

Understanding the Usage & Perceptions of Genetics & Genomics in the Australian Beef & Sheep Sectors

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BACKGROUND

MLA is a key investor in a variety of services and tools designed to improve the genetic quality of Australia's red meat and wool industries. Three key investments are BREEDPLAN, MERINOSELECT and LAMBPLAN; usage of which can be regarded as a bellwether of MLA's performance in extending skills throughout the industry.

However, there is a significant under-utilisation of these genetic technologies designed to assist livestock Producers in Australia to be more productive and profitable.

Therefore MLA has invested in this market research in order to inform and guide related initiatives planned to improve uptake. Overall, this research involves exploring, identifying and measuring barriers and drivers to the adoption of genetic tools and technologies to drive best-practice adoption in Australian beef and sheep meat industries.

Specific objectives are to:

- Explore and identify decision-making tools Producers use when making genetic selections in their herd and / or flock and how they are using them;
- Establish what motivates Producers to use genetic tools;
- Establish the barriers to using genetic tools;
- Explore what would encourage / make Non-Users adopt great usage of genetic technologies in their business;
- Measure the incidence of cited motivators and barriers.

Important note

For concise reporting we have generally referred to the collective of genetic evaluation activities (BREEDPLAN – ABRI; LAMBPLAN, MERINOSELECT – MLA; and researchers AGBU, Sheep CRC) as “MLA”.

In the qualitative interviews this was not highlighted to respondents from the start as it was important to learn who the farmers believed was behind these activities, but they were always told the ‘correct’ answer by the end of their interviews.

In the quantitative survey the same applied – while they were told the research was for MLA at the outset, their perceptions as to the organisations running the activities was a key question, and again they were told the ‘correct’ answer by the end of their interviews.

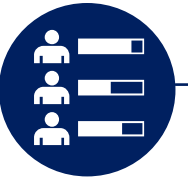


STAGE ONE: QUALITATIVE EXPLORATION



Methodology

n=25 interviews with farmers
Conducted via telephone and in-person; 90-20min durations



Sample Structure

NSW (6), VIC (4), QLD (5), SA (3), WA (4), NT (2), TAS (1)

A wide range of genetics knowledge and usage

Mixed sheep and cattle (6), sheep only (8), cattle only (11)

Use Genetics & Genomics tools **and use** BREEDPLAN / LAMBPLAN (8)

Use Genetics & Genomics tools **don't use** BREEDPLAN / LAMBPLAN (12)

Don't use Genetics & Genomics tools, **don't use** BREEDPLAN / LAMBPLAN (5)



Reporting

Full qualitative report delivered to MLA in September 2015



METHODOLOGY

STAGE TWO: QUANTITATIVE SURVEY



Fieldwork Dates & Method

09/11/2015 – 15/11/2015
Telephone interview



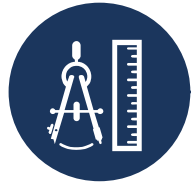
Respondent Profile

Cattle and sheep Producers responsible for making key breeding decisions across Australia. Quotas used to ensure breeds were covered in proportion of stock numbers (not farm numbers).



Sample Provider

Sample provided by MLA and Breed Societies



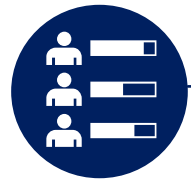
Measures

Interview duration: 21.6mins
Margin of error (total sample): 2.19%



Sample Size

Total number of Producers (n=2,001)



Sample (as categorized post-interviewing; see overleaf)

1,031 Cattle Producers (572 Studs; 459 Commercial; 759 BREEDPLAN Users and 272 Non-Users)
794 Sheep Producers (211 Studs; 364 Commercial; 169 LAMBPLAN Users, 119 MERINOSELECT Users)

Response rates by state (successful / ref+success)

- NSW 79%
- QLD 86%
- SA 67%
- TAS 67%
- VIC 82%
- WA 75%



STAGE TWO: NOTES ON THE QUANTITATIVE SURVEY SAMPLE (1)

Most of this report focuses on the differences between Users and Non-Users.

For the purposes of efficient interviewing, respondents self-identified:

- The main purpose of their operations (e.g. stud / seedstock or commercial; sheep or cattle);
- Whether they used BREEDPLAN (for cattle producers), LAMBPLAN or MERINOSELECT (for sheep).

