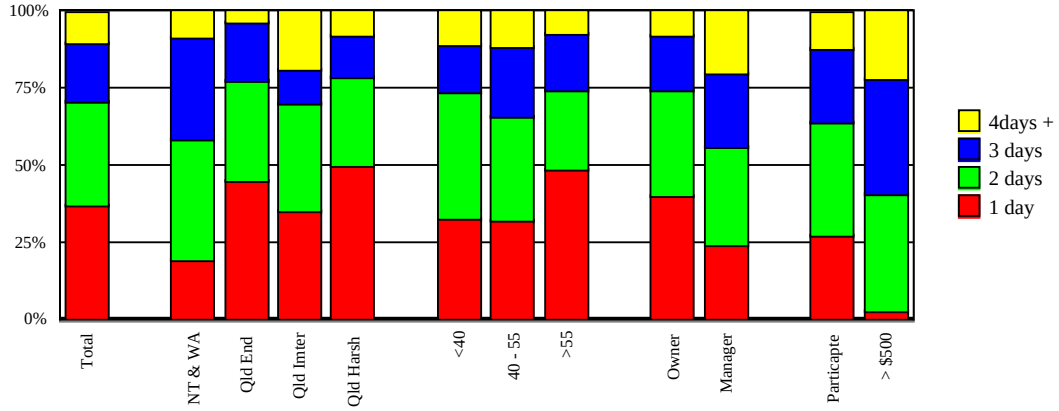


However, respondents were very price conscious with only 27% willing to pay more than $500 for training. This figure was higher among those who indicated a willingness to undertake the course with 35% willing to pay over $500.

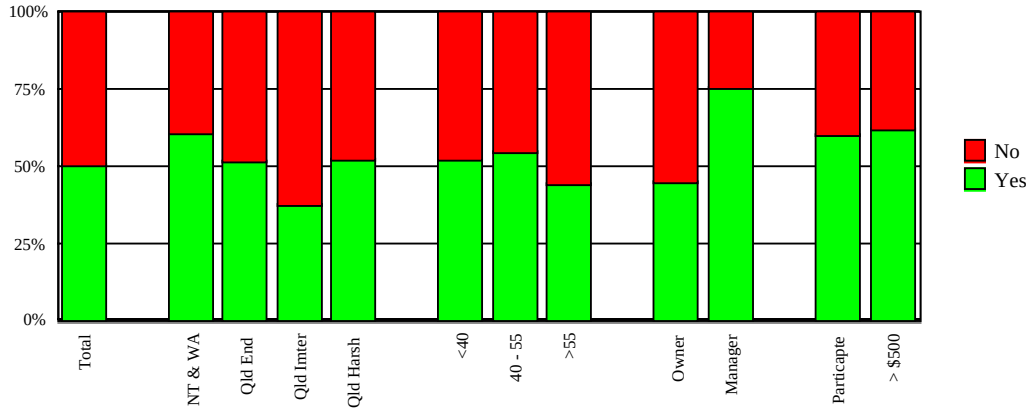


Given the history of free extension services for the last 50 years, this profile is not surprising and still identifies a genuine market for this and similar products that can be expanded, with sound promotion and demonstration of the benefits.\

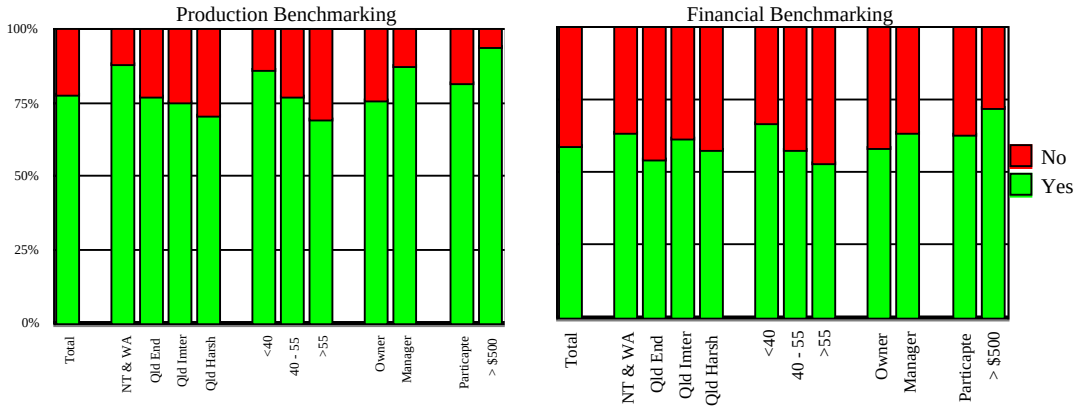
Similarly, time allocation was weighted towards one to two days with only 36% of total respondents willing to spend more time than that. Just as with price, this went up among those willing to do the course and jumped to 50% among those willing to spend more than $500.



The price/time relationship would appear to be around $300 to $250 per day of contact time. Accreditation, while of lesser overall importance, assumes a high priority among those willing to participate and among managers. These factors will be considered when designing the program.



Similarly, production benchmarking and, to a lesser extent financial benchmarking, are of definite interest to potential purchasers.



3. Product Position

3.1 Core Benefit Proposition

This package will increase the knowledge, skills and confidence of participants, allowing them to achieve more profit from efficient cattle breeding and management.

The product boasts the following features and benefits:

Feature	**Benefit**
Based on sound science	Gives you confidence in its content & application
Starts with the market in mind	The whole course is geared to improving the amount and quantity of what you sell with a resultant increase in profit
Works within / recognises the existing production base	The course will help you synchronise production with seasonality, land type, etc to optimise efficiency and productivity
Helps you select sound bulls	You can be confident that your bulls will work under your conditions, minimising bull costs while maintaining your genetic progress
Enables you to optimise bull management	You will be able to maximise calf output per bull and, therefore, minimise the cost of bulls per kg of production
Contains detailed information on herd structure, health,	Enables you to manage the fertility and productivity of the female herd

