



Final Report

Project code: B.SBP.1501
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Date published:
ISBN: MLA to insert

PUBLISHED BY
Meat & Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

Development and Pilot Delivery of Bredwell Fedwell for the South Australian Beef Industry

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Abstract

Bredwell Fedwell Beef (BFW) is a practical, one-day workshop which highlights the key production benefits of genetics and nutrition as key drivers of productivity and profitability of a breeding herd. It focuses on the importance of managing the beef business with effective strategies for both areas to enable optimal improvement in herd performance and therefore farm profit. For example, neither managing high performing genetics with sub-optimal nutrition, nor optimising nutrition on low performing genotypes are likely to maximise farm profits. Beef produced per hectare is widely recognised as a key profit driver in beef enterprises in southern states, which is primarily driven by stocking rate, weaning rate and calf growth rate. To optimise this key performance indicator in a highly variable environment requires a productive feedbase, proactive and targeted nutritional herd management, and balanced high performing genetics.

Four pilot workshops were conducted in 2016, three in NSW and 1 in Western Australia with total of 98 participants attending the workshops. Each workshop built on the development of the presentation and handout to producers.

When asked if participants understanding of how to use EBVs for bull selection had improved 74% had said yes, and of those participants that weren't using EBVs prior to the workshop (37% of attendees) 75% said they would start using EBVs to assist with bull selection. At the end of the breeding objective practical 93% of the participants had a breeding objective compared to 31% at the start of the exercise.

When asked if participants understanding of the importance of managing female nutrition had improved 95% said yes.

One hundred percent of attendees would recommend this workshop to other producers and more than 40% of participants attending the workshop rated it a 9 out of 10 or higher for overall satisfaction with an average score of 7.6 out of 10.

Executive Summary

A total of 4 pilot workshops have been conducted NSW and WA with a total of 98 participants. The table below summarises the questions asked of the participants and the response of the producers as a percentage.

Question	Percent
The British breed was predominantly the main breed type in cow herd	72%
Participants predominantly ran Angus cattle	77%
Self-replacing herds	70%
The main production systems were:	
Breeder-weaner	39%
Breeder-feeder steer	23%
Participants using Breeding values for bull selection prior to the workshop	63%
Participants with a defined Breeding objective prior to the workshop	69%
Participants that routinely body condition scored/fat scored their females, prior to the workshop	47%
Participants that would use EBVs after the workshop and weren't using them prior to the workshop	75%
Participants that would further like to develop their skills in body condition scoring and developing budgets for female herds	94%
Participants that would further like to develop their skills in the area of genetics	63%
Participants that learnt something new	89%
Participants that would recommend the workshop to other producers	100%

Across the nation 18% rated the workshop an 8/10 whilst 25% rated it a 9/10 and 18% rate the workshop 10/10 for overall satisfaction. The average score was 7.6/10

As a result of attending a workshop, participants are most likely to 'improve breeding female nutrition' (31%) followed by 'write down breeding objective' (20%) and then 'Assess and monitor feed availability' (18%).

Project background

Bred Well Fed Well for beef has been developed based on Bred Well Fed Well for sheep and thus is a one-day workshop that highlights nutrition and genetics as key drivers of productivity and profitability of a breeding herd. It focuses on the importance of managing the beef business with effective strategies for both areas to enable optimal improvement in herd performance and therefore farm profit. For example, neither managing high performing genetics with sub-optimal nutrition, nor optimising nutrition on low performing genotypes are likely to maximise farm profits. Beef produced per hectare is widely recognised as a key profit driver in beef enterprises which is primarily driven by stocking rate, weaning rate and calf growth rate. To optimise this key performance indicator in a highly variable environment requires a productive feedbase, proactive and targeted nutritional herd management, and balanced high performing genetics.

A feature of the Bred Well Fed Well (BFWW) for beef program is to enable beef producers to capitalise on the use of modern genetic technologies such as Breedplan to drive genetic gain and profits. The Bred Well Fed Well concept is designed to increase EBV usage uptake through greater awareness and knowledge of how EBVs can be used to achieve enterprise objectives. The workshop also aims to reduce the perceived complexity of the technology and identify opportunities for producers to begin using EBVs. Participants will be coached to develop a breeding objective for their herd with the aim of producing a balanced high performing herd that suits their production environment and target markets.

In summary the workshop will enable participants to clarify their enterprise objectives and identify how improved genetics ('Bred Well') and optimal nutrition/management ('Fed Well') can assist in realising their objectives. A further aim is to expose beef producers to the latest information on how to lift (in particular) the maternal productivity of their beef herds by tailoring the genetic and nutrition decision making processes to make their cow herd more resilient and more profitable.

Project Objectives

The project outcomes are by August 2016:

1. Developed and piloted a one day “Bredwell Fedwell” workshop for beef producers across Southern Australia, to inform them of the potential gains of improving both the nutrition/management of their breeding herd and making genetic gain in the traits that drive their profit.
2. Identified and trained at least 8 deliverers of the workshop across key southern beef producing regions to ensure commonality of delivery and adapted core material to their region if necessary

The objectives of the workshop are that participants will:

- Recognise that Estimated Breeding Values (EBVs) are an important tool that can be used to improve their enterprise profitability
- Have the ability to start to develop a breeding objective for their enterprise
- Recognise the likely impacts on improving female nutrition on reproductive performance and herd profitability.

Methodology

Development of the workshop structure and materials

The layout of the presentation was designed around the current BFWF sheep presentation. The presentation was split into the follow sections:

Session 1:

- A few questions – this will allow deliverers to get a feel for the audience and what is important to them allowing deliverers to tailor the presentation to the majority of attendees, and
- Why are we here? This outlines the purpose of the workshop and covers some background industry information to help the scene for the workshop.

Session 2:

- Buying new genes – discusses the selection tools available, investigates what producers are currently doing (clicker questions), the role of genetics, influences of an animal’s performance that are non-genetic and what EBVs and indices are available, and
- Exercise 1: Visual assessment of bulls – the purpose of this exercise is to demonstrate to producers that you can’t judge bulls’ genetic merit by just looking at them.

Session 3:

- Bred Well – discusses specific EBVs and what selection based on them can mean in terms of performance and production, and during the presentation/discussion trade-offs when selecting for key traits that are unfavourably correlated with be highlighted, and
- Exercise 2: Plan for the future – setting a breeding objective to breed balanced high performing cattle

Session 4:

- Fed Well – will outline the key husbandry and nutrition opportunities to drive herd productivity with a primary focus on maternal performance, heifer management and calf through put. Given that increasing stocking rates and pasture utilisation are widely recognised as driving the profitability of beef herds in southern Australia, it is critical to have targets for cows and heifers to optimise reproductive performance in a more intensive system.
- Exercise 3: Condition scoring
- Summary and a few questions

Material was sourced from relevant genetic providers and industry personnel with genetic and nutritional information from research and current recommendations. The authors of the workshop were Drs Jason Trompf, Peter McGilchrist and Rod Manning with additional input from Dr Serina Hancock, Dougal Purcell and Simon Vogt. At each workshop the presentation was refined. This included content as well as

evaluation questions, however more work is still currently required for a final product. Extensive feedback was provided from the train the trainer session which coincided with the final pilot workshop.

The workshop materials were based on the materials used in BFWF sheep. Final versions of the following materials are outlined in the Appendix 1-5. The materials include the following:

1. Promotional flyer
2. Registration form
3. Participants workbook
4. Decision support tool for developing breeding objective
5. Percentile band and index tables

Train the trainer

The train the trainer session was held in conjunction with the final pilot workshop. A total of 8 deliverers attended the 1 ½ day training and participated in the workshop held on Thursday 21st of July at Ellerslie Park and delivered by Jason, Peter and Rod. A list of deliverers and the relevant sections are outlined in appendix 6. A deliverer's booklet was developed and is provided in appendix 7.

Delivery

The delivery of the workshop has and will mimic that of BFWF sheep as outlined below.

Workshop guidelines: To ensure the project can deliver on its course intent of being a facilitated group workshop rather than a large field day the following group to deliver ratios were established.

- 15-40 participants = 2 deliverers
- 40-60 participants = 3 deliverers

A minimum of 15 participants was required for a workshop to be held. For any workshops where attendees were expected to be greater than 60, two workshops were to be held with the aim of holding them on consecutive days. The size of the workshop was determined at the point of setting a date in collaboration with the host. A third deliverer was booked based on the anticipated attendance numbers and cancelled if numbers are not met closer to the date, although the deliverer could attend if they saw fit.

Host guidelines: The hosts were sent an email advising them of their responsibilities (Appendix 8). Further guidelines relating to studs, sponsorship and promotion of workshops are outlined in Appendix 9. Hosts were not provided with all of the guidelines in Appendix 9, however some are listed in the email and others are discussed with the host when necessary, for example no branding on flyers. If the participation fee was paid for by a third party, this was announced on the flyer and also on the day of the workshop.

Deliverer guidelines:

Deliverers are expected to deliver the content of the presentation without promoting their own views and without promoting certain studs/stud groups. They are to follow the trainer's handout with regards to setting up the venue and making contact with the hosts. They are expected to deliver ALL the key messages within the practicals and theory and if they did not agree or understand the content it is to be discussed immediately with authors and funding body. The deliverers are expected to be aware and understand the workshop and host guidelines as well.

Workshop coordination

All workshops are booked through the Project Manager at Murdoch University. When a workshop is booked through a deliverer then the deliverer is locked in to present. When a workshop is booked via a host or group the deliverers are arranged by the project manager. Where possible the deliverer closest to the location will be contacted first. When availability of local deliverers is limiting the closest deliverer outside of the immediate area will be sort.

The project manager is responsible for the following:

- Liaising with the hosts, including confirmation of dates, appropriate venues, supply of cattle for practicals, catering and general information about the day
- Promotional flyers to be created and distributed to hosts, deliverers and the following websites; Meat Livestock Australia.
- Media releases to be sent to MLA
- Organising the delivery of the workshop material, as outlined below.

The workbook package consisted of:

- BFWF workbook
- Decision Support tool for Breeding Objective
- Percentile Band tables and index tables

All participants complete a registration form.

Monitoring and evaluation

Workshops: Evaluation activities are built into the PowerPoint presentation and participants respond by using an electronic response card (clickers) that captures their answer in real time and displays the results of the group in the presentation. The participation evaluation covers reactions, satisfaction, change in knowledge as a group, decision making, skills and attitudes and intended practice change. Evaluation questions used throughout the presentation are listed in Appendix 10 along with results. At the end of each workshop the deliverer saves the responses generated and sends to the project manager for further evaluation.

Deliverers: As part of the electronic responses received through the presentation, quality control of deliverers was assessed via the satisfaction question. Should the average rating by producers be in the bottom 15% of scores previously received for workshops, the project manager would ring the organisers/hosts and deliverers to see if there were any problems that needed addressing. The cut off was 7/10. The following questions were used:

- How did you think the workshop went?
- Were you happy with the attendance and if not what do you think contributed to the low attendance?
- The average satisfaction of the workshop from the participants was under 7.5 out of 10, do you think this reflects the day and why/why not
- How did the practicals go? Were they readily received by the participants and was the information clear and easy to take in? Did participants seem confused?
- Was there promotion of specific stud and or stud groups by the deliverers?
- Was there anything you would have liked to have seen that wasn't incorporated in to the day?

Program impact: If the programme progressed a post workshop survey will be conducted at a later date as the majority of those that attended wouldn't have been to a bull sale yet or wouldn't have been able to incorporate lessons learnt to calving. This will be outlined in the MER plan.

Results

Workshops

A total of 4 workshops were conducted in the pilot phase to a total of 98 participants. Three workshops were conducted in NSW and one in WA.

Train the trainer

Excellent feedback was provided which will enhance the workshop going forward however the feedback needs to be implemented into the current delivery.

Monitoring and Evaluation

Bredwell – genetics

When participants were asked at the beginning of the section

'When selecting bulls from your chosen stud you will select them based on:

- a) How the bull looks
- b) How the bull looks and its raw data (actual weight, EMA, etc)
- c) How the bull looks and its Breeding Values
- d) Breeding values only
- e) Stud master or agent selects my rams
- f) Unsure

Sixty-two percent said how the bull looks and its Breeding values, however when asked the same question at the end of the section 77% selected how the bull looks and its breeding values. This indicated that message from Buying new genes that when selecting bulls you should use visual assessment and Breeding values had been received by attendees. In addition when asked:

Breeding values give a better estimate of an animal's merit for a trait than raw measurements because they account for variation caused by:

- a) Management/feeding
- b) Age
- c) Whether it was born from a cow or heifer
- d) Performance of relatives
- e) All of the above
- f) Unsure

Sixty-five percent said all of the above at the beginning of the section and at the end 94% said all of the above at the end thus showing that attendees had a clear understanding of what Breeding Values took into account due to the information delivered from the workshop.

Exercise 3 – The Breeding objective - Prior to the exercise 61% did not have a breeding objective. After completing the exercise 93% had a breeding objective for their enterprise.

Furthermore, results found that 74% of attendees had a better understanding of how to use EBVs for bull selection and 75% of participants that were not using EBV's prior to the workshop would start using them to assist with bull selection.

Fedwell - nutrition

Exercise 4 – Condition Scoring - Fifty-three percent of participants routinely body condition score their females however the average confidence rating is 6 out of 10. It seems that the participant's skills post condition scoring exercise was not recorded and this has been rectified in the presentation which has been included in the report. The results of the question 'how confident are you in undertaking accurate condition score of cows' prior to the exercise are shown below in table 1.

TABLE 1: Responses to 'Out of 10 how confident are you in undertaking accurate condition scoring of cows

Score	% of attendees	
	Before	After
1/10	9	
2/10	5	
3/10	6	
4/10	1	
5/10	16	
6/10	14	
7/10	16	
8/10	11	
9/10	19	
10/10	4	

Furthermore, results found that 75% of attendees have an improved understanding of the importance of managing female nutrition.

Eighty-nine percent of participants said they had learnt something new at the workshop and 100% of attendees would recommend this workshop to other producers. As a result of attending a workshop, participants are most likely to 'improve breeding female nutrition' (31%) followed by 'write down breeding objective' (20%) and then 'Assess and monitor feed availability' (18%).

Deliverers

The average score for overall satisfaction for the workshop was 7.6 out of 10.

Budget

Please see Appendix 11. Please note that there are still a few more invoices to come in for project development at approximately \$5000. The budget has been over spent by approximately \$6000. This is in part to us exceeding the average total number of participants that would attend the 4 workshop, therefore pushing up catering expenses. In addition at two of the pilots we had three deliverers not two which increased costs by \$2000 and travel was also exceeded due to two deliverers having to travel a lot further than normally expected when workshops are booked in local areas of trained deliverers. Furthermore 10 deliverers are now trained instead of 8.

Discussion

The results of the pilot workshop show that there is definitely an increase in change in knowledge, skills, attitudes and intended practice change. Whilst change in knowledge and skills did improve across the bred well and fed well sections there was still 20-30% of participants that hadn't improved their knowledge or skills however this emphasises the current demand/requirement for the workshop. Furthermore, it also outlines the need to develop and refine the content and delivery of the workshop. The overall satisfaction of the workshop is consistent with the overall satisfaction of a new workshop in its pilot phase. In BFWF

sheep the overall satisfaction was 7.8 out of 10. Within the first year of delivery and in fact to this day the workshop on average rates an 8.6/10 for overall satisfaction. Once we incorporate the feedback from the train the trainer plus feedback from the producers who have attended the workshop the workshop developers believe there will be an increase to the same extent as seen in BFWF sheep. Each workshop has built on the material and delivery of the previous workshop and the final version for delivery will see higher overall satisfaction and improvement in knowledge, skills and attitudes.

A number of producers and consultants have voiced their appreciation and excitement for the workshop and there are a number of producers and breeders ready for the roll out in southern states.

Concerns

The Powerpoint presentation and producer workbook need to be finalised however a dedicated set time needs to be defined to complete.





Recommendations








The Powerpoint presentation and producer workbook needs further refinement from the feedback obtained from the last workshop and the train the trainer session. I recommend that a small contract be drawn up to finalise these two materials. Development of these is in the current project contract Following this a new contract needs to be finalised to deliver the workshop for a minimum of 12 months nationwide.

Conclusion

In summary we have conducted 4 workshops with a total of 98 participants attending. Eighteen percent of participants rated the workshop 10/10 and on average the workshop was scored 7.6/10. Meat and Livestock Australia can be confident that the key messages of BFWF are being delivered as evidenced by improvements in skills and attitudes and change in knowledge throughout the delivery of the workshop.

Appendices 1-12

Appendix number	Description	Attachment
1	Promotional flyer	 bredwell fedwell MLA flyer final.pdf
2	Registration form	 Participant details BFWF beef 21.07.20
3	Participant workbook	 Handout.pdf
4	Decision support tool for breeding objective	 beef DST draft generic v2.pdf

5	Percentile band and index tables	 BFWW angus percentile and Index
6	List of deliverers and relevant sections and state	 Trained deliverers for Bred well Fed well
7	Deliverers handbook	 Deliverer workbook.pdf
8	Email to host	 Email to hosts 2016 - beef FINAL.pdf
9	Guidelines	 Guidelines 2016.pdf
10	Evaluation questions and results	 Workshop Evaluation questions.pdf
11	Budget	 beef budget pilot 2016 final report.xlsx