Usage not restricted to formally-signed-up PLAN members but also Commercial producers who informally used PLAN measures when making breeding or purchasing decisions.

However, in 'real life', Producers often have multiple farming interests, can use multiple PLANs, or have used PLANs in the past.

This means that 'non-users' can sometimes say they have used user-only tools, or use tools that would be expected of different Producer types.

This simply reflects the widely varied nature of farming in the 'real world' and does not indicate inaccuracies in the research results.



STAGE TWO: NOTES ON THE QUANTITATIVE SURVEY SAMPLE (2)

The variables discussed on the previous page also meant that the databases used for sampling were not always good indicators of respondents' 'main operations', as indicated by the red numbers in the table below.

Therefore Ipsos and MLA collaborated to re-allocate respondents to their correct categories, with a particular focus on correctly categorizing sheep producers using neither LAMBPLAN nor MERINOSELECT into their correct status as non-users of either LAMBPLAN or MERINOSELECT (but not both). This was done by examining their main breed and their ratio of income from meat vs wool.

This means that there were some respondents whose responses were removed for some questions (because said questions were not suited to their re-allocated category) and/or not represented within the sub-sample for a given question as they may not have been asked it in the original interview due to their original category.

RE-ALLOCATED USER SEGMENTS ↓	DATABASE CATEGORIES				
	Total	Sheep Database MS user	Sheep Database LP user	BREEDPLAN Member Listing	MLA Members
MS-Seedstock User	81	81	0	2	21
MS-Seedstock Non-User	13	0	0	0	13
MS-Commercial User	38	0	0	0	38
MS-Commercial Non-User	230	0	0	1	230
LP-Seedstock User	95	0	95	3	18
LP-Seedstock Non-User	22	4	0	2	17
LP-Commercial User	74	1	0	1	74
LP-Commercial Non-User	241	0	0	1	241
BP-Seedstock User	544	1	4	544	80
BP-Seedstock Non-User	28	0	0	15	15
BP-Commercial User	215	0	1	23	215
BP-Commercial Non-User	244	0	0	2	244





RECAP:

QUALITATIVE SUMMARY & CONCLUSIONS

GAME CHANGERS



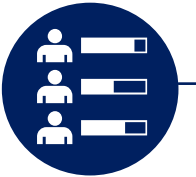
METHODOLOGY

STAGE ONE: QUALITATIVE EXPLORATION



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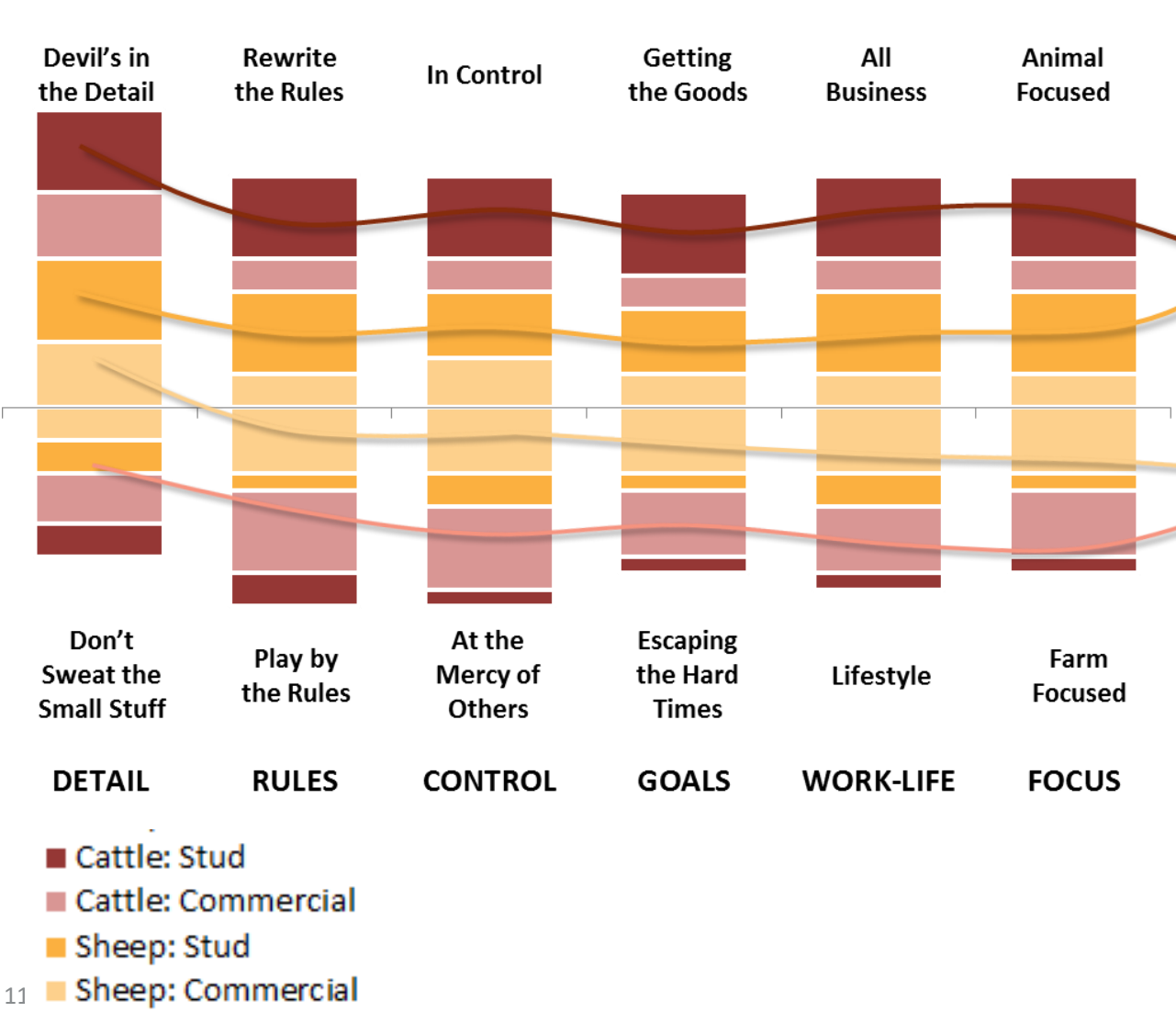
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PSYCHOGRAPHICS

Stud & Commercial farmers have different mindsets

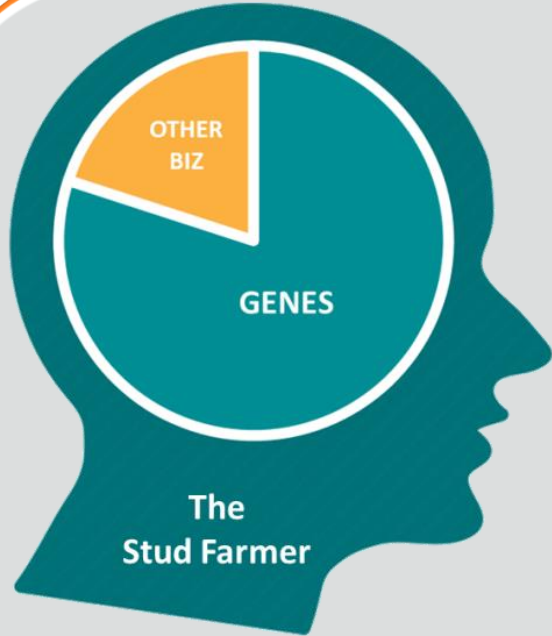


Stud / Seedstock farmers are detail-focused, control-oriented & businesslike & will rewrite the rules to suit their entrepreneurial business growth targets. Therefore, ceding control, knowledge or decision-making to another party (e.g. MLA) is resisted. Resistance increases if that other party is not seen as credible & is difficult to engage with (as MLA is seen). The result is that relationships with MLA can be tense & MLA communications rejected.

Commercial farmers are big-picture, farm-focused & conservative, trying to enjoy the lifestyle despite having profits squeezed & being at the mercy of the market & the climate. Therefore, factors that can be seen & controlled dominate their attention & the perceived value of small incremental changes such as genetic gains is reduced. In contrast, visually obvious traits such as *foot quality, polling, colour & structure* are valued & breeders' guidance in such issues is the most trusted source.

BREEDING PRACTICES & GENETICS

Commercial & Stud farmers have different priorities



Breeders' success is strongly financially-dictated, and so they are very focused on doing what is required to achieve their aims.

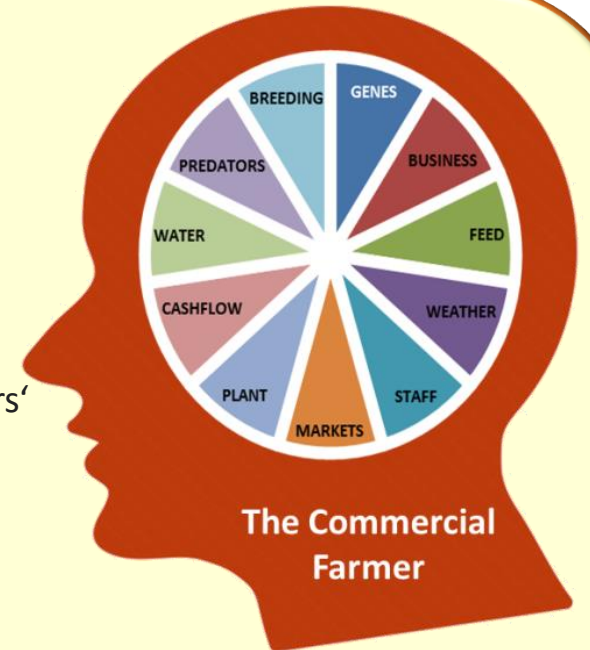
They set their own breeding goals (which often reflect personal preferences rather than explicit market demands), and as a result will often reject the attempts of others (i.e. MLA) to direct their breeding decisions too much, especially directions that conflict with their own goals.

Anything that MLA promotes will have to fit in with farmers' objectives and plans. They will not change to suit MLA; MLA has to change to suit them.

Commercial farmers have many more things than Breeders to consider when evaluating farm performance and profitability.

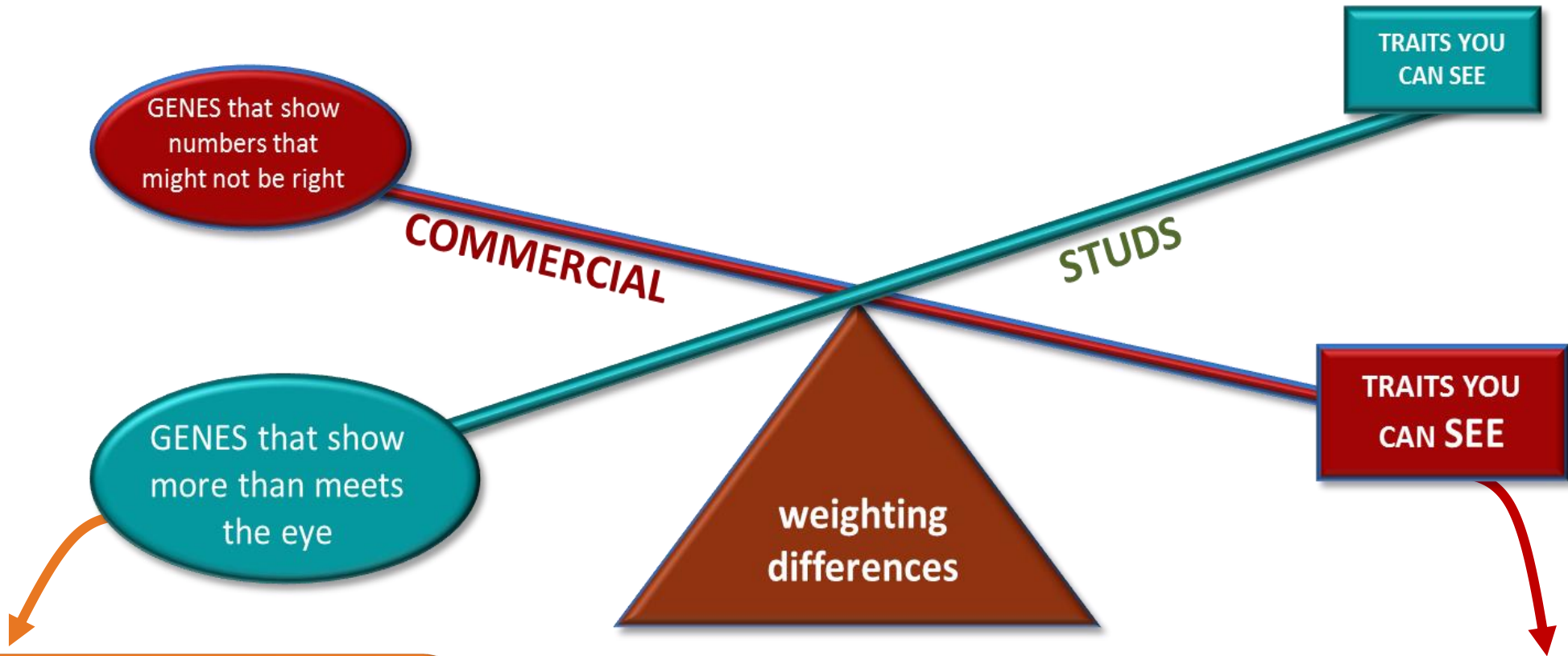
The issue of genetics has a lot of competition for Commercial farmers' attention, and so MLA has to increase message cut-through in terms of both execution and compelling content.

With a lot of 'noise' competing for farmers' attention, and their analytical, details-focused nature, getting enough mindshare for breeding and genetics decisions will be challenging.



Commercial farmers are more cautious and have many more factors to consider – therefore they will 'take more convincing' that any change is worth the time, effort and cost.

Stud & Commercial farmers approach genes differently

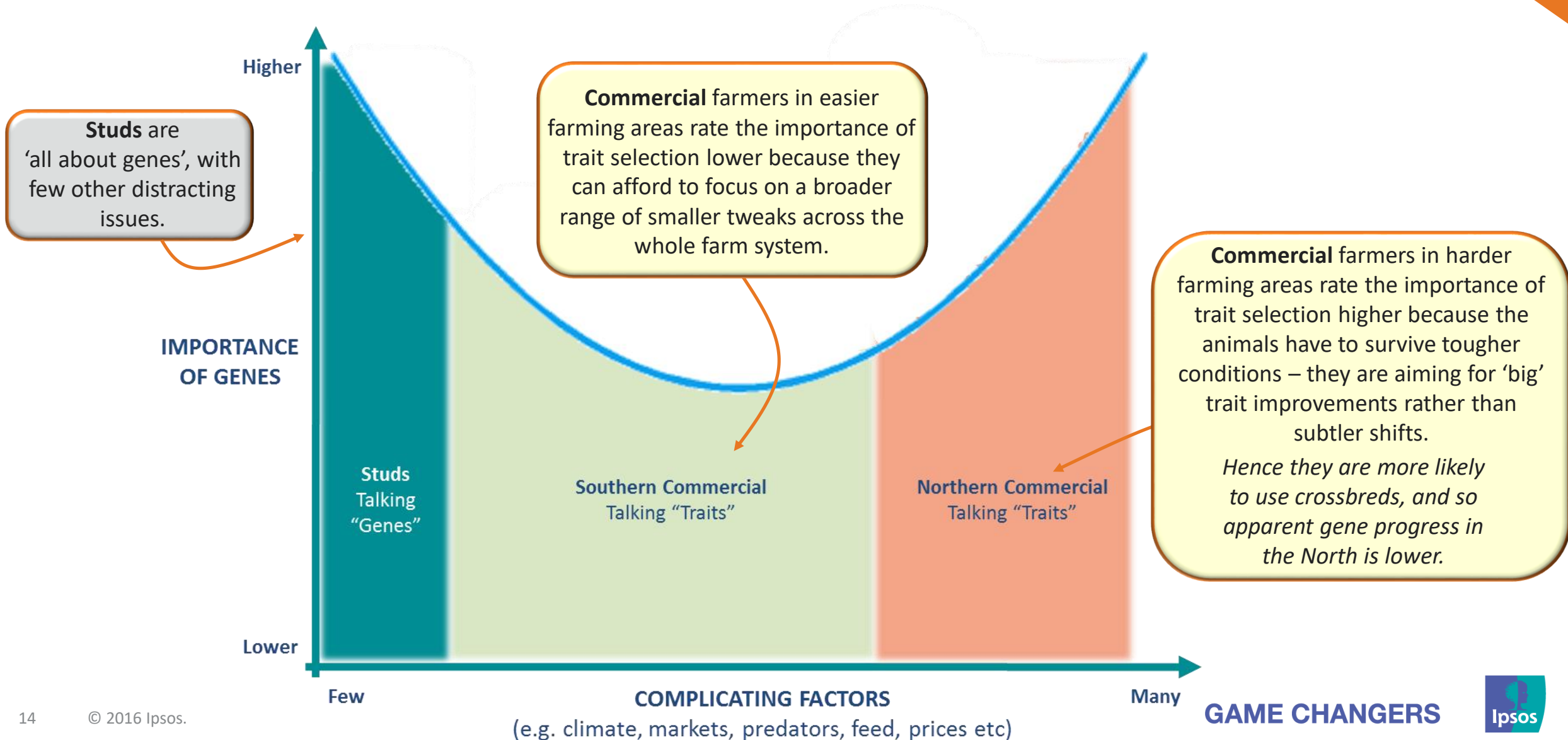


Stud / Seedstock farmers are 'into the **science**' and they talk genes and genomics comfortably. They base most decisions on genetic factors, but ultimately know that the 'proof is in the pudding' – i.e. it's the final physical specimen that is the key deliverable.

For **Commercial** farmers, **visual traits** are of most importance – they talk 'traits' not 'genes'. If used, EBVs / ASBVs are employed either to shortlist possible purchases or as a final check that a preferred animal has nothing 'hidden' of concern. Educating Commercials about 'what the numbers mean and how they can help farming be more profitable' is recommended (DPI has succeeded with this). Note that the promotion of genetics has to be carefully managed so that it is seen just for assessing the 'hidden' factors – and not as a replacement for visual checks or breeders' information.

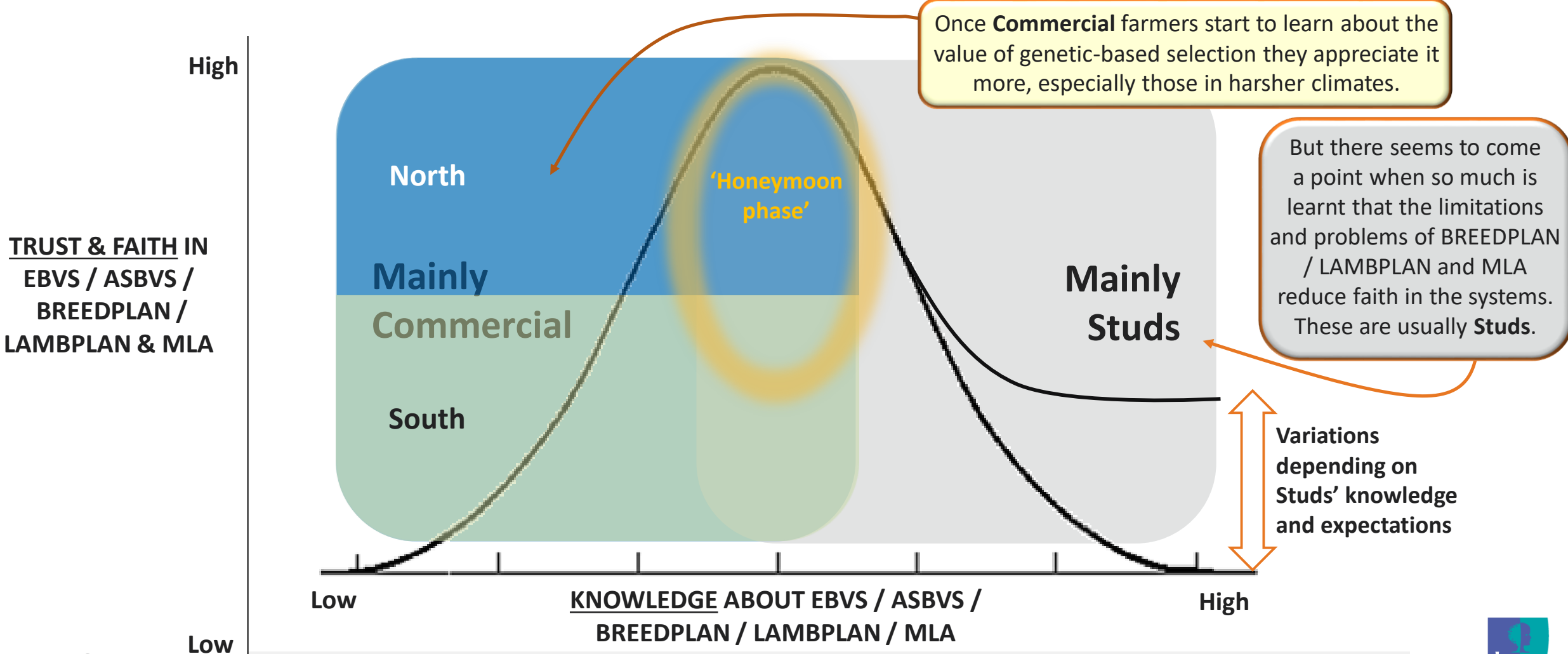
BREEDING PRACTICES & GENETICS

The importance of genes varies by complicating factors



BREEDPLAN & LAMBPLAN

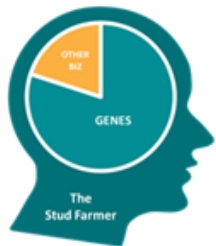
As farmers learn about genetic management, they go through a honeymoon phase & appear to become less favourable towards BREEDPLAN / LAMBPLAN & MLA



BREEDPLAN & LAMBPLAN

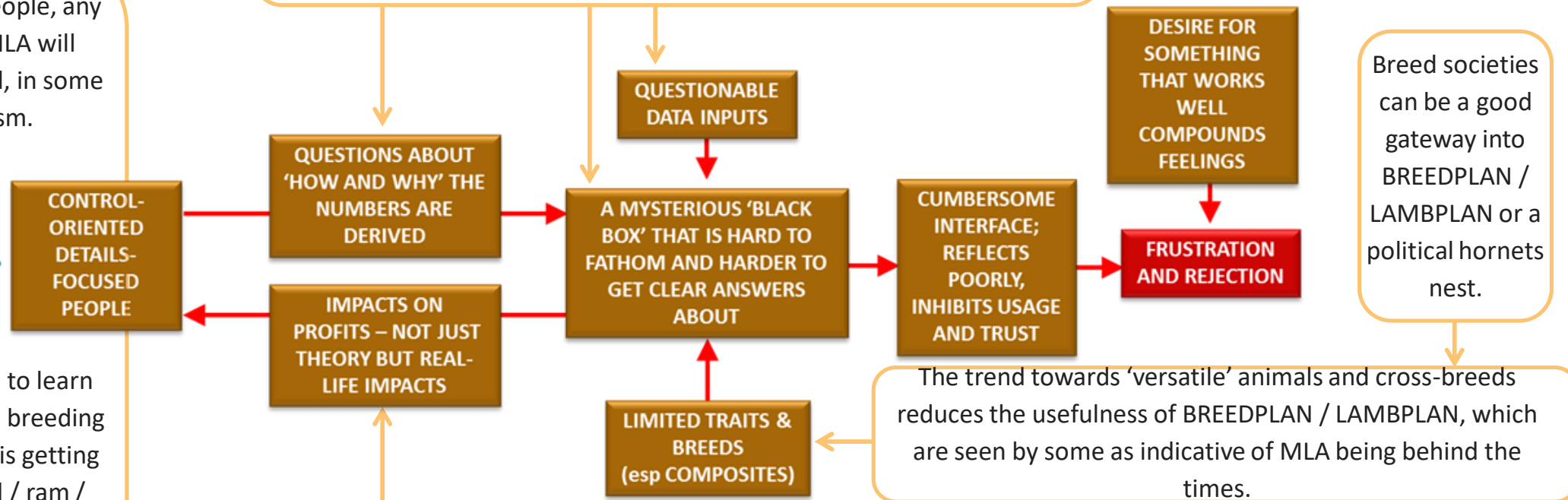
BREEDPLAN & LAMBPLAN – Big Picture (i)

Being challenging, critical people, any messages to them from MLA will undergo a lot of scrutiny and, in some cases, cynical scepticism.



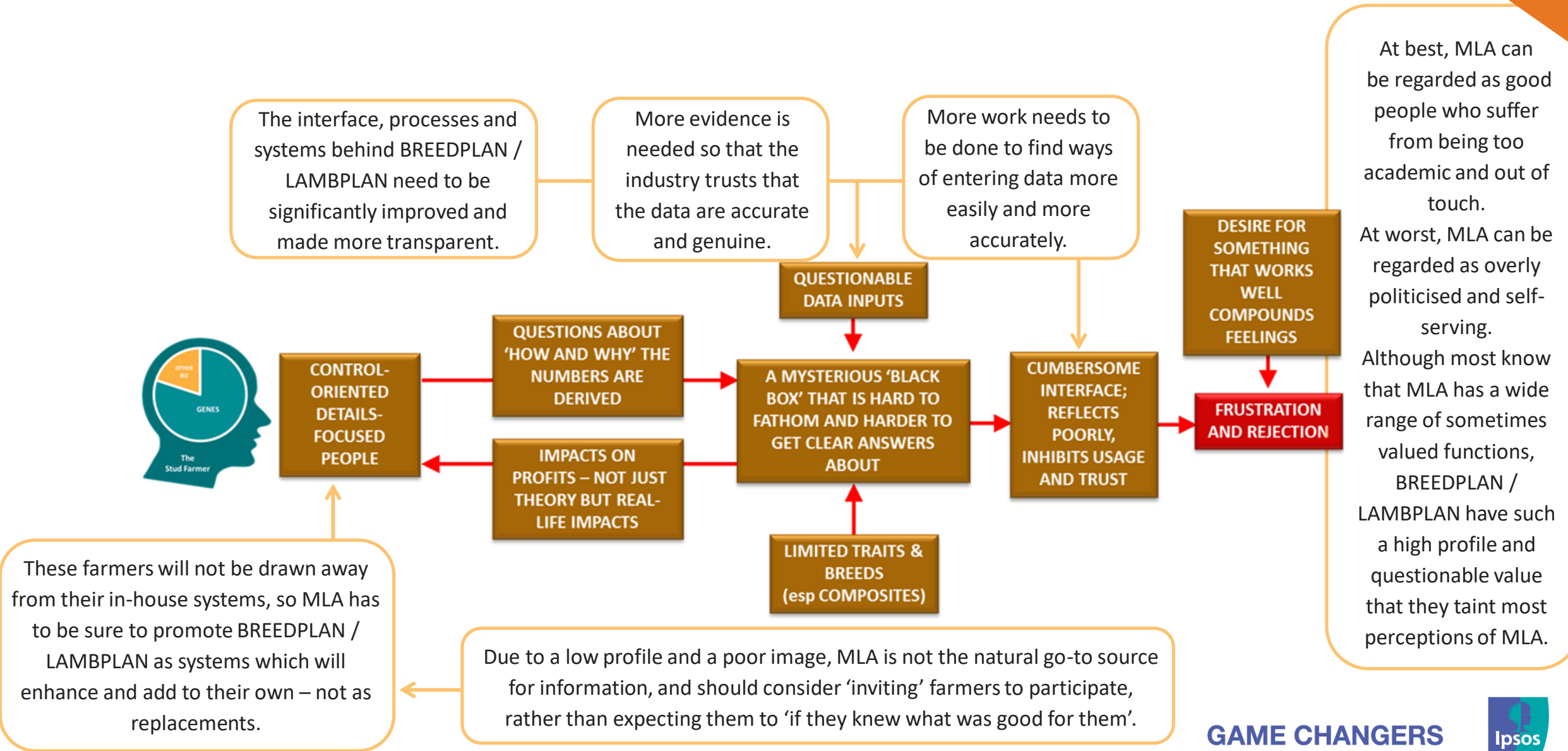
There is little perceived need to learn more about how genes-based breeding 'works' – what they focus on is getting new bloodlines and the stud / ram / dam / ewe combinations.

These farmers have their own genetic-tracking and trait-management systems and those of MLA are seen as less applicable, too blunt and suffering from a questionable quality of inputted data. The opaque 'black-box' nature of the back-end exacerbates distrust.



When EBV / ASBV changes are made to fine-tune the system, the result is distrust. Therefore, such changes need considerable amounts of communication / consultation, focusing on how such changes are part of ongoing incremental improvements and fine-tuning – 'making something good even better', rather than 'fixing something that's broken'.

BREEDPLAN & