final report

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Bredwell Fedwell 2014/2015

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Abstract

Bredwell Fedwell (BWFW) is a practical, one-day workshop which highlights the key production benefits of genetics, plus feed management for improved reproduction. The workshop commenced in 2011 and since commencement a total number of 3323 participants have attended 131 workshops across the country (Nov 2011 to June 30 2015). During Phase 3 (August 2014 to June 2015) 24 workshops have been conducted with a total of 470 participants having attended the workshops. NSW hosted just over half of the workshops within phase 3 and the remaining were held in Victoria except one which was held in South Australia.

Over the last 12 months when asked if participants understanding of how to use ASBVS for ram selection had improved 97% had said yes, and of those participants that weren't using ASBVs prior to the workshop (39% of attendees) 96% said they would start using ASBVs to assist with ram selection. At the end of the breeding objective practical 94% of the participants had a breeding objective compared to 27% at the start of the exercise.

When asked if participants understanding of the importance of managing ewe nutrition had improved 98% said yes. When participants were asked how confident they were in undertaking accurate condition scoring at the beginning of the workshop the average score was 4.5 out of 10. At the end of the exercise the average score on how confident they were in undertaking accurate condition scoring was 7 out of 10. The median at the beginning of the exercise was 3.3 and the median after the exercise was 7.5.

One hundred percent of attendees would recommend this workshop to other producers and more than 50% of participants attending the workshop rated it a 9 out of 10 or higher for satisfaction. Participation at BWFW workshops has resulted in an increase of people interested in LTEM. Forty seven LTEM groups have been formed across the country in phase 3 as a result of participants being exposed to LTEM through BWFW workshops.

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Executive summary

A total of 24 workshops have been conducted across the nation since August 2014 to July 2015 with a total of 470 attendees.

Of the 24 workshops conducted 13 were held in NSW, 10 in Victoria and one in SA. Therefore NSW has held just over half of the workshops, with South Australia holding 20% and Victoria 24%.

The majority of attendees predominately ran Merinos (70%) and had self-replacing flocks (67%).

Participants on average generated between 30 to 50% of their sheep income from wool. Three percent of the total number of participants didn't generate any income from wool and 1% of the total number of participants generated 90% of their sheep income from wool.

When attendees were asked whether they used breeding values when selecting rams, prior to the workshop, 68% said yes.

When attendees were asked whether they had a goal or 'ideal sheep' written down (breeding objective), prior to the workshop 67% across the nation said no.

When attendees were asked if they routinely body condition scored/fat scored their ewes, prior to the workshop, 74% across the nation said no.

Of those attendees not using breeding values at the start of the workshop 96% said they would start using breeding values to assist in ram selection.

Across the nation 29% rated the workshop an 8/10 whilst 34% rated it a 9/10 and 25% rate the workshop 10/10 for overall satisfaction. The average score was 8.6/10

When attendees were asked if they would further like to develop their skills in body condition scoring and developing budgets for ewe flocks, 97% said yes.

When attendees were asked if they would further like to develop their skills in the area of genetics 80% said yes.

94% of attendees 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 ewe nutrition' (23%) followed by 'write down breeding objective' (17%) and then 'Start using ASBVs' (14%).

1. Project background

Bredwell Fedwell (BWFW) is a practical, one-day workshop which highlights the key production benefits of genetics, plus feed management for improved reproduction.

BWFW commenced in December 2011 and in one year held a total of 58 workshops across the nation, including 8 pilots, with a total of 1600 attendees. NSW and South Australia held a quarter of the workshops each and WA held 11 of the 58 workshops. A smaller number of workshops were also held in Victoria (9), Queensland (6) and Tasmania (3). In Phase 2 (May 2012 to July 2014) a further 49 workshops were held with a total of 1253 participants having attended the workshop taking the overall total to 107 workshops and 2853 participants. NSW hosted just over half the workshops within phase 2 and the remaining workshops held in SA (10) and Victoria (12).

The evaluation conducted on the workshops indicated that the workshop had performed very well over a wide range of sheep breeds, regions, venues, hosts and presenters. The average rating score across the workshops by participants was 8.7/10, with 96% having learnt something new and 100% of participants recommending the workshop to other producers.

At the end of funding for phase two there was still a high demand for the workshop with a number of producers wanting to host workshops in 2015.

Therefore the purpose of phase three of BWFW was to meet the demand of producers wanting to host the workshops and to extend the areas in which BWFW had already been delivered.

2. Project objectives

The project outcomes are by June 2015:

1. Deliver 34 workshops across Australia with a participation target of 680
2. Increase producer knowledge of the impacts of ewe nutrition on ewe and progeny performance , animal welfare and farm profit
3. Increase awareness and knowledge of how ASBVs can be used to achieve enterprise objectives. The Bredwell Fedwell workshops also aim to reduce the perceived complexity of the technology and identify opportunities for producers to begin using ASBVs; and
4. Encourage at least 10% of participants to progress to participate in further training opportunities including LTEM, Top Lamb Crop and other genetic training opportunities.

The objectives of the workshop are that participants will:

- Recognise that Australian Sheep Breeding values (ASBVs) 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 ewe nutrition on reproductive performance and flock profitability; and
- Have the ability to do a simple energy budget for their ewe flock.

3. Methodology

Promoting and generating workshops

A large emphasis was placed on deliverers booking workshops through their networks/contacts to suit their availability and to extend the area's in which BWFW had already been delivered. A generic promotional flyer (Appendix 1) was supplied to deliverers to send to their contacts. Workshops that were booked via deliverers tended to comprise of hosts that were closely linked to the deliverer and thus were held in their local area. The generic flyers were also sent to field days in Western Australia actively seeking producers that may be interested in hosting a workshop.

Train the trainer

No official train the trainer has been conducted in phase 3 however the project manager was approached by 4 people with a keen interest in being trained to deliver. These included Rob Inglis (who is currently trained), Chris Mirams, Garry Armstrong and Murray Long. Rob and Chris would deliver the fedwell side of the workshop whilst Murray and Garry would deliver the bredwell side of the workshop. All 4 deliverers are based in NSW.

Delivery

***Workshop guidelines*:** To ensure the project could 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 delivers
- 40-60 participants = 3 delivers

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.

There is a participant contribution of $50 (inc. GST) per person. The contribution covered the cost of catering and the workbooks supplied to participants. The deliverers collected the monies (cheques and cash) and deposited into a Murdoch University bank account. Cheques were made out to Murdoch University. Each deliverer had a pre-produced carbon receipt book.

Host guidelines: The hosts were sent an email advising them of their responsibilities (Appendix 2). Further guidelines relating to studs, sponsorship and promotion of workshops are outlined in Appendix 3. Hosts were not provided with all of the guidelines in Appendix 3, however some were listed in the email and others were 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 were expected to deliver the content of the presentation without promoting their own views and without promoting certain studs/stud groups. They were to follow the trainer's handout with regards to setting up the venue, making contact with the hosts and organising/collecting the participation fee on the day, where applicable. They were expected to deliver ALL the key messages within the practicals and theory and if they did not agree or understand the content it was to be discussed immediately with authors and funding bodies.

The deliverers were expected to be aware and understand the workshop and host guidelines as well.

Workshop coordination

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

The project manager was responsible for the following:

- Liasing with the hosts, including confirmation of dates, appropriate venues, supply of sheep for practicals, catering and general information about the day
- Promotional flyers to be created and distributed to hosts, deliverers and the following websites; Making More from Sheep and 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:

- BWFW workbook
- Condition Scoring of Sheep (Lifetime Wool)
- Feed budget Tables – drought and green pastures (Lifetime Wool)
- Commercial Ram Buying - Merino Sires (SheepGenetics; Appendix 4)
- Merino ASBV Band Table (SheepGenetics)

Also supplied on the day were Maternal and Terminal Decision Support tools (Appendix 5) and percentile band tables for the following:

- Maternals
- Maternals first cross
- Terminals
- Terminal shedders
- Samm
- Corriedales

All participants completed a registration form (Appendix 6) and deliverers were also supplied with expression of interest forms for LTEM and RamSelect (Appendix 7).

Monitoring and evaluation

Workshops: Evaluation activities were built into the PowerPoint presentation and participants responded by using an electronic response card (clickers) that captured their answer in real time and displayed the results of the group in the presentation. The participation evaluation covered 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 8 along with results. At the end of each workshop the deliverer would save the responses generated and send 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 7.5/10. 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: A post workshop survey will be conducted at a later date as the majority of those that attended wouldn't have been to a ram sale yet or wouldn't have been able to incorporate lessons learnt to lambing.

4. Results

Workshops

Of the 34 workshops scheduled to be held a total of 24 workshops were conducted with a total of 470 participants. NSW held 13, Victoria held 10 and SA held one. Although 30 workshops were booked in to be held, 4 were cancelled due lack of numbers although most hosts were still interested in hosting later in the year. One cancelled due to ill health and the remaining host never followed up and the project manager was unable to contact them.

RIST, under the supervision of Darren Gordon organised and promoted 6 workshops through Victoria which were attended by a total of 155 participants and delivered by Jason Trompf and Darren Gordon. Two of these were closed to RIST members as part of their first year training for the Lifetime Ewe Management course and the other 4 were held on properties. RIST contact all of their clientele about the days actively promoting and seeking attendees. They organised the catering at the two closed events and helped with registrations at all events.

Elders (Craig Pearsall) organised and promoted 2 workshops through NSW which were attended by a total of 47 participants. These were delivered by Jason Trompf and Rob Inglis. Elders role included organising and paying for showgrounds where the workshops were conducted, organising, catering and emailing out two to three times to their clientele the flyers and the importance of attending the day. They drummed up many attendees on an individual basis.

John Sutherland, Pooginook Merinos organised and promoted 3 workshops which were delivered by Jason Trompf and Geoff Duddy with a total attendance of 53. Pooginook Merinos role involved organising locations including showgrounds, hosts, organising catering and promoting the events to their networks which included those outside their clientele.

Megan Rogers organised and promoted 2 workshops through NSW that were attended by a total of 40 participants and was delivered by her and Jason Trompf. She spoke regularly to the hosts and helped with organising catering and also approached a number of participants on an individual basis.

The remaining 11 workshops were organised by independent hosts that had either heard of or attended a workshop in 2013/2014.

Further training

Participation at BWFW workshops has resulted in an increase of people interested in LTEM. Forty seven groups have been formed across the country as a result of participants being exposed to LTEM through BWFW workshops. This is 282 producers who weren't aware or involved in LTEM. LTEM is a workshop that has been actively developed and promoted by industry and it is expected that BWFW workshops will continue to generate further interest.

Monitoring and Evaluation for Phase 3

Bredwell – genetics

When attendees were asked at the beginning of the section
'When selecting rams from your chosen stud you will select them based on:

a) How the ram looks
b) How the ram looks and its raw measurements
c) How the ram looks and its Breeding Values
d) Breeding values only
e) Stud master or agent selects my rams
f) Unsure

Fifty eight percent said how the ram looks and its Breeding values, however when asked the same question at the end of the section 92% selected how the rams looks and its breeding values. This indicated that message from Buying new genes that when selecting rams 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 an animal is born single or twin
d) Performance of relatives
e) All of the above
f) Unsure

Fifty-one percent said all of the above at the beginning of the section and at the end 86% 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 67% did not have a breeding objective. After completing the exercise 94% had a breeding objective for their enterprise.

Furthermore, results found that 97% of attendees had a better understanding of how to use ASBVs for ram selection and 96% of participants that were not using ASBV's prior to the workshop would start using them to assist with ram selection.

Fedwell - nutrition

When attendees were asked at the beginning of the section:
The optimum timing for pregnancy scanning ewes to detect twins is?

a) 61-70 days from the start of joining
b) 71-80 days from the start of joining
c) 81-90 days from the start of joining
d) 91-100 days from the start of joining

e) Unsure

Thirty-nine percent said 81-90 days from the start of joining; however at the end of the section 82% said 81-90 days from the start of joining.

Exercise 4 – Condition Scoring - Prior to the exercise 11% of attendees scored an 8/10 on how confident they were in undertaking accurate condition scoring, at the end of the exercise 29% scored an 8/10 on how confident they were in undertaking accurate condition scoring. The table below illustrates that confidence levels did increase in accurate condition scoring after exercise 4 had been completed. However some people still were scoring on the lower confidence scale and this is probably due to i) they had never assessed body condition score before; ii) the limited time spent on teaching each individual and; iii) the large group numbers present at some workshops.

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

Score	% of attendees Before	%of attendees After
1/10	20	1
2/10	11	1
3/10	11	3
4/10	7	3
5/10	11	6
6/10	9	14
7/10	13	21
8/10	11	29
9/10	4	14
10/10	1	6

Furthermore, results found that 98% of attendees have an improved understanding of the importance of managing ewe nutrition. Of the total number of participants having attended the workshop 23% aim to improve breeding ewe nutrition and 9% intend to condition score ewes.

Deliverers

The average score for overall satisfaction for the workshop was 8.6. Whilst workshops were scored on a scale from 1out of 10 to 10 out of10, the average for each of the 24 workshops was not under 8/10.

Budget

5. Discussion

BWFW has conducted 24 workshops from August 1 2014 to June 30 2015 with 470 producers attending (average 23 participants per workshop). Over half the workshops were held in NSW with the remaining in Victoria and one that was held in South Australia. Evaluation demonstrates a change in skills and attitudes and a change in knowledge that is consistent across all phases and clearly provides evidence that the workshop is meeting its objectives. Participants recognise that ASBVS are an important tool in ram selection; they have developed a breeding objective for their enterprise and recognise the impacts of improving ewe nutrition on reproductive performance.

Whilst the majority of results are consistent across all phases there are some slight changes with phases two and three participants running more merinos that phase one (75%, 70% and 60% respectively). There is a decrease in the average lambing percentage in phase two and three compared to phase one (90-100% vs 100-110 respectively). The amount of money generated from wool increased from 30% in phase one to 50% in phase two possibly due to the increase in participants running merinos but decreased again to 30% in phase 3. There was also a slight change in what the participants most wanted to improve in sheep. Improving weaning percentage was the leader for both phases however in phase 2 it had a lower emphasis on it compared to phase 1 (34% vs 435) however had increased above and beyond in phase 3 (51%). Phase one listed improvements in the order of weaning percentages, growth rates, doing ability and wool cut. In phase two improvements were in the order of weaning percentages, wool cut, growth rate and then doing ability. In phase 3 improvements were in the order of Weaning percentages, growth rate, wool cut and doing ability. Furthermore the likelihood of introducing pregnancy scanning following attendance decreased in phase two compared to phase one and decreased even further in phase 3. This is possibly due to the fact that more people in phase two and three were already pregnancy scanning prior to attending the workshop.

There has been a slight shift in what participants were most likely to change to their business after attending in the workshop. Across all three phases the focus to improve breeding ewe nutrition has been the priority for all producers but the percentage of producers focussing on this has declined by 10% from 33% in phase one to 23% in phase three. However focus on genetics has improved over the three phases such that currently writing down the breeding objective is the second most likely change producers will make after attending the workshop. Table 2 outlines the shift in focus for likely changes to producers business over the three phases. The possible reasons for this shift across the three phases could be in fact due to producers having already adopted a number of the nutrition practices and hence now need to focus on the genetic changes to improve production and profit.

Table 2: Likely changes following attendance at the workshop across the three phases of funding

	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
Improve breeding ewe nutrition	33	27	23
Start pregnancy scanning	15	9	7
Separate ewes in to singles and multiples	14	12	10
Condition score ewes	12	12	9
Write down a breeding objective	6	11	17
Start using ASBVs	9	13	14

Concerns

There seems to be an increase in the number of workshops being cancelled due to low numbers. In part we believe that this is due to the implementation of the participation fee in mid 2013. Since the commencement of the workshops in 2011 the total number of participants on average has decreased from 28 participants in 2012 to 26 in 2013/2014 to 20 in 2014/2015. No workshops were cancelled due to low numbers in 2012, in 2013/2014 three were cancelled and in this current phase four were cancelled.

Recommendations

As previously discussed at review meetings it is recommended that we increase maternal content for genetics and nutritional management. Whether this means reducing some of the merino content or whether this means substitution (i.e. having a sub set to revert to) depending on target audience, i.e. a more focussed maternal audience. Furthermore whilst we understand that this workshop has a lot of content and is quite large as is it is recommend we introduce a few slides on meat quality and should be discussed at the next review of content.

6. Conclusion

In summary we have conducted 24 workshops with a total of 470 participants averaging 23 participants per workshop. The quality of the workshop has been maintained in comparison to phase one and two. Twenty five percent of participants rated the workshop 10/10 and on average the workshop was scored 8.6/10. Meat and Livestock Australia can be confident that the key messages of BWFW are being delivered as evidenced by improvements in skills and attitudes and change in knowledge throughout the delivery of the workshop.

7. Appendices

Appendix 1: Promotional flyer

Making More From Sheep

A joint initiative of

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

bredwell fedwell

Breeding and feeding to make more money

After a successful year in 2012, Bred Well Fed Well is continuing to hold workshops to help sheep producers combine genetics with ewe feed management to boost reproduction rates and productivity.

The workshops focus on the following:

- Improved understanding of how to use reliable breeding tools to improve enterprise profitability.
- How to develop a breeding objective for your sheep enterprise.
- Better management of ewe nutrition for reproductive performance and flock profitability; and
- Skills in assessing ewe condition and developing simple energy budgets for the ewe flock.

Practical sessions include **condition scoring**, **feed budgeting**, **ram rankings** and **ram selection**. Follow-up courses in these areas will be offered for those wishing to further develop skills in breeding and nutritional management.

Participation fee: $50 per business (inc GST).
Refreshments and a workbook will be provided.

For further information or to book a workshop please contact:

- **Serina Hancock** s.hancock@murdoch.edu.au or 0403 570 823

www.makingmorefromsheep.com.au

Appendix 2: Guidelines for hosts

Thank you for your interest in hosting a BWFW workshop. Below is some information about the workshop and what is involved in hosting one.

The Bred Well Fed Well workshops are funded by MLA. It was developed by Mark Ferguson through the Sheep CRC and Jason Trompf.

Briefly, the workshops have two main aims 1) to introduce producers to breeding values (ASBVs), outline the benefits of using them, begin to build skills to use ASBVs to aid ram selection and 2) to inform producers of the benefits of improving the nutrition of ewes to improve their performance and in turn improve conception rates and lamb survival. It gives an important message of combining good breeding (ASBVs) and nutrition to improve reproduction rates and overall flock profitability.

We will generate a flyer to advertise the workshop which will be loaded on to the following websites: Making More from Sheep, AWI , and MLA. Please note that your deliverers are not responsible for getting people to the workshop however will assist by sending out to their contacts in the area if they have any. If you can send to your contacts I think we will have adequate exposure for the workshop. If you would like to further promote the workshop we ask that you run it past us first as it is essential that all Bred Well Fed Well promotion meets MLA standards. If you would like to advertise on your website, where applicable, please use the flyer that I have attached, however it cannot be used on your website if within 6 weeks of your ram sale.

Please remember that the workshops stand alone and cannot be run in conjunction with field/open days or ram sales as the workshops runs for 6 hours and the number of attendees needs to be manageable for deliverers and practical exercises.

There is a $50 (inc GST) participation fee (per person) to attend the workshop. If you would like to cover this cost or find a sponsor that will cover the cost that is fine but please note the following guidelines:

. We will only advertise the workshop as 'FREE' or $50 participation fee
. Where sponsorship is limited and is insufficient to cover all participants, it will be applied to the first participants to pay on the day and will still be advertised as a $50 registration fee on the flyer.
. No limits can be placed on who is eligible to attend.

The workshop goes for approximately 6 hours we normally start at 9:00am for registration and finish at 3:30pm allowing for lunch but we would move the times around if required. We also ask the host to supply chairs and possibly tables and extension cords

We ask that the hosts assist with organising morning/afternoon tea and/or lunch. Please only aim to spend a maximum of $20 inc GST per head and this is to cover morning tea and lunch with tea and coffee. Please check that your catering can provide an urn and it is also a good idea to have cold water available. Please get the caterers to make the invoice out to Serina Hancock, Murdoch University, 90 South St, Murdoch WA and either email to me at s.Hancock@murdoch.edu.au or post to 32 Coffs Bend, Secret Harbour WA. 6173.

We are aiming to hold on farm as we have a couple of hands on practicals that are part of the workshop. One is to visually assess approximately 8 rams for specific traits and then provide ASBVs on these traits to demonstrate that both visual assessment and ASBVs need to be used together when selecting rams. The second practical involves body condition scoring some ewes so we ask that we have a range of ewes with differing body condition

scores for the participants to have a go under the direction of the deliverers. For practical sessions we would need approximately 20 ewes with varying body condition - please ensure that you have a range from 2 to 3.5 otherwise the practical is very hard to run if no comparisons can be made. These will need to be placed in a race for the practical.
In addition if you could also organise 8 rams with varying ASBVs for WT, FAT, EMD and wool traits if applicable, for either post-weaning or yearling age. The aim of the practical is to visually assess the rams and have participants identify which ram they think is the best. Deliverers will then work through what the best ram is based on ASBVs thus demonstrating what may have been the best ram visually may not be the best ram to produce the trait in offspring. For example at other workshops most attendees have picked the biggest ram for the best growth however in more cases than not a smaller ram has had better ASBVs for growth. IF you could provide the ASBVs for the rams that you are going to use prior to the day that would be greatly appreciated and I will forward on to the deliverers. They will contact you prior to the day and also look over them and the ewes when they arrive.
Please note that only sheep that will be used in the practicals can be present or on display at the workshop If you are having more than 40 participants attending we ask for two sets of rams to be available and penned far enough away so that each group can hold a conversation without the other group being heard.

We generally like to aim for a minimum of 15 and we find that it works best with 20-35 people. If you realistically estimate40-60 people we will have three deliverers attend and if 60 or more we will run two workshops rather than one. Please call me to discuss this further if it is an option for you.

Appendix 3: New guidelines

- **Studs can continue to host workshops on the proviso:**
    - There is no promotion/pushing of the stud stock at the workshops – hosts may give a welcome to participants and assist trainer with handling of animals. The only sheep that are present on the day are only those that are used in the demonstration (6-8 rams and up to 30 ewes for condition scoring). Hosts may provide supporting comments to the content as asked by the deliverers and answer any direct questions from the deliverers.
    - No branding permitted on any BWFW materials including advertising, press release etc. They may be referred to as the Host in writing, which may include the stud name.
    - Like any hosts they play a key role in attracting attendees.
    - No workshops can be delivered in association with any stud sale, open day etc and must be stand-alone events (including no cross promotion).
    - Studs may continue to sponsor the attendance fee provided it is for all attendees.
- **Sponsorship of business fee**
    - Any host can sponsor the $50 per business fee – no limits can be placed on who is eligible for attendance.
    - Any commercial partner (business) can sponsor the $50 per business fee.
    - No limits can be placed on who is eligible for attendance.
    - Where sponsorship is limited and is insufficient to cover all participants, it will be applied to the first participants to pay on the day.
- **Commercial partners and promotion**
    - commercial sponsor may receive acknowledgement in the form of logo presence
    - Studs are not a commercial partner
    - Press release content should be used to promote the workshop through their own means. The advert should also be used as the ad and on website where possible.
    - Ensure promotion is adequately covered in Host guidelines.
- **Open and Closed workshops**
    - Any workshops hosted by a stud must be an open workshop
    - All workshops are considered open to all producers
    - FULL events are determined in the maximum registrations have been taken (this may also be limited by venue size)
- **Promotion of workshops**
    - All workshops must be promoted on the MMfS website, AWI and MLA sites. – Full workshops should be advertised, with a FULL status.

  - On these sites there must also be an open call for hosts and a hosts package can be promoted through open networks
  - Advertising (including flyers) will continue to be prepared by AWI, as per any conditions above.
    Press releases are approved by AWI as managing party (as per current practice)
  - BWFW events cannot be advertised on stud websites if the event is within 6 weeks of their sale.
  - Events may be promoted on other sites providing the advert and/or press release are used unless there is a standard style for listing.
- Delivers cannot promote or favour any stud
- There must be open calls for deliverers when training occurs next

There will be a preference for commercial sites but stud hosts should not be excluded from the program where there is an advantage to the workshop and program success to do so. Any host must have the appropriate facilities and appropriate animals.

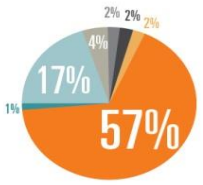
Appendix 4: Merino Decision Support Tool

MERINO SIRES index options

MERINOSELECT ASBV

Fibre production Index: FP & FP+

Animals ranked on ability to produce Merinos for a wool production operation. It is for self-replacing merino flocks who keep their wethers as part of their wool producing flock.



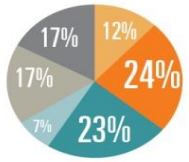
Contribution to economic gain

10 year likely response

Trait	Potential Response
Fleece Weight	+0.6%
Fibre diameter	-0.8µm
Body Weight	+0.6 kg
Staple Strength	+2.3 N/ktex
Worm Egg Count	-7.7%
Curvature	0 deg/mm
Number of Lambs Weaned	+0.3%

Merino Production Index: MP & MP+

Animals ranked on ability to produce progeny for a fine wool operation that has significant surplus sheep. It is for self-replacing merino flocks who do not keep their wethers to produce wool.



Contribution to economic gain

10 year likely response

Trait	Potential Response
Fleece Weight	+2.1%
Fibre diameter	-0.4µm
Body Weight	+2.9 kg
Carcase traits	0.4 mm
Staple Strength	+1.8 N/ktex
Number of Lambs Weaned	+2.6%

Dual purpose Index: DP & DP+

Animals ranked on ability to produce merinos for a dual purpose operation. It is for self-replacing merino flocks that do not keep their wethers and also join a portion of their ewes to terminal sires for lamb production.

Contribution to economic gain

10 year likely response

Trait	Potential Response
Fleece Weight	+2.8%
Fibre diameter	0µm
Yearling Body Weight	+3.6 kg
Staple Strength	+1.7 N/ktex
Carcase traits	+0.7mm
Number of Lambs Weaned	+2.9%

Preparing for a ram sale:

1. Call your ram breeder and ask for a list of sale rams and their ASBVs
2. Check the list of ASBVs against your ASBV needs
3. Grade rams in the catalogue based on your requirements
4. At the sale LOOK at rams and refine your grades before buying
5. Convert grades into $ limit

This publication was authored by: Bronwyn Clarke, Mark Ferguson, Serina Hancock, and Jason Trompf for the bredwell fedwell program, a co-funded program of Australian Wool Innovation Limited and Meat & Livestock Australia Limited.

SHEEP GENETICS

mla awi

For further information on ASBV's visit www.sheepgenetics.org.au

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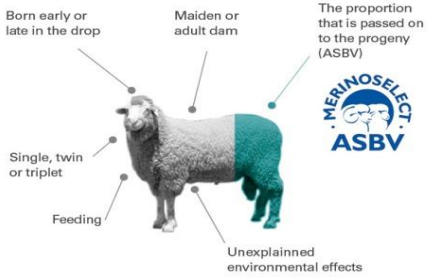
bredwell fedwell

Commercial Ram Buying

Merino sires

Buying rams is important. Make the best POSSIBLE buying decision by using all the tools available. Rams will NOT pass on their own performance to their progeny – they will only pass on their genes.



Visual assessment is essential but it is also important that you buy the genes for the performance you are seeking.

Australian Sheep Breeding Values (ASBVs) allow you to select for the traits of interest and accounts for known environmental influences on performance and provide the likely impact of the animals GENES. ASBVs should always be used IN CONJUNCTION with visual selection.

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STEP 1: In the blue area, fill in your current levels of production and 10 year production goals for your sheep breeding enterprise		Current production levels	Future targets (10 years)	Difference	**STEP 2:** Circle your top four priorities in the column below	**STEP 3:** Circle the corresponding ASBVs in the column below		**STEP 4:** Write down the emphasis you place on each trait	**STEP 5:** Using the guide below write down the target percentile band	**STEP 6:** Using your target percentile band write down the target ASBV
Wool Traits						Trait Name	ASBV	High / Medium/ Low	Target percentile band	Target ASBV value
Wool cut	Kg/hd (adult)				Wool cut	Yearling Clean fleece weight	YCFW			
Micron	micron (adult)				Micron	Yearling Fibre diameter/micron	YFD			
wool strength	N/ktex (adult)				wool strength	Yearling Staple strength	YSS			
wool length	mm (adult)				wool length	Yearling Staple length	YSL			
CV	% (adult)				CV	Coefficient of variation of FD	YFDCV			
Carcase										
Weight	Kg (adult ewe)				Weight	Adult weight	AWT			
Liveweight at 7 months	kg				Liveweight at 7 months	Post-weaning weight	PWT			
Liveweight at 12 months	kg				Liveweight at 12 months	Yearling weight	YWT			
Average fat score when sold	score 1-5				Fat score	Yearling Fat depth	YFAT			
Carcase muscling		poor/ok/good	poor/ok/good	less/same/more	Carcase muscling	Eye muscle depth	YEMD			
Reproduction										
Scanning	%				Scanning	Yearling weight	YWT			
Weaning	%				Weaning	Number of lambs weaned	NLW			
Health and Labour saving										
Adult ewe drenches per year	No. Drenches			less/same/more	Adult ewe drenches per year	Yearling Worm Egg Count	YWEC			
% of adult ewes with breech strike	%				% adult ewes with breech strike	Dag score	LDAG			
Wrinkle score in hoggets (see chart)	score 1-5				Wrinkle score in hoggets	Breech wrinkle	EBWR			
Ewe resilience to low feed		poor/ok/good	poor/ok/good	less/same/more	Ewe resilience to low feed	Yearling Fat depth	YFAT			
Enter other traits of importance										

Turn the page to see if there is an index that matches your breeding objective that can be used.

STEP 5:

These three tables below show the emphasis placed on each trait (high/medium/low) and correspond to the specific band in the percentile band table that you should use for a guide when looking for an ASBV for traits to meet your breeding objective. Using these tables match your relative emphasis (high/medium/low) to the band in the percentile band tables. For example if you have superfine Merinos and have placed a high emphasis on decreasing fibre diameter then you need an ASBV in the top 5% (band 5). For MERINOSELECT percentile band tables for ALL traits visit: http://www.sheepgenetics.org.au

Superfine	YCFW	YFD	YFDCV	YSL	YSS	EBWR	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
High	50%	5%	20%	50%	30%	40%	1%	50%	50%	50%	20%	40%	40%	20%
Medium	60%	10%	30%	60%	40%	50%	5%	60%	60%	60%	30%	50%	50%	30%
Low	80%	20%	40%	80%	50%	60%	10%	70%	70%	70%	40%	60%	60%	50%