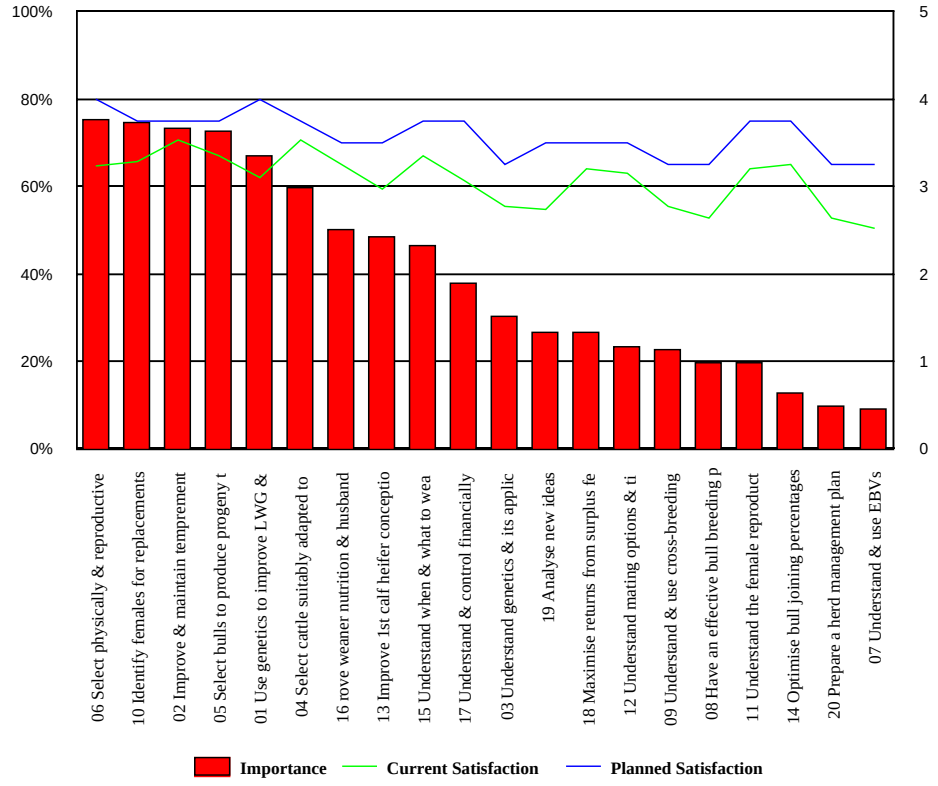
nutrition & other husbandry procedures	
Provides a practical planning process for managing the breeder herd	You will have a clear picture of what needs to be done, when & why to maximise profitability
Delivers a reporting and analytical tool to review performance	Allows you to correct weaknesses & identify & exploit opportunities for improvement
Provides reference to & contact with research sources	You will know who to talk to about specific technical issues & keep abreast of new ideas, concepts & products
Select females for breeding or sale	You will be able to select optimum traits for breeding and temperament and maximise income from sale cattle

Specifically the course will provide you with the knowledge understanding and tools to achieve the identified outcomes for your business.

3.2 Product Description

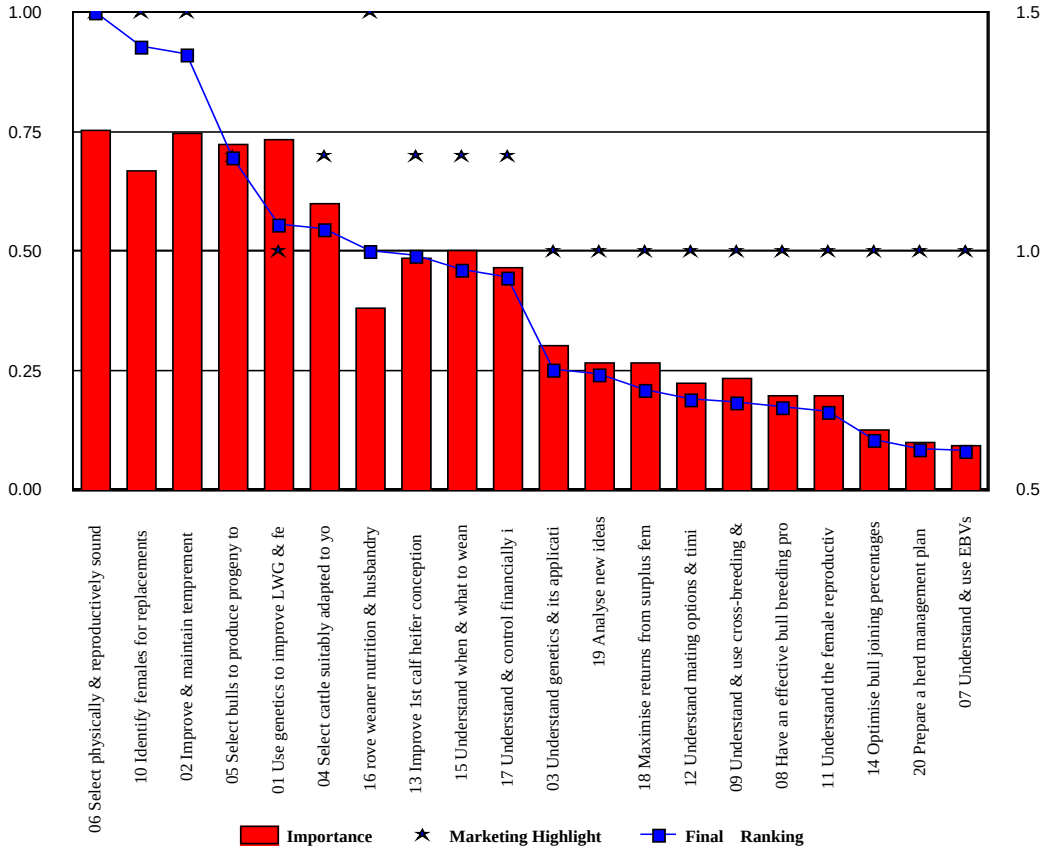
3.2.1 Design Process

In designing this product, the team took the ranked outcomes identified by the quantitative research and addressed the probable capacity of this product to improve on current levels of satisfaction, each outcome was then given a planned satisfaction level, as a result of participating in the proposed education package.



The outcomes were then re-prioritised based on the equation
*(Customer Importance) * (% change in satisfaction)*

The team judged each outcome in terms of its likely marketing appeal to customers, rating them as strong, moderate or low. A further re-prioritisation to determine overall importance was performed, based on the equation



*(Customer Importance) * (% change in satisfaction)*(marketing highlight)*

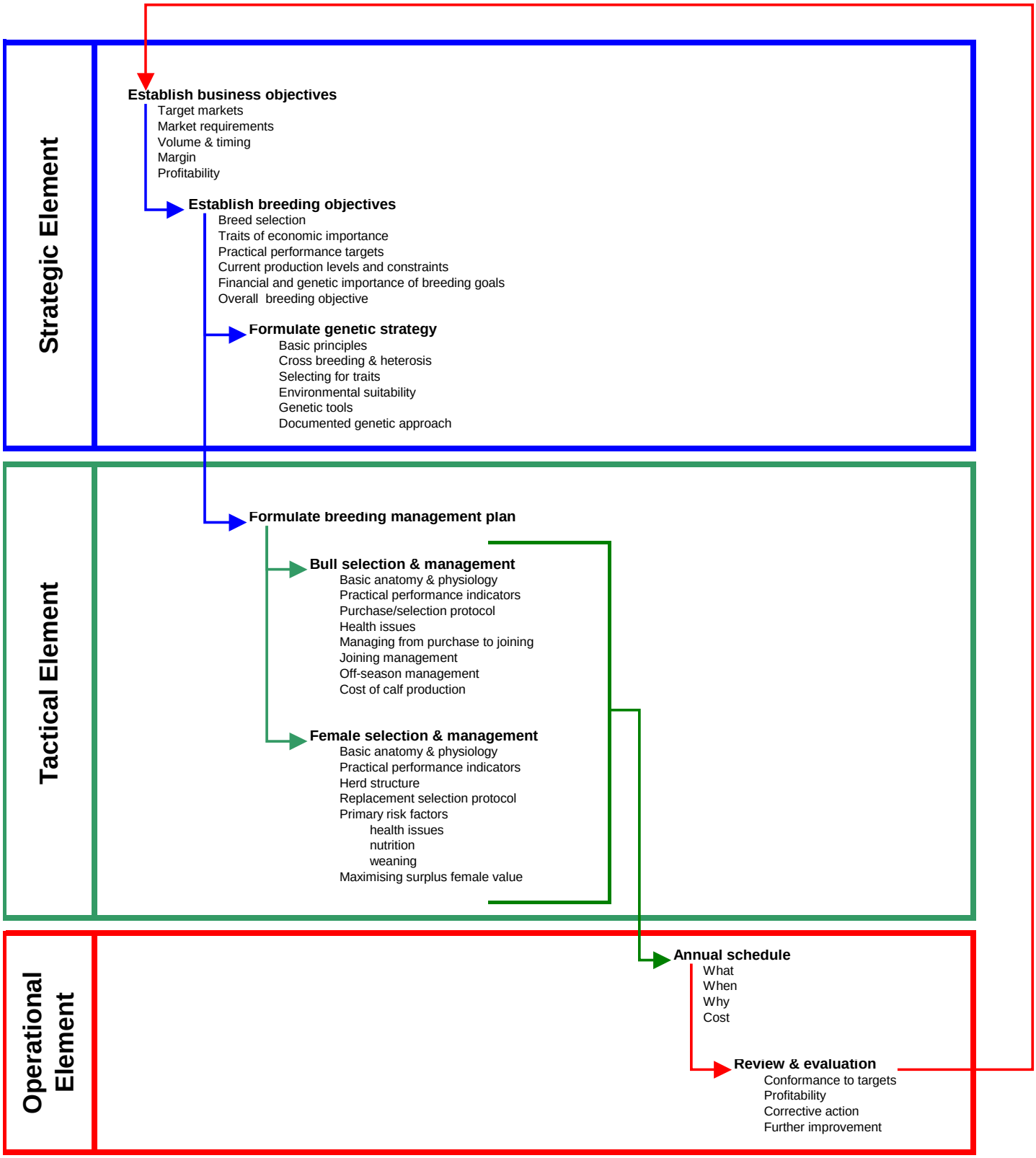
This re-ranked list of outcomes was then examined in light of possible information, principles, procedures, systems and processes that would provide participants with the skills and knowledge to satisfactorily achieve those outcomes. The resultant list was re-evaluated by a wider team of producers and technical experts and distilled down to the following product specification.

3.2.2 Product Map

It is anticipated that this product will, in the first instance, be offered in a dynamic workshop format, likely to run over three days. However it is conceivable that it may be broken down into two, or even three, smaller cheaper modules to allow greater affordability and access.

Final format, including the mix of instruction, demonstration and hands-on is to be negotiated between MLA and the developer. However, the product will conform to the basic construct shown overleaf.

While the concept has been presented diagrammatically in a linear flow chart, this does not imply that the program must follow that strict sequence. Rather developers are encouraged to configure the workshop in a way that maximizes its impact and effectiveness while bearing in mind the possible later segmentation of the product.


Strategic Element
Establish business objectives
Target markets
Market requirements
Volume & timing
Margin
Profitability
Establish breeding objectives
Breed selection
Traits of economic importance
Practical performance targets
Current production levels and constraints
Financial and genetic importance of breeding goals
Overall breeding objective
Formulate genetic strategy
Basic principles
Cross breeding & heterosis
Selecting for traits
Environmental suitability
Genetic tools
Documented genetic approach
Tactical Element
Formulate breeding management plan
Bull selection & management
Basic anatomy & physiology
Practical performance indicators
Purchase/selection protocol
Health issues
Managing from purchase to joining
Joining management
Off-season management
Cost of calf production
Female selection & management
Basic anatomy & physiology
Practical performance indicators
Herd structure
Replacement selection protocol
Primary risk factors
health issues
nutrition
weaning
Maximising surplus female value
Operational Element
Annual schedule
What
When
Why
Cost
Review & evaluation
Conformance to targets
Profitability
Corrective action
Further improvement

The primary consideration of the developer in compiling this course is to strive for the satisfaction of the listed outcomes, mindful of the importance, current satisfaction and planned satisfaction and overall importance of each of those outcomes. Linkages between workshop elements and stated outcomes are presented below:

Element		Strategic			Tactical		Operational		
Function → / Outcome ↓		Establish business objectives	Establish breeding objectives	Formulate genetic strategy	Bull selection & management	Female selection & management	Annual schedule	Review & evaluation	Weighting
6	Select physically & reproductively sound bulls								15.0
1	Identify females for replacements & culling								13.9
10	Improve & maintain temprement								17.4
5	Select bulls to produce progeny to market specification								20.2
2	Use genetics to improve LWG & fertility								17.8
4	Select cattle suitably adapted to your country								12.6
17	Improve weaner nutrition & husbandry		1						1.5
13	Improve 1st calf heifer conception rates								10.9
16	Understand when & what to wean								3.7
15	Understand & control financially important diseases								11.2
3	Understand genetics & its application								2.0
19	Analyse new ideas								3.4
18	Maximise returns from surplus females								2.9
9	Understand mating options & timing		1						3.6
12	Understand & use cross-breeding & composites								2.8
8	Have an effective bull breeding program								0.2
11	Understand the female reproductive cycle								0.7
14	Optimise bull joining percentages								1.3
20	Prepare a herd management plan								2.9
7	Understand & use EBVs								0.7
Weighting		**7.7**	**31.2**	**20.3**	**34.4**	**32.9**	**7.8**	**10.4**	

Key

	Strong Association
	Moderate Association
1	Low Association

Weightings were arrived at by:

i. multiplying the overall outcome importance by the degree of association for each outcome/function association, then

ii. summing those weightings across the row or column.

The fact that a large amount of good material already exists within the topic area is stressed. A comprehensive (but not exhaustive) list is presented in Appendix 5.

Use of those materials will largely be subject to satisfactory resolution of intellectual property issues. This is a matter for the developers, MLA and the proprietors of the intellectual property.

3.2.3 Excitements

In addition to designing a product that would fully satisfy the overt, spoken needs of the customers, the team also spent time examining possible excitement factors. These factors, if incorporated in the product, would provide customers with something extra, beyond what they might ordinarily expect from such a product. A list of practical features that could provide this added, unexpected value follows.

- Sound accessible science
  Clearly identifying the source of research outputs and their contribution to the course will engender a confidence in their relevance and empathy with that sector of the industry. Where possible provide details so participants can contact researchers direct if they have further questions. Consider the possibility of using this workshop as a conduit for channeling issues and ideas to researchers working in the field and vice versa.

- Benchmarking
  Survey respondents showed very strong interest in benchmarking, especially as it pertains to productivity aspects of their business. Developers should look to embed a process in the product by which participants can measure key productivity and profit drivers associated with breeder herd management. There is a clear need to establish and use a consistent terminology for benchmarking throughout the industry.

- Consider devising a system that enables participants to track their own performance over time, rate it against objectives and be alerted to weaknesses and risks. Comparative analysis among enterprises is being considered under another EDGE project but developers must ensure that their approach is consistent with that of EDGE

- Networking
  This product presents an opportunity for participants to develop stronger networks with like-minded producers and technical experts. These networks have the potential to improve participants access to advice and comment when faced with problems or considering new opportunities. Developers should be aware of this and work to maximize this opportunity.

- Information access
  Developers should compile materials to facilitate easy reference and use. While not part of the course paper, information on ancillary topics should be made available for future reference.

- Management planning framework
  While survey respondents did not give the outcome associated with management planning a high priority, it provides a logical foundation on which to base the workshop. Once participants have that framework, it will provide a number of opportunities for use in planning expansion, financing and operational management.

- Follow up
  It is proposed that consideration be given to a half or full day one on one consultancy with a deliverer to cover some aspect(s) of the workshop in more detail and in direct application to the individual business being built in.

  In addition, the EDGE products covering nutrition and grazing land management will pilot approaches to post workshop follow up in terms of ongoing learning and information access. These approaches will be evaluated and, as appropriate applied to this product

4. Product Development Pathway

4.1 Development Principles

The following principles underpin and guide the development of this product

- Customer focus
  The full data set from the market research can be reviewed in Appendix 7. These data and the conclusions drawn from them will guide the development. Developers should also be cognisant of the role and needs of the internal customers and the requirements that this product provide value to them.

- Adult Learning Principals
  McGill and Beaty (1992)1 provide a comprehensive overview of the current thinking on and approaches to adult learning. This thinking is fundamental to this product. It is expected that their own experience, case studies, demonstrations and applications to their own situation will enhance the workshop's value to participants

- Readability and terminology
  Developers are expected to build the package with an eye to easy absorption of printed information and should be familiar with instructional design principles. The product must also conform to the MLA style and format, available from MLA Industry Affairs and Communications. It is also expected that this product will assist in the development of a standardised language or terminology within the industry.

- EDGE
  A detailed discussion of EDGE, its goals, principles and management processes is presented in the Appendix.4. The product must align with these.

- Efficient use of existing products
  It is intended that this package, where possible, use existing resources, bearing in mind the rights and concerns of the owners of that intellectual property. It should also ensure congruence with Cattle Care and other QA approaches.

- Information technology
  Developers are encouraged to embrace leading audio-visual and information technology within the bounds of affordability and practicality. The potential of CD-ROM as a medium to manage all materials, including video, spreadsheet, text and interactivity independent of the hard copy workshop notes should be explored

- Unspoken outcomes
  In the course of designing the product a number of unspoken outcomes (i.e. issues so obvious they do not need specifying) were canvassed. These are presented in Appendix 6 and developers should be mindful of them

4.2 Deliverables

The developers will be expected to deliver the following:

- Workshop Materials
  - Workbook
  - Slides
  - Recommended reading lists
  - Description of additional take-home materials

1 McGill I, Beaty E (1992) *Action learning, a practitioner's guide*. Kogan Page, London

- Facilitators guide
  - Identify each section's contribution to relevant outcomes
  - Full description of process content and activities as well as a mix of processes for each section.
  - Suggestive list of processes to cater for various learning styles
  - Suggested time allocations

- Workshop Resources
  - Slides (PowerPoint format)
  - Case studies
  - Activities
  - Audio visuals
  - Field demonstrations
  - Detailed description of new resources to be produced

They will be submitted to MLA in Word, PowerPoint or Excel format as applicable for a pilot workshop. Following the pilot the developer will amend the documents as recommended and submit them in final draft form, fully edited and proof read.

4.3 Exclusions

The developers will not be expected to provide;

- Final desk topping
- New audio visual resources
- Additional take-home materials

5. Action Plan

Issue	Outcome	Action to date	Planned action	Who	Due by
Strategy	Strategy accepted by steering committee	Document 95% done	Complete final draft	SB	1-Oct
			Circulate	SB	1-Oct
			Signoff	Team	1-Nov
Development	Contract for development in place	Preliminary briefings underway	Complete preliminary briefings	SB	9-Nov
			Detailed devlopment briefing	SB	30-Nov
			Call for development proposals	SB	10-Dec
			Development proposals due		10-Jan
			Select developer	SB	20-Jan
			Negotiate contract	PL	31-Jan
	Material available for production	nil	Timeline as per contract	SB	tba
Delivery	Deliverer input	nil	Deliverer briefing		tba
	Deliverers slected	nil	Selection process defined		tba
			Call for Expressions of Interest		tba
			Selection		tba

6. APPENDICES

6.1 Appendix 1 Project brief

Project Objectives
To design & specify an education package on reproduction and genetics that, once developed, will meet the needs of the beef cattle industry, primarily beef producers, in northern Australia.

Project Scope
- North Australian livestock industry
- Integrated with other existing and potential education programs e.g. Buying better bulls, Breeding for profit, Breedplan etc.
- Focusing on dryland pasture based enterprises

Project Goal
This project seeks to provide beef producers with a better understanding of reproduction and genetics, enabling them to evaluate and improve current practises and to make informed judgements on the value of advice to benefit their business.

Project Deliverables
- An in-depth understanding of the various customer outcomes
- Statistically valid data on customer priorities and perceptions
- The market positioning in terms of the planned satisfaction in the program by the various customers.
- The overall policies, enabling strategies and guidelines for the program, its delivery mechanisms, management structure, human resources, finance, computing, etc.
- A comprehensive set of action plans complete with:
  - measurable objectives
  - accountabilities
  - resource requirements
  - milestones
  - timing

Project Schedule

Stage I Project Milestones	**Timing**
Project Initiation Workshop Overview CD-MAP® seminar for team Project mission statement defined Qualitative research brief prepared	**2 Team Days**
Qualitative Outcome Research Recruitment, Field work and Analysis	**4 - 6 weeks**
Outcome Research Results Workshop Qualitative research analysis and de-brief on Nutrition Management Education project results	**1 Team Day**

A decision will be taken on completion of Stage I whether to proceed with Stage II.

Stage II	Project Milestones	Timing
Outcome Research Results Workshop		**2 Team Days**
Qualitative research analysis		
Quantitative research brief defined		
Quantitative Research		**6 - 8 weeks**
External customer research		
Internal and Unspoken Outcomes Workshop		**2 Team Days**
Reviewing and prioritising stakeholder and operations outcomes		
Conducting function analysis into unspoken outcomes		
Positioning Workshop		**2 Team Days**
Quantitative research analysis		
Value proposition defined		
Added-value outcomes selected		
Marketing communications highlights defined		
Enabling Strategies Workshop		**2 Team Days**
Predictive Success Factors defined & prioritised & target values		
Strategic options generated		
Optimum set of strategies selected		
Deployment Workshop		**2 Team Days**
Action plans with priority, accountability, deliverables, etc.		
Action plans scheduled with resources and milestones		

Appendix 2 Survey questionnaire

BREEDER HERD MANAGEMENT EDUCATION SURVEY - PART ONE

Respondent name _____
Postal Address _____
_____
Post Code _____
Phone Number _____
Fax Number _____
E-mail _____
Part 2 Response _____ am/pm on

My name is ..... I am calling on behalf of the North Australia Program within Meat & Livestock Australia. This is not a sales call. We are undertaking some research to develop an education package for beef producers in northern Australia. The package will cover reproduction, genetics and animal health, i.e. managing the breeder herd. This research will ensure that the package will fully meet producer's needs and expectations

You will need to talk to breeder operations, not steer fatteners. Confirm the person is the one who normally makes decisions about breeder herd management or might use that education. If not ask to speak to that person.

Please be assured that your identity will be kept confidential. Your responses will be combined with all others, and individual responses will not be able to be identified.

If not willing say 'thank you', finish the call and record the details of the person and reasons for non-response: ……

This is a two-part survey. We'll complete the first part over the phone now. Part 2 involves sending you a short list of possible requirements for you to prioritise. We would like you to go over them then I will phone you at a convenient time to complete Part 2 with you.

When this research is completed, we will send you a summary of the survey results for your information.

Confirm what segment / category the respondent is in, (i.e. tick one box only from the following)

1. Gender **Minimum Quota**

- ☐ M
- ☐ F

2. Age **>**20% each

- ☐ <40
- ☐ 41-55
- ☐ >55

3. a) Production mix

- ☐ Commercial breeding herd operator
- ☐ Breeder/Finisher
- ☐ Registered stud

b) What is the predominant breed

……

c) Do you breed bulls for your own use?

- ☐ Yes (If yes or sometimes)
- ☐ No **What percentage do you breed for your own use?**
- ☐ Sometimes _____ %

4. Ownership

- ☐ Owner manager 40
- ☐ Manager 40

5. Enterprise

- ☐ Beef
- ☐ Beef/sheep
- ☐ Beef/other (list other)……..

6. Total herd size

- ☐ <300
- ☐ 300 - 1000
- ☐ 1000 - 5000
- ☐ > 5000

7. What area, in acres, do you use to run beef cattle? *(If they don't know the acres accept the size in hectares or square miles, enter the number and circle the type)*

..... Acres / hectares / sq miles/ sq kilometres

8. Do you use any of the following practices:

- ☐ BREEDPLAN or EBV's
- ☐ Cross Breeding
- ☐ Vet Bull Soundness Examination
- ☐ Seasonal Mating
- ☐ Botulism Vaccine
- ☐ Pregnancy testing
- ☐ Artificial Insemination
- ☐ Willis Spey
- ☐ Flank or Passage Speying
- ☐ Gene markers
- ☐ Wet Season Supplementation
- ☐ Dry Season Supplementation

9. Who currently selects the bulls for your operation (tick box),

- ☐ Self
- ☐ Agent
- ☐ Bull Buyer
- ☐ Stud you buy from
- ☐ Company Headquarters
- ☐ Other (list other)……

10. What are the three most important characteristics that you breed for? (check order of importance once three are identified)

1……..

2……..

3……..

11. How would you rate your confidence, out of 10, in managing the following aspects of the breeder herd?

a) Female fertility (……/10)

b) Male fertility (……/10)

c) Animal health (……/10)

d) Genetics (……/10)

e) Bull breeding (……/10)

12. How many calves do you wean as a percentage of cows joined?…….%

13. If possible, can you provide an estimate of losses between conception and weaning as a percentage of cows joined? ……..%

How confident are you of this figure?

- ☐ Very
- ☐ Moderate
- ☐ Uncertain

14. On a scale of 1 to 10 how would you rate the relevance of achieving and sustaining high eating quality of beef from your cattle to your overall profitability

(……/10)

15. a) Would you see value in being able to compare your beef business' reproductive performance with others?

- ☐ Yes
- ☐ No

Comments……

b) Would you see value in being able to compare your financial performance with others?

- ☐ Yes
- ☐ No

Comments……

16. From where can you currently access unbiased informed practical advice on (if they can't access it put 'cannot access');

- Female reproduction……

……

- Male reproduction……

……

- Genetics……

……

- Animal health……

……

- Bull breeding……

……..

17. a) At what weight(s) do you turnoff your main sale cattle (try to get a specific avg. weight not a range)

……(more than one permitted)

b) What is the main market for cattle (more than one permitted)

- ☐ Live export
- ☐ Feedlot steers
- ☐ Stores
- ☐ Slaughter
- ☐ Other

a) What would you most like to change in your business (not limited to breeder herd management)?

……..…….

……..……..

b) What, if anything, is stopping you from changing? ……

……

. **c) What can MLA do to assist you to change? .**……..

..……

18. What education or training activities have you completed in the last 2 years?

……..

……..

……..

The second part of the survey should not take long to complete but it will be easier if it is in front of you.
Identify best method of getting part 2 to them and make sure details are entered on front page.

When should I call you back? Time ..... Date ..... *(enter on front page as well)*

Please read Part 2 before I call you back to record your responses.

Enter Date

Breeder Herd Management Education Survey - Part Two

Dear ,

Thank you for agreeing to participate in our survey on behalf of the North Australia Program within Meat & Livestock Australia. We are undertaking some research to develop an education package for beef producers in northern Australia. The package will cover reproduction, genetics and animal health, i.e. managing the breeder herd. This research will ensure that the package will fully meet producer's needs and expectations.

Please be assured that your identity will be kept confidential. Your responses will be combined with all others, and individual responses will not be able to be identified.

When this research is completed, we will send you a summary of the survey results for your information.

I will call you on the phone ……@……AM / PM to complete this part of the survey. In the meantime please read the statements on breeder herd management education carefully.

Thank you again for your cooperation.

Yours sincerely,

Breeder Herd Management Education
Producer Survey
Part Two

The statements that follow were made recently by producers about their breeder herd management education/training needs. All these statements were important to them.

IMPORTANCE

Please help us by indicating how **relatively important the statements are to you when compared to each other**. In other words score the statements as the most important down to the least important using the following ratings for each statement:

MI	-	Most important items (of all the items on the list)
AA	-	Above average importance
AV	-	Average importance
BA	-	Below average importance
LI	-	Least important (of all the items on the list)

To indicate the relative importance properly you should use each rating no more than 4 times, that is you should rate only 4 statements as **Most important**, 4 statements as **Above average** importance, and so on.

CURRENT SATISFACTION

In the right column please indicate how well you think the current approaches to research and extension satisfy each outcome. Please rate them, one by one, by giving them one of the following ratings;

E	Excellent
VG	Very Good
A	Acceptable
NVG	Not Very Good
P	Poor

Please note that a specified number is not needed for each rating as in the above section, there can be as many or as few in each category as you think is applicable

Example,

"How relatively important to you is it to ....."

	IMPORTANCE					CURRENT SATISFACTION				
1. STATEMENT 1	MI	AA	AV	BA	LI	E	VG	A	NVG	P
2. STATEMENT 2	MI	AA	AV	BA	LI	E	VG	A	NVG	P
3. STATEMENT 3	MI	AA	AV	BA	LI	E	VG	A	NVG	P

"How relatively important to you is it to ....." ***(Please circle one only)***

	IMPORTANCE					CURRENT SATISFACTION			
1. Use genetics to increase weight and fertility of cattle while maintaining other desirable traits.	MI	AA	AV	BA	LI	VG	A	NVG	P
2. Know how to improve and maintain good temperament in your cattle.	MI	AA	AV	BA	LI	VG	A	NVG	P
3. Be Able to understand how genetics work, and apply it in your business	MI	AA	AV	BA	LI	VG	A	NVG	P
4. Know how to select cattle that are suitably adapted to your country.	MI	AA	AV	BA	LI	VG	A	NVG	P
5. Know how to select bulls that will produce the progeny that will meet market specifications.	MI	AA	AV	BA	LI	VG	A	NVG	P
6. Know how to select physically and reproductively sound bulls.	MI	AA	AV	BA	LI	VG	A	NVG	P
7. Understand and be able to use EBV's with confidence	MI	AA	AV	BA	LI	VG	A	NVG	P
8. Have an effective bull breeding program on your own property	MI	AA	AV	BA	LI	VG	A	NVG	P
9. Know how to use composites and cross breeding.	MI	AA	AV	BA	LI	VG	A	NVG	P
10. Be able to correctly identify heifers and cows that should be retained for breeding and those that should be marketed	MI	AA	AV	BA	LI	VG	A	NVG	P
11. Understand the female reproductive cycle	MI	AA	AV	BA	LI	VG	A	NVG	P
12. Understand mating management options and know when the best time is to mate your cows.	MI	AA	AV	BA	LI	VG	A	NVG	P
13. Improve the conception rate in your heifers after having their first calf	MI	AA	AV	BA	LI	VG	A	NVG	P
14. Determine the optimal bull joining percentage for your Conditions	MI	AA	AV	BA	LI	VG	A	NVG	P
15. Know when and what to wean, the tradeoffs involved, and the impact on the cow and calf.	MI	AA	AV	BA	LI	VG	A	NVG	P
16. Able to manage nutrition and husbandry of weaners	MI	AA	AV	BA	LI	VG	A	NVG	P
17. Know what diseases are financially important and how to control them	MI	AA	AV	BA	LI	VG	A	NVG	P
18. Maximize sale returns from female's surplus to breeding requirements.	MI	AA	AV	BA	LI	VG	A	NVG	P
19. have a process to analyse profitability and viability of new ideas.	MI	AA	AV	BA	LI	VG	A	NVG	P
20. Be able to prepare and document a herd management plan.	MI	AA	AV	BA	LI	VG	A	NVG	P
Total the number in each category and try to ensure there are no more than 4									

1. **Would you consider participating in an education activity on breeder herd management?**

   - ☐ Yes
   - ☐ No

2. **What would you be prepared to pay for an education product, which helped you achieve these outcomes?**

   - ☐ **<$500**
   - ☐ **$500-$1,000**
   - ☐ **>$1,000**

3. **Would you like this package presented as** (tick box, can have more than one)**:**

   - ☐ Video
   - ☐ Book
   - ☐ Workshop
   - ☐ Field day etc
   - ☐ On-line correspondence & tutorials

4. **a) What is a reasonable length of training program?**

   - ☐ Four or more days
   - ☐ Three days
   - ☐ Two days
   - ☐ One day

   b) Would the program be better in a block or spread over time?

   - ☐ Block
   - ☐ Spread over time

5. **Where would you most like to complete this education (if it were in a workshop type format):**

   - ☐ On property
   - ☐ In the local township
   - ☐ In a regional centre

6. **Please give each of the following management aspects a rating out of 100 (to total 100) to indicate their relative importance to your business:**

   - ☐ Breeder Herd Management ……..
   - ☐ Nutrition Management ……..
   - ☐ Grazing Land Management ……..
   - ☐ Financial Management ……..
   - ☐ Human Resource Management ……..
   - ☐ Marketing ……..

   100

7. **In the operation of your business, particularly decision making and goal setting processes, how would you rate the relative importance of lifestyle, sustainability**

and profitability, out of 100, with all three totalling 100;

- ☐ Lifestyle ……..
- ☐ Sustainability ……..
- ☐ Profitability ……..

100

8. **If you were to attend a workshop or training activity on breeder herd management would you like accreditation or recognition for your participation?**

   - ☐ Yes
   - ☐ No

   In what form? ……

9. Do you have any comments, questions or requests for MLA? ……

   ……

   ……

Appendix 3 NBP strategy

Introduction

Meat and Livestock Australia (MLA) has been involved in research, development and extension in the northern beef industry through the first three phases of its North Australia Program (NAP).

This document outlines MLA's strategy for its Northern Beef Program (NBP). This Program will be funded for five years, commencing in July 2001. It will operate across Queensland, the Northern Territory and the Kimberley and Pilbara regions of Western Australia. It has been developed through extensive market research and industry consultation across northern Australia.

The Northern Beef Program will build onto the production, resource management and social science work of MLA's North Australia Program by incorporating activities, such as animal health, genetics, training (EDGE network) and Producer Initiated R&D projects.

As in the past, MLA will work closely with a diversity of project partners throughout the life of the program. Although producers will be the primary beneficiaries of the outputs of the Northern Beef Program, other beneficiaries will include MLA's funding and strategic partners. These in turn will provide benefits back to producers.

Program Goals

The goals of the program are, by June 2006:

- To improve the productivity and quality of beef production in northern Australia, with an emphasis on improved economic efficiency for at least 70% of producers.
- To improve the producers ability to manage natural resources on-property so as to sustain the landscape, both on-property and beyond.
- To improve producers' ability to exert greater positive influence over issues which affect their enterprise, their well-being and their communities.

Vision

The vision for the Northern Beef Program is to generate an empowered industry in which leaders, producers, researchers, extension officers, financial organisations, and other resource user groups participate and contribute to a sustainable industry.

Such an industry will have:

- A culture of learning and inquiry that values innovation and its capacity to contribute to profitability.
- A commitment to achieve commercial sustainability in their enterprises, while respecting and valuing the environment that they so fundamentally depend.
- An awareness of the legitimate interests of the wider community and a dedicated effort to understand and address their issues.
- An identifiable and vibrant industry profile that is attractive to investment and personnel.
- As its members, people who can work as individuals or in collaboration with each other to achieve their goals.

Strategies

The four key sub-programs through which the Northern Beef Program will work are:

- Improving communication and awareness of solutions to address industry needs.
- Increasing producer access to, and uptake of information through extension and other activities. Developing and promoting new learning opportunities for all MLA members is a key part of this strategy.
- Generating new solutions through scientific and technical research and development. This will involve key activity areas such as genetics, resource management, animal health, nutrition, reproduction, etc.
- Building future capacity within the research, development and extension sector.

Management

NBP will have a dedicated manager, responsible for implementation and administration of its strategies. Several other managers will be involved in specific activity areas such as animal health, the EDGE Network and Producer Initiated R&D projects. Field operations fall to the responsibility of one or more program coordinators.

Monitoring

NBP's performance will be assessed against the following areas to determine the extent of the shift in producers' satisfaction with the outcomes from the program. The following targets have been set compared to the year 2000 baseline data:

Issue	Satisfaction (1-5)	
	Current	Target
Developing management and production skills	2.9	3.7
Improving live weight gains	3.0	3.5
Improving calving and weaning rates	3.1	3.5
Managing pasture for optimum production	3.0	3.5
Developing effective business management skills	2.6	3.5
Improving understanding of customer requirements	2.9	3.5
Balancing environmental and business needs	2.7	3.5
Access to relevant research results	2.6	3.7
Access to learning activities	2.7	3.7
Controlling existing endemic diseases and parasites	3.0	3.3
Community recognition of sound environmental management	2.3	3.0
Managing emerging environmental issues	2.6	3.0

Appendix 4 Northern EDGE strategy

MLA is extending its EDGE network activities into northern Australia. In doing so, a team of producers, industry service personnel and MLA management have developed a specific strategy for the project's deployment in the north in a way that ensures integration with the rest of MLA's activities in that region.

EDGE network™ is the framework for the coordination, development and delivery of new and existing learning systems for the red meat industry.

EDGE network's vision is
"Producers achieving business development through learning and continuous improvement"

The management of EDGE network for Northern Australia will abide by the following key values when managing industry resources:

1. Work in collaboration on development and delivery
2. Value-add to existing products and services
3. Working for benefit of a sustainable livestock industry and its community
4. Value the investment in training
5. Culture of continuous improvement
6. Empowering producers though understanding of management principles
7. Recognising the diversity of the Northern Livestock Industry

EDGE network's goals are:

1. Improving the financial and social wellbeing of Northern Livestock Producers
2. Enabling changes in practices of Northern Livestock Producers through adoption of a learning ethic/culture.
3. Enhancing learning systems in Northern Australia that meet livestock producers aspirations and needs.

It will work to achieve the following objectives:

a. To have ensure EDGE network™ product and services are of highest quality.
b. To ensure EDGE network™ delivery is of highest quality.
c. To ensure EDGE network™ Communication and Marketing Plan is effective.
d. To have collaboration and support from the publc and private sector in the development and delivery of EDGE network™.
e. To have EDGE network™ self-funding.
f. To ensure EDGE network™ administration and co-ordination is efficient and cost effective.
g. To ensure EDGE network™ implements a client support system

It will meet the following performance targets:

- Identify a collaborative process to streamline the learning system in northern Australia by 2001
- Have that process endorsed by industry bodies by June, 2001
- Identify and develop/adapt at least six products or services that contribute to an enhanced learning system by June, 2002
- Commence delivery and training by February, 2002
- Have delivered EDGE Network material to 550 businesses by December, 2003

EDGE network will through the implemenation of its objectives and strategies achieve the following outcomes:

- Livestock producers recognising, quantifying and implementing industry best practice and quality assurance in meat production, marketing, business, human resource and sustainable resource management.
- Increased individual producer professional development and attainment of business and family goals.
- An improvement in individual business and whole industry performance.
- A lasting network of producer groups with an ongoing learning and continuous improvement culture.
- A network of skilled producer groups with a commitment to innovative practices and R&D.
- A network of accredited group facilitators who have the capacity to effectively support producers to implement changes in line with best practice.
- A integrated suite of learning activities and resources, covering all aspects of livestock business management, within an ongoing development and continuous improvement framework.

Initially, the product offering will consist of a number of discipline based products covering nutrition, grazing management, reproduction and genetics and marketing. Within twelve months, a broader framework will be developed, wrapping those products within a whole of business strategy course. Over time, it will also relate thos products to a robust benchmarking system. All products will be developed with full regard to the needs and desired outomes of the target market and will be regularly reviewed and updated.

Delivery of northern EDGE products will be through a number of licencees. Licences will be product specific with individual deliverers be subject to strict selection criteria and ongoing performance review.

The project will be managed by Neale Price, MLA's national manger for EDGE products, liaising directly with licencees. The Northern Beef Program's industry committee will oversee the project

Appendix 5 Supporting Resources

Element	Strategic			Tactical		Operational		Relevant Outcomes			
Function → / Resources ↓	Establish business objectives	Establish breeding objectives	Formulate genetic strategy	Bull selection & management	Female selection & management	Annual schedule	Review & evaluation				
AACV Bull selection book	■	■	■	■				1	2	6	10
EDGE effective breeding package	■	■	■					1	9		
Scientific literature	■	■	■	■	■			10			
TGRM, more suited to bullbreeders, must know objectives	■	■	■					1			
Beef cattle recording and selection book	■	■		■	■		■	1			
Breeding for profit	■	■						1	9	10	
Breeding module in Storelink	■	■						1			
Beef cattle genetics applied to extensive herds (Andy Phillips)		■	■					1			
Breed object		■	■					1	10		
Breedplan		■	■	■				1			
Felicity Hill's project											
Composite alliance website		■	■					9			
CRC Crossbreeding		■	■					1	2	4	9
Genab package (R Thompson)		■	■					1			
Hotcross		■	■					4	9		
John Frisch and Vercoe work		■	■					4	9		
Leachman's website		■	■					9			
NT genotype and growout work (Peter Ridley)		■	■					4			
PDS results (include video)		■	■	■	■			1	9	5	
Bill Holmes Model		■					■	19			
Female selection book (DPI)		■			■			13			
JCU lecture notes		■		■	■			13			
AABG discussion discussion paper			■	■				8			
AACU paper on effect of inbreeding on growth rate and fertility			■	■				8			
Breed society sire summaries & selection tools			■	■				1			
Charlie Smith Animal Production			■	■				8			
Industry experience, stud masters etc.			■	■				8			
John James notes (see Andy Phillips notes)			■	■				8			
NTDPI&F technical manual			■	■				8			
Paper by Roger Lewyn, Helen Turner, Chris Morris, sheep?			■	■				8			
Peter Haskers Publication			■	■	■			13			
Dick Holroyds Argentina presentation				■	■			13			
DPI notes, fact sheets etc.				■	■			17			
Drug company books				■	■			10	17		
Geoff Fordyces graziers note				■	■			12			
NAP survey 1991 (ORourke &Winks)				■	■			13			
ORourke & Holroyd				■	■			13			
Stockmans handbook				■	■			17			
Swanns Lagoon				■	■			15			
TBC & CRC temprement & behaviour work				■	■			2			
Draft video- Complete Bull breeding soundness evaluation (JB)				■				6			
Bull selection and use in northern Australia (Bull power report)				■				6	14		
Dick Holroyd workshop ROK (1993)				■				14			
De Witt and Braithwaite					■			13			
Preg-testing schools					■			10			
AG WA pastoral planner						■	■	20			
Practical Systems new program or similar						■	■	20			

Appendix 6 Unspoken Outcomes

Program Preparation

1. Use Instructional Systems Design (ISD) principles
2. Encourage prework & case studies
3. Consistent, uniform identity
4. Ability to handle different entry levels
5. Clear understanding of program content & direction
6. Timing within on farm & community activities
7. Tables of expected responses
8. Clear specification & contract terms to suppliers
9. Speed of response to capture window of opportunity (6 months from now)
10. Pilot/road test
11. Methodology for sensitivity analysis

Content

12. Progressive learning requirements
13. Minimise product complexity
14. Language appropriate
15. Ease of use with all media
16. Avoid excessive/extravagant presentation
17. Ensure not all overheads
18. Ease of modification & update/access to ‘template’
19. Meet statutory requirements
20. Visual aids to a defined standard
21. Tailored to customer/market (Local)
22. Ensure basic data on research & resources in local area
23. Research findings – contacts / references on principles
24. Common problems and answers
25. Recognition of copyright issue on ancillary products used in development

Process

26. Adult learning principles e.g. comfort zones
27. Language appropriate to audience and unambiguous
28. Presenters technical knowledge
29. Presenters facilitation skills
30. Presenter’s style & dress should be suitable
31. Control "dominant" individuals
32. Opportunities to co-ordinate education with other events
33. Avoid assessment embarrassment
34. Meet customer confidentiality requirements
35. Meet “fun” requirements
36. Provide opportunities to network
37. Workshop/participants courtesy to each other

Marketing

38. Someone responsible for marketing, avoidance of duplication, follow-up etc.
39. Course prospectus
40. High quality design of promotional etc materials
41. Public relations, including contact with influencers, e.g. Rohan Sullivan
42. Public relations & communication e.g. word of mouth
43. Communication in terms of customer outcomes
44. Front of house /signage
45. Encourage participation by business partners
46. Pro-actively handle any negative publicity

Program Administration

47. Ensure a suitable person has clear responsibility for the program
48. Liaise with all State and Territory Stakeholders eg EPA, DNR, Tropical Savannah CRC Etc. e.g. Off-park conservation, bio-diversity Liaise with Future Profit, Better Business, PMP etc –
49. Liaise with DPI Call Centre on issues/suggestions/complaints relating to Beef Industry
50. Provide communication on Breeding EDGE program status
51. Follow-up funding sources – e.g. NHT
52. Ensure adequate resources
53. Enquiry system
54. Booking confirmations
55. IT system admin. database of product purchases (tangible & intangible), bookings etc
56. Stock control system
57. Compatible with related organisational admin. & finance & audit IT systems
58. Bulk purchasing; flexible/devolved purchasing arrangements/ State registered items
59. Supplier selection process
60. Meet legal responsibility requirements e.g. clearance from Ethics on use of animals, WH&S
61. Legals, copyright, business names, insurance etc
62. Meet disclaimer requirements
63. Payment of deposits (avoiding cancellations)
64. Credit controls
65. Document version identification & control

Activity Administration

66. Provision of accurate directions
67. Provide for special dietary, disability or other requirements e.g. child minding
68. Meet “non participators” needs i.e. an Associates Program
69. Competency assessment for accreditation e.g. TAFE
70. Contingency plans for inclement weather
71. Equipment & spares available and adequate for task
72. Capability to take and deliver messages at events
73. Minimum standards for lighting, room size, seating, washroom facilities, etc.
74. Local emergency numbers available
75. Amenities and electricity available
76. Not disrupt normal activities at the venue
77. Assessment of progress on day

Post Conduct

78. Deliverers should have a process to follow-up
79. Meet poor service recovery requirements
80. Meet management reporting requirements
81. Complaint record-keeping, follow -up complaints/problem handling
82. Formal assessment by an outside agency (not on the day)
83. Quality assurance / audit built-in to program from day one
84. Build testimonials
85. Market research/tracking in general population

Possible Excitements or Value-Added Outcomes

1. Incorporate latest research findings
2. Have "exciting" presenters and guest speakers
3. Incorporate leading edge technology in delivery
4. Group and champion to encourage further progress by participants
5. Course accredited by recognised outside agency
6. Being able to identify specific plants and animals / gain enhanced knowledge / objective understanding
7. Accreditation on environmental management with public recognition
8. Target disadvantaged groups e.g. shy people, aboriginals
9. Organise marketing of program components to other organisations
10. Promote stakeholder organisations

Appendix 7 Quantitative data set