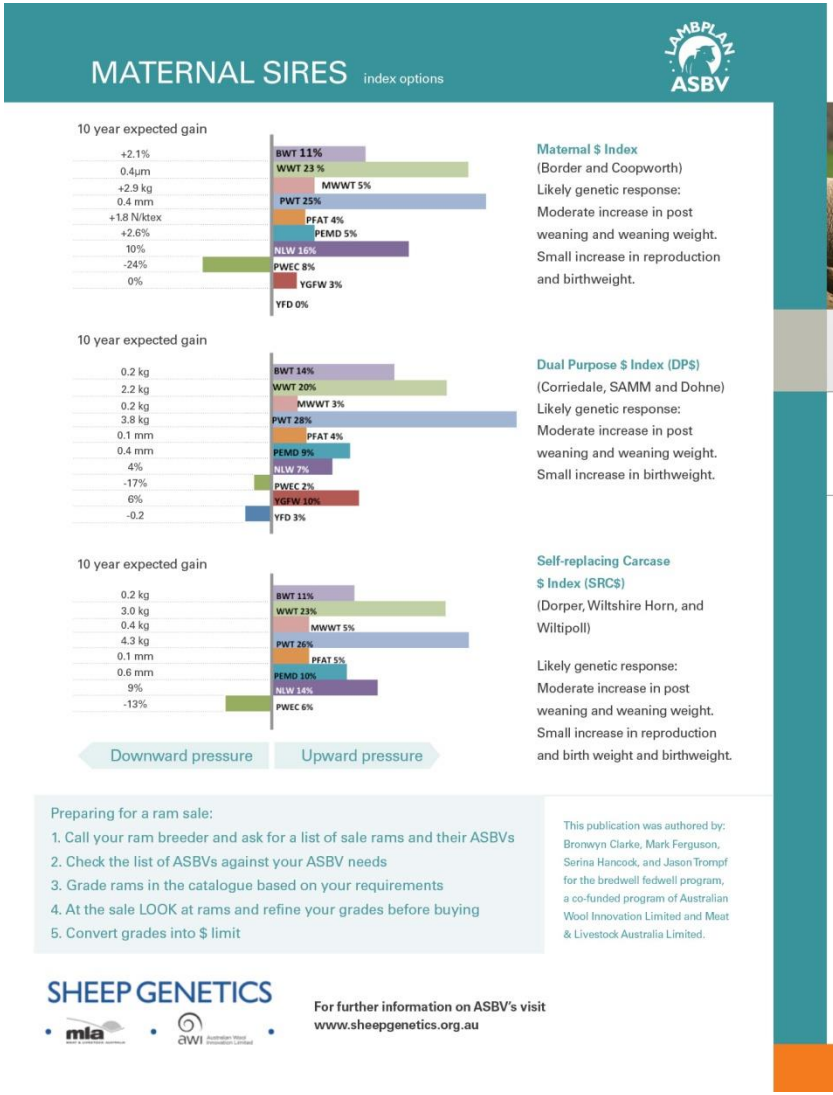
Fine

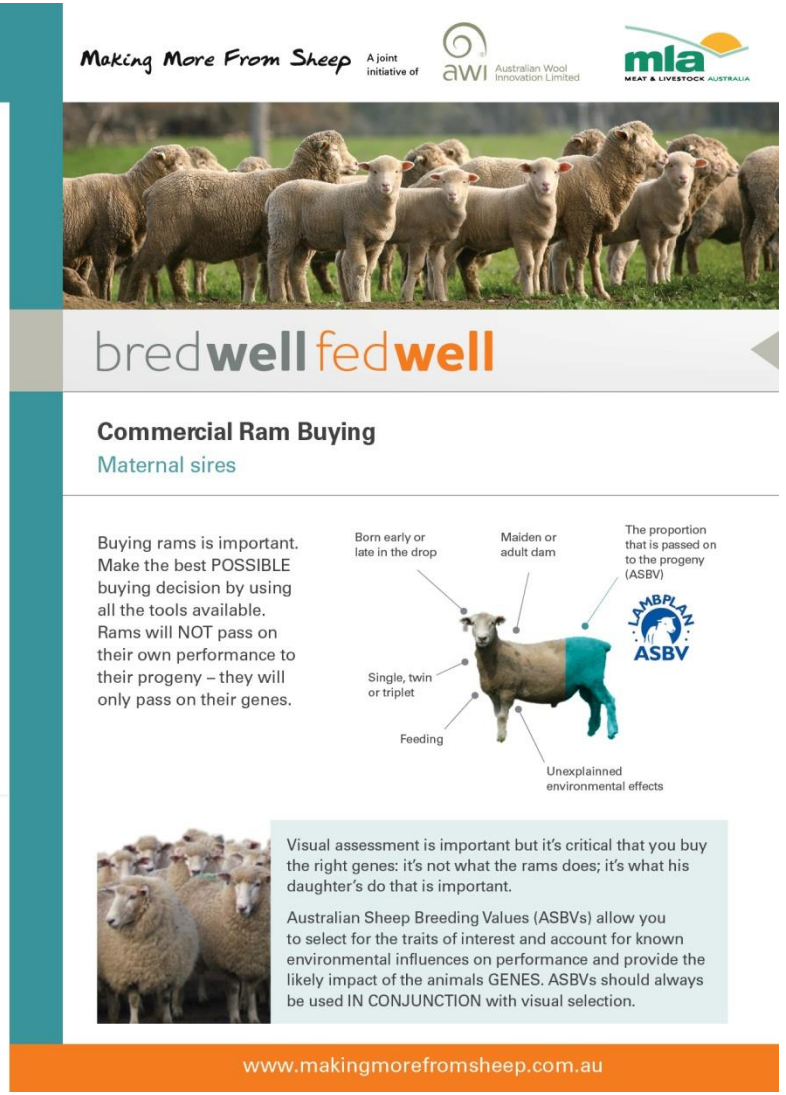
YCFW	YFD	YFDCV	YSL	YSS	EBWR	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
20%	30%	40%	30%	50%	40%	40%	30%	20%	30%	30%	40%	30%	30%
30%	40%	50%	40%	60%	50%	50%	40%	30%	40%	40%	50%	40%	40%
40%	50%	60%	50%	70%	60%	60%	50%	40%	50%	50%	60%	50%	50%

Medium

YCFW	YFD	YFDCV	YSL	YSS	EBWR	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
20%	50%	40%	10%	20%	20%	50%	5%	5%	10%	30%	30%	20%	30%
30%	60%	50%	20%	30%	30%	60%	10%	10%	20%	40%	40%	30%	40%
40%	70%	60%	30%	40%	40%	70%	20%	20%	30%	50%	50%	40%	50%

Appendix 5: Maternal and Terminal Decision Support Tool





STEP 1: In the blue area, fill in your current levels of production and 10 year production goals for your sheep breeding enterprise		Current production levels	Future targets (10 years)	Difference	**STEP 2:** Circle your top four priorities in the column below	**STEP 3:** Circle the corresponding ASBVs in the column below		**STEP 4:** Write down the emphasis you place on each trait	**STEP 5:** Using the guide below write down the target percentile band	**STEP 6:** Using your target percentile band write down the target ASBV
Wool Traits						**Trait Name**	**ASBV**	**High / Medium/ Low**	**Target percentile band**	**Target ASBV value**
Wool cut	kg/hd (adult)				Wool cut	Yearling Clean fleece weight	YGFW			
Micron	micron (adult)				Micron	Yearling Fibre diameter/micron	YFD			
Carcase										
Mature ewe weight	kg (adult ewe)				Mature ewe weight	Adult weight	AWT			
Lamb birthweight	kg				Birth weight	Birth weight	BWT			
Lamb weaning weight	kg				Weaning weight	Weaning weight	WWT			
Liveweight at 7 months	kg				Liveweight at 7 months	Post-weaning weight	PWT			
Average fat score when sold	score 1-5				Fat score	Yearling Fat depth	YFAT			
Carcase muscling		poor/ok/good	poor/ok/good	less/same/more	Carcase muscling	Eye muscle depth	YEMD			
Reproduction										
Scanning	%				Scanning	Number of lambs weaned	NLW			
Weaning	%				Weaning	Number of lambs weaned	NLW			
Ewe milking ability		poor/ok/good	poor/ok/good	less/same/more	Milking ability	Maternal weaning weight	MWWT			
Health and Labour saving										
Adult ewe drenches per year	No. Drenches			less/same/more	Adult ewe drenches per year	Yearling Worm Egg Count	YWEC			
% of adult ewes with breech strike	%				% adult ewes with breech strike	Dag score	LDAG			
Ewe resilience to low feed		poor/ok/good	poor/ok/good	less/same/more	Ewe resilience to low feed	Yearling Fat depth	YFAT			
Enter other traits of importance										

Turn the page to see if there is an index that matches your breeding objective that can be used.

STEP 5:

These four tables below show the emphasis placed on each trait (high/medium/low) and correspond to the specific band in the percentile band table that you should use for a guide when looking for an ASBV for traits to meet your breeding objective. Using these tables match your relative emphasis (high/medium/low) to the band in the percentile band tables. For LAMBPLAN percentile band tables for ALL traits visit: http://www.sheepgenetics.org.au

Border Leicester	YGFW	YFD	AWT	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
High	30%	20%	50%	10%	30%	30%	40%	30%	20%	40%	40%
Medium	40%	30%	60%	20%	40%	40%	50%	40%	30%	50%	50%
Low	50%	40%	70%	30%	50%	50%	60%	50%	40%	60%	60%

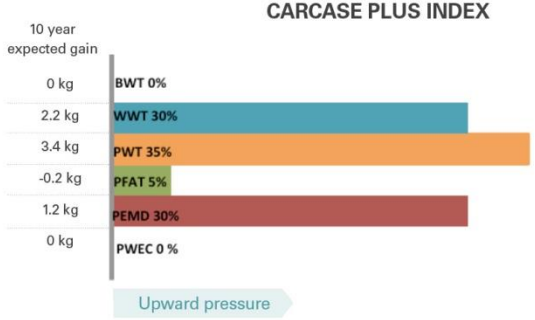
Coopworth	YGFW	YFD	AWT	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
High	50%	30%	40%	20%	30%	30%	30%	10%	20%	30%	50%
Medium	60%	40%	50%	30%	40%	40%	40%	20%	30%	40%	60%
Low	70%	50%	60%	40%	50%	50%	50%	30%	40%	50%	70%

Corriedale	YGFW	YFD	AWT	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
High	40%	60%	30%	30%	4%	4%	5%	20%	40%	60%	
Medium	50%	70%	40%	40%	5%	5%	10%	30%	50%	70%	
Low	60%	80%	50%	50%	10%	10%	15%	40%	60%	80%	

SAMM	YGFW	YFD	AWT	BWT	WWT	PWT	YWT	YFAT	YEMD	NLW	YWEC
High	20%	30%	40%	20%	30%	20%	30%	30%	30%	50%	20%
Medium	30%	40%	50%	30%	40%	30%	40%	40%	40%	60%	30%
Low	40%	50%	60%	40%	50%	40%	50%	50%	50%	70%	30%

TERMINAL SIRES index options

CARCASE PLUS INDEX



Carcase plus:
Likely genetic response: Large increase in weaning weight, post weaning weight and eye muscle depth. Small emphasis on fat depth to maintain a level of leanness.

LAMB2020 INDEX

Lamb2020:
Likely genetic response: Moderate increase in post weaning and weaning weight. Small increase in birthweight and post weaning fat with a small decrease in post weaning worm egg count.

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SHEEP GENETICS

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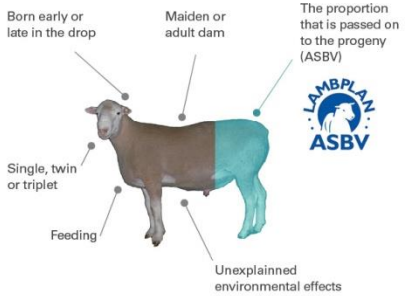
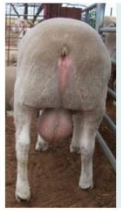
Commercial Ram Buying

Terminal sires

Buying rams is important. Make the best POSSIBLE buying decision by using all the tools available. Rams will NOT pass on their own performance to their progeny – they will only pass on their genes.





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www.makingmorefromsheep.com.au

STEP 1: In the section blue area, in your current levels of production and 10 year production goals for your sheep breeding enterprise		Current production levels	Future targets (10 years)	Difference	**STEP 2:** Circle your top four priorities in the column below	**STEP 3:** Circle the corresponding ASBVs in the column below		**STEP 4:** Write down the emphasis you place on each trait	**STEP 5:** Using the guide below write down the target percentile band	**STEP 6:** Using your target percentile band write down the target ASBV
Carcase					Priorities	Trait Name	ASBV	High / Medium / Low	Target percentile band	Target ASBV value
Birth weight	kg				Birth weight	Birth weight	BWT			
Liveweight at weaning	kg				Liveweight at weaning	Weaning weight	WWT			
Liveweight at 7 months	kg				Liveweight at 7 months	Post-weaning weight	PWT			
Average fat score when sold	score 1-5				Fat score	Post-weaning fat depth	PFAT			
Carcase muscling		poor/ok/good	poor/ok/good	less/same/more	Carcase muscling	Post-weaning eye muscle depth	PEMD			
Reproduction - keeping daughters from terminal sires										
Weaning	%				Weaning	Number of lambs weaned	NLW			
Milking ability		poor/ok/good	poor/ok/good	less/same/more	Milking ability	Maternal weaning weight	MWWT			
Health and Labour saving										
Lamb drenches before sold	No. Drenches			less/same/more	Lamb drenches before sold	Weaning Worm Egg Count	WWEC			
Enter other traits of importance										

Turn the page to see if there is an index that matches your breeding objective that can be used.

STEP 5:

The table below show the emphasis placed on each trait (high/medium/low) and correspond to the specific band in the percentile band table that you should use for a guide when looking for an ASBV for traits to meet your breeding objective. Using these tables match your relative emphasis (high/medium/low) to the band in the percentile band tables. For LAMBPLAN percentile band table for ALL traits visit: http://www.sheepgenetics.org.au

	BWT	WWT	PWT	PFAT	PEMD	NLW	WWEC
High	10%	10%	10%	10%	10%	10%	10%
Medium	30%	30%	30%	30%	30%	30%	30%
Low	50%	50%	50%	50%	50%	50%	50%

Appendix 6: Registration forms

Making More From Sheep

A joint initiative of awi Australian Wool Innovation Limited mla MEAT & LIVESTOCK AUSTRALIA

bredwell fedwell

PARTICIPANT DETAILS

Name _____ Telephone _____

Email _____

Address _____ Post Code _____

I am: ☐ Producer ☐ Agent ☐ Student Other: _____

☐ Under 35 ☐ 35-50 ☐ Over 50

Please tell us about your business:

My enterprise is:

☐ Specialist wool production
☐ Wool focus but some lamb production
☐ 50:50 wool and prime lamb
☐ Prime lamb focus with <24 micron wool
☐ Specialist lamb production (either low quality wool or no wool)

Total number of sheep _____ Total number of ewes _____

Number of lambs sold per year _____ Number of wool bales sold per year _____

Area managed _____ ha **or** _____ acres

AWI and MLA may send me newsletters and inform me of future events?

☐ Yes ☐ No

AWI and MLA may contact me to further assess the impact of their programs?

☐ Yes ☐ No

Have you attended a BWFW workshop previously? ☐ Yes ☐ No

If so what changes have you made since attending? please tick one or more.

☐ Started using ASVBs
☐ Written down a breeding objective
☐ Calculated wool:meat ratio
☐ Condition scored my ewes
☐ Improved breeding ewe nutrition
☐ Started pregnancy scanning
☐ Separated ewes to singles and twins and feed accordingly
☐ Assessed and monitored feed availability (quantity and quality)
☐ Smaller mob sizes for twins at lambing
☐ No changes

* Privacy Statement: The information you are providing may be personal information under the Privacy Act. It is collected for MLA and AWI's business purposes only and will not be disclosed to any third party except in accordance with AWI's and MLA's privacy policies. You can request access to and correction of your personal information by calling the AWI helpline on 1800 070 099, or MLA on 1800 675 717. If you do not provide such personal information, AWI and MLA may not be able to provide you with products or services. The privacy policy from AWI can be obtained from their website at www.wool.com.au. The privacy policy from MLA can be obtained directly from MLA by calling 1800 675 717, or from their website at www.mla.com.au

Appendix 7: Expression of interest forms

Making More From Sheep

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EXPRESSION OF INTEREST

Lifetime Ewe Management
more lambs, better wool, healthy ewes

Date _____ Location _____

NAME	EMAIL	PHONE	TOWN

bredwell fedwell www.makingmorefromsheep.com.au

Making More From Sheep

A joint initiative of awi Australian Wool Innovation Limited mla MEAT & LIVESTOCK AUSTRALIA

EXPRESSION OF INTEREST

RamSelect

Date _____ Location _____

NAME	EMAIL	PHONE	TOWN

bredwell fedwell www.makingmorefromsheep.com.au

Appendix 8: Workshop Evaluation questions

Listed in the table below are the evaluation questions and state by state totals from the workshops

Q1. What type of ewe do you predominantly run?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a).fine and super fine merino		27	13		23	
b).medium merino		25	26		53	
c).meat merino (including Dohnes and SAMM)		7	7		7	
d). first cross		22	27		8	
e).maternal composite		16	27		1	
f).shedders		1	0		3	
g). stud terminal		2	0		2	
h). Stud maternal		0	0		3	

Q2. Currently how of you sustain your ewe base?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). completely self replacing		62	47		74	
b). combination of breeding own and buying in		25	53		13	
c). buying in only		13	0		13	

Q3. What do you most want to improve in your sheep?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). growth rate		18	20		20	
b). weaning %		56	40		47	
c). wool cut		11	13		17	
d). micron		1	0		0	
e). carcase-lean meat yield		3	7		4	
f).Resistance to flystrike		0	0		1	
g). resistance to worms		2	7		1	
h). doing ability		9	13		10	

Q4. What is your average lamb marking % for the last 3 years?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Less than 60%		1	0		0	
b).61-70%		3	0		2	
c).71-80%		14	20		8	
d). 81-90%		22	0		20	
e).91-100%		17	20		30	
f).101-110%		15	20		20	
g). 111-120%		12	27		13	
h). 121-130%		11	7		2	
i). 131-140%		3	0		3	
j). Greater than 140%		2	6		2	

Q5. what proportion of sheep income do you generate from wool?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 0		1	0		5	
b). 10%		19	27		5	
c).30%		36	33		37	
d). 50%		21	13		33	
e). 70%		19	7		18	
f). 90%		0	7		1	
g). Unsure		4	13		1	

Q6. Do you use breeding values when selecting rams?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		68	75		68	
b). No		32	25		32	

Q7. When selecting rams from your chosen stud you select them based on	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). How the ram looks		10	0		7	
b). How the ram looks and its raw measurements		16	7		28	
c). How the ram looks and its breeding values		61	80		55	
d). Breeding values only		1	7		2	
e). Stud master or agent selects my rams		10	0		7	
f). Unsure		2	6		1	

Q8. Breeding values give a better estimate of an animal's merit for a trait than raw measurements because they account for variation caused by;	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Management/feeding		6	6		9	
b). Age		0	0		0	
c). Whether an animal was born single or twin		1	0		3	
d). Performance of relatives		14	19		20	
e). All of the above		51	69		51	
f). unsure		28	6		17	

Q9. When selecting a ram what is the majority of your selection based on?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Wool style – quality/colour		8	0		11	
b). Wool measurement – micron, CV wool cut		24	7		30	
c). Size		4	0		5	
d). Visual carcase attributes		15	7		9	
e). Growth and carcase measurements		32	53		26	
f). Reproduction potential		16	20		18	
g). Labour saving/health traits (worms, flies etc)		1	13		1	

Q10. In the future, when selecting rams from your chosen stud you select them based on	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). How the ram looks		0	0		1	
b). How the ram looks and its raw measurements		3	0		3	
c). How the ram looks and its breeding values		93	100		91	
d). Breeding values only		0	0		1	
e). Stud master or agent selects my rams		4	0		3	
f). Unsure		0	0		1	

Q11. Breeding values give a better estimate of an animal's merit for a trait than raw measurements because they account for variation caused by;	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Management/feeding		0	0		1	
b). Age		0	0		0	
c). Whether an animal was born single or twin		0	0		3	
d). Performance of relatives		4	0		22	
e). All of the above		96	100		74	
f). unsure		0	0		0	

Q12. Out of 10, rate how confident you are that the traits you are selecting are meeting you production goals	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 1/10 – Low confidence		3	0		0	
b). 2/10		2	0		1	
c). 3/10		2	0		3	
d). 4/10		5	6		3	
e). 5/10		13	19		11	
f). 6/10		21	6		14	
g). 7/10		28	19		36	
h). 8/10		21	19		22	
i). 9/10		4	19		6	
j). 10/10 – High confidence		1	12		4	

Q13. Do you have a goal or 'ideal sheep' written down for your ewe flock (often called a breeding objective)?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		21	31		33	
b). No		71	69		64	
c). unsure		8	0		3	

Q14. Do you have a goal or 'ideal sheep' written down for your ewe flock (often called a breeding objective)?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		90	86		98	
b). No		8	7		0	
c). unsure		2	7		2	

Q15. Out of 10, rate how confident you are that the traits you are selecting are meeting you production goals	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 1/10 – Low confidence		0	7		0	
b). 2/10		0	0		0	
c). 3/10		1	0		0	
d). 4/10		3	0		2	
e). 5/10		5	0		1	
f). 6/10		8	0		7	
g). 7/10		21	22		19	
h). 8/10		30	50		33	
i). 9/10		22	7		26	
j). 10/10 – High confidence		10	14		12	

Q16. The optimum timing for pregnant ewes to detect twins is?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 61-70 days from the start of joining		13	13		15	
b). 71-80 days from the start of joining		23	13		22	
c). 81-90 days from the start of joining		39	40		39	
d). 91-100 days from the start of joining		9	20		10	
e). Unsure		16	14		14	

Q17. Out of 10, rate how confident you are in undertaking accurate condition scoring of ewes	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 1/10 – Low confidence		34	14		6	
b). 2/10		14	14		9	
c). 3/10		13	7		10	
d). 4/10		6	7		9	
e). 5/10		7	0		15	
f). 6/10		6	7		13	
g). 7/10		8	21		17	
h). 8/10		8	30		13	
i). 9/10		4	0		6	
j). 10/10 – High confidence		0	0		2	

Q18. To wean 10% more lambs on your farm, what will you do?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Keep my adults ewes for one year longer		2	0		3	
b). Lamb at 1yr old instead of 2 yrs		3	0		2	
c). Lamb more than once a year		1	0		1	
d). Select/buy more fertile sheep		7	7		3	
e). Improve breeding ewe nutrition		87	93		91	

Q19. Do you routinely body condition score/fat score you ewes?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		28	21		23	
b). No		72	79		77	

Q20. To increase lamb production on your farm, what will you improve?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Conceiving more lambs		16	7		15	
b). More lambs surviving birth		70	93		73	
c). High lamb growth rates		14	0		12	

Q21. Do you routinely pregnancy scan your ewes for the following?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). wet/dry		17	20		21	
b). Dry/single/twin		62	67		54	
c). Don't pregnancy scan regularly		21	13		25	
d). Unsure						

Q22. What are your normal lamb survival rates?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). >90		14	0		15	
b). 80-89		22	29		34	
c). 70-79		27	36		24	
d). 60-69		7	6		1	
e). 50-59		0	0		1	
f). Unsure		30	29		25	

Q23. What are your average mob sizes for lambing?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). <100		16	31		9	
b). 200		50	69		28	
c). 300		24	0		29	
d). 400		6	0		18	
e). >500		3	0		14	
f). Unsure		1	0		2	

Q24. Overall how satisfied are you with this workshop	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 1/10		0	0		0	
b). 2/10		0	0		0	
c). 3/10		0	0		0	
d). 4/10		0	0		0	
e). 5/10		1	0		1	
f). 6/10		1	0		3	
g). 7/10		8	14		7	
h). 8/10		34	36		24	
i). 9/10		31	14		40	
j). 10/10		25	36		25	

Q25. Out of 10, how valuable was BWFW in assisting you to better manage your enterprise?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). 1/10 – low value		0	0		0	
b). 2/10		0	0		0	
c). 3/10		0	0		0	
d). 4/10		0	0		0	
e). 5/10		2	0		0	
f). 6/10		4	0		2	
g). 7/10		10	27		10	
h). 8/10		32	33		31	
i). 9/10		31	27		38	
j). 10/10 – high value		21	13		19	

Q26. Has your understanding of how to use ASBVs for ram selection improved?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		96	93		98	
b). No		4	7		2	

Q27. For those not using breeding values prior to today, will you start using ASBVs to assist with ram selection?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		98	100		93	
b). No		2	0		7	

Q28. Has your understanding of the importance of managing ewe nutrition improved?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		97	93		98	
b). No		3	7		2	

Q29. Would you further like to develop your skills to body condition score your ewes and develop feed budgets for your ewe flock?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		98	79		97	
b). No		2	21		3	

Q30. Would you further like to develop your skills in the area of genetics	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		85	73		76	
b). No		15	27		24	

Q31. Would you recommend this workshop to other producers?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		100	100		100	
b). No		0	0		0	
c). unsure						

Q32. Did you learn something new at the workshop?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Yes		94	69		96	
b). No		0	0		0	
c). No because it just reinforced things I am already doing		6	31		4	
d). Unsure		0	0		0	

Q33. Are you likely to make any changes in your business as a result of attending BWFW?	WA (%)	VIC (%)	SA (%)	QLD (%)	NSW (%)	TAS (%)
a). Start using ASBVs		18	22		11	
b). Write down my breeding objective		21	14		12	
c). Calculate wool:meat ratio		7	0		6	
d). Condition score my ewes		7	14		11	
e). Improved breeding ewe nutrition		17	29		29	
f). Start pregnancy scanning ewes		7	0		8	
g). Separate ewes to singles and twins and feed accordingly		10	14		10	
h). Assess and monitor feed availability (quality and quantity)		5	0		8	
i). Smaller mob sizes for twins at lambing		7	7		5	
j). Not likely to make any changes		1	0		0	

Appendix 9: Workshop Evaluation questions

Listed in the table below are the evaluation questions totals across the nation from the workshops held in each of the three phases of funding

Q1. What type of ewe do you predominantly run?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a).fine and super fine merino	16	20	24
b).medium merino	41	46	38
c).meat merino (including Dohnes and SAMM)	8	9	7
d). first cross	14	12	16
e).maternal composite	12	6	9
f).shedders	3	3	2
g). stud terminal	2	2	2
h). Stud maternal	4	2	2

Q2. Currently how of you sustain your ewe base?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). completely self replacing	64	69	67
b). combination of breeding own and buying in	26	21	20
c). buying in only	10	10	13

Q3. What do you most want to improve in your sheep?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). growth rate	16	18	19
b). weaning %	43	41	51
c). wool cut	14	18	14
d). micron	1	1	0
e). carcase-lean meat yield	5	5	4
f).Resistance to flystrike	3	2	0
g). resistance to worms	3	2	2
h). doing ability	15	13	9

Q4. What is your average lamb marking % for the last 3 years?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Less than 60%	0	0	0
b).61-70%	3	3	3
c).71-80%	5	10	11
d). 81-90%	9	19	20
e).91-100%	17	24	20
f).101-110%	18	19	17
g). 111-120%	14	12	13
h). 121-130%	18	8	7
i). 131-140%	11	3	3
j). Greater than 140%	4	2	2

Q5. what proportion of sheep income do you generate from wool?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 0	5	4	3
b). 10%	16	11	12
c).30%	33	32	37
d). 50%	24	30	26
e). 70%	17	19	18
f). 90%	3	1	1
g). Unsure	2	3	2

Q6. Do you use breeding values when selecting rams?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	64	65	68
b). No	36	35	32

Q7. When selecting rams from your chosen stud you select them based on	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). How the ram looks	6	7	8
b). How the ram looks and its raw measurements	22	26	21
c). How the ram looks and its breeding values	57	56	58
d). Breeding values only	3	2	1
e). Stud master or agent selects my rams	9	8	8
f). Unsure	3	1	2

Q8. Breeding values give a better estimate of an animal's merit for a trait than raw measurements because they account for variation caused by;	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Management/feeding	6	8	7
b). Age	2	0	0
c). Whether an animal was born single or twin	2	2	2
d). Performance of relatives	15	17	17
e). All of the above	59	57	51
f). unsure	16	15	22

Q9. When selecting a ram what is the majority of your selection based on?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Wool style – quality/colour	9	10	9
b). Wool measurement – micron, CV wool cut	30	34	26
c). Size	7	6	4
d). Visual carcase attributes	10	10	12
e). Growth and carcase measurements	25	24	30
f). Reproduction potential	17	14	17
g). Labour saving/health traits (worms, flies etc)	2	2	1

Q10. In the future, when selecting rams from your chosen stud you select them based on	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). How the ram looks	6	1	0
b). How the ram looks and its raw measurements	22	6	3
c). How the ram looks and its breeding values	57	89	92
d). Breeding values only	3	1	1
e). Stud master or agent selects my rams	9	3	4
f). Unsure	3	0	0

Q11. Breeding values give a better estimate of an animal's merit for a trait than raw measurements because they account for variation caused by;	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Management/feeding	3	1	0
b). Age	2	0	0
c). Whether an animal was born single or twin	1	3	2
d). Performance of relatives	5	7	12
e). All of the above	89	88	86
f). unsure	0	1	0

Q12. Out of 10, rate how confident you are that the traits you are selecting are meeting you production goals	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 1/10 – Low confidence	1	2	2
b). 2/10	1	1	1
c). 3/10	3	2	3
d). 4/10	7	4	4
e). 5/10	17	13	12
f). 6/10	14	15	17
g). 7/10	25	27	31
h). 8/10	20	25	21
i). 9/10	7	7	5
j). 10/10 – High confidence	5	4	3

Q13. Do you have a goal or 'ideal sheep' written down for your ewe flock (often called a breeding objective)?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	33	30	27
b). No	63	66	67
c). unsure	4	4	6

Q14. Do you have a goal or 'ideal sheep' written down for your ewe flock (often called a breeding objective)?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	93	92	94
b). No	3	5	4
c). unsure	4	3	2

Q15. Out of 10, rate how confident you are that the traits you are selecting are meeting you production goals	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 1/10 – Low confidence	0	0	0
b). 2/10	0	0	0
c). 3/10	1	1	1
d). 4/10	0	2	2
e). 5/10	3	4	3
f). 6/10	5	7	7
g). 7/10	18	18	20
h). 8/10	32	34	32
i). 9/10	29	22	23
j). 10/10 – High confidence	14	11	11

Q16. The optimum timing for pregnant ewes to detect twins is?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 61-70 days from the start of joining	12	13	14
b). 71-80 days from the start of joining	19	23	22
c). 81-90 days from the start of joining	27	36	39
d). 91-100 days from the start of joining	7	9	9
e). Unsure	35	19	15

Q17. Out of 10, rate how confident you are in undertaking accurate condition scoring of ewes	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 1/10 – Low confidence	8	12	20
b). 2/10	5	8	11
c). 3/10	9	10	11
d). 4/10	6	9	7
e). 5/10	13	15	11
f). 6/10	12	11	9
g). 7/10	17	16	13
h). 8/10	15	13	11
i). 9/10	9	5	4
j). 10/10 – High confidence	6	2	1

Q18. To wean 10% more lambs on your farm, what will you do?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Keep my adults ewes for one year longer	5	3	3
b). Lamb at 1yr old instead of 2 yrs	10	3	2
c). Lamb more than once a year	2	1	1
d). Select/buy more fertile sheep	8	5	5
e). Improve breeding ewe nutrition	75	88	89

Q19. Do you routinely body condition score/fat score you ewes?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	26	26	26
b). No	74	74	74

Q20. To increase lamb production on your farm, what will you improve?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Conceiving more lambs	16	15	15
b). More lambs surviving birth	73	72	72
c). High lamb growth rates	11	13	13

Q21. Do you routinely pregnancy scan your ewes for the following?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). wet/dry	21	20	19
b). Dry/single/twin	35	41	59
c). Don't pregnancy scan regularly	43	39	22
d). Unsure	1	0	0

Q22. What are your normal lamb survival rates?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). >90	17	15	14
b). 80-89	30	31	28
c). 70-79	25	23	26
d). 60-69	8	4	4
e). 50-59	0	1	1
f). Unsure	20	26	27

Q23. What are your average mob sizes for lambing?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). <100	16	14	13
b). 200	33	36	40
c). 300	20	24	26
d). 400	14	13	11
e). >500	16	12	9
f). Unsure	1	1	2

Q24. Overall how satisfied are you with this workshop	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 1/10	1	0	0
b). 2/10	0	0	0
c). 3/10	0	0	0
d). 4/10	0	0	0
e). 5/10	1	1	1
f). 6/10	2	2	1
g). 7/10	7	7	8
h). 8/10	27	28	29
i). 9/10	32	33	34
j). 10/10	30	27	25

Q25. Out of 10, how valuable was BWFW in assisting you to better manage your enterprise?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). 1/10 – low value		0	0
b). 2/10		0	0
c). 3/10		0	0
d). 4/10		0	0
e). 5/10		1	1
f). 6/10		2	2
g). 7/10		11	11
h). 8/10		31	32
i). 9/10		34	35
j). 10/10 – high value		20	19

Q26. Has your understanding of how to use ASBVs for ram selection improved?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	97	97	97
b). No	3	3	3

Q27. For those not using breeding values prior to today, will you start using ASBVs to assist with ram selection?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	95	95	96
b). No	5	5	4

Q28. Has your understanding of the importance of managing ewe nutrition improved?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	97	97	98
b). No	3	3	2

Q29. Would you further like to develop your skills to body condition score your ewes and develop feed budgets for your ewe flock?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	90	94	97
b). No	10	6	3

Q30. Would you further like to develop your skills in the area of genetics	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	70	75	80
b). No	10	25	20

Q31. Would you recommend this workshop to other producers?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	100	100	100
b). No	0	0	0
c). unsure			

Q32. Did you learn something new at the workshop?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Yes	94	95	94
b). No		0	0
c). No because it just reinforced things I am already doing	6	5	6
d). Unsure		0	0

Q33. Are you likely to make any changes in your business as a result of attending BWFW?	Phase 1 (%)	Phase 2 (%)	Phase 3 (%)
a). Start using ASBVs	9	13	14
b). Write down my breeding objective	6	12	17
c). Calculate wool:meat ratio	1	4	6
d). Condition score my ewes	12	11	9
e). Improved breeding ewe nutrition	30	26	23
f). Start pregnancy scanning ewes	15	9	7
g). Separate ewes to singles and twins and feed accordingly	14	11	10
h). Assess and monitor feed availability (quality and quantity)	3	6	6
i). Smaller mob sizes for twins at lambing	8	6	6
j). Not likely to make any changes	2	1	0

Appendix 10: Workshops held

Date	State	Venue	Location	Attendance	Deliverers
11/08/2014	VIC	RIST	Hamilton	19	JT & DG
13/08/2014	VIC	RIST	Hamilton	15	JT & DG
21/08/2014	NSW	Fairview	Holbrook	13	JT &RI
22/08/2014	SA	Woolumbool	Lucindale	15	TL & KS
25/08/2014	VIC	Mountain Dam	Telangatuk	40	JT & DG
28/08/2014	VIC	Toland	Violet Town	22	JT & DG
04/09/2014	VIC	Cobitty	Pigeon Ponds	40	JT & DG
10/09/2014	NSW	Waradgery	Hay	20	JT &RI
11/09/2014	VIC	Skipton football club rooms	Skipton	20	JT & DG
19/09/2014	NSW	Bonnayr	Curban	14	JT& GD
24/09/2014	VIC	Acona Hall	Ancona	12	JT
14/10/2014	VIC	Warrambeen	Shelford	22	JT
22/10/2014	VIC	Jallukar Park	Ararat	24	JT & DG
6/11/2014	NSW	Finley Showgrounds	Finley	19	JT& GD
25/11/2014	NSW	Coronga	Orange	20	JT& GD
10/02/2015	VIC	Tallangatta Valley Hall	Tallangatta Valley	20	JT
12/02/2015	NSW	Tarengo	Boorowa	16	JT &RI
12/03/2015	NSW	Jerilderie Showgrounds	Jerilderie	16	JT &RI
17/03/2015	NSW	Ravenswood	Yass	24	JT &RI
16/03/2015	NSW	Molong Showgrounds	Molong	19	JT& GD
19/03/2015	NSW	Pooginook Merino	Jerilderie	18	JT& GD
31/03/2015	NSW	Sunnyside	Forbes	15	JT & MR
01/04/2015	NSW	Plevna	Trundle	15	JT & MR
05/06/2015	NSW	Boorowa Flats	Galong	12	SM & DA

List of deliverers

Name	State	Bredwell/fedwell	Number of workshops delivered
Mark Ferguson	WA	BW and FW	24
Jason Trompf	VIC	BW and FW	106
Hamish Chandler	NSW	BW and FW	16
Tim Leeming	VIC	BW and FW	7
Lyndon Kubiel	VIC	FW	4
Colin Trengove	SA	BW and FW	6
Ken Solly	SA	FW	19
Penny Schulz	SA	BW	3
Tom Hooke	Sheep Genetics	BW	3
Luke Stephens	Sheep Genetics	BW	1
Sally Martin	NSW	BW and FW	8
Jim Meckiff	NSW	FW	3
Debbie Milne	VIC	BW	1
Steve Milne	VIC	BW	4
Andrew Thompson	WA	FW	3
Paul Omodei	WA	FW	0
Craig Wilson	NSW		0
Darren Gordon	VIC	BW	15
Megan Rogers	NSW	FW	11
Geoff Duddy	NSW	BW and FW	18
Brent McLeod	NSW	FW	0
Doug Alcock	NSW	FW	3
Stuart Warner	NSW	FW	3
Rob Inglis	NSW	FW	5
Chris Mirams	NSW	FW	0
Murray Long	NSW	BW	0
Garry Armstrong	NSW	BW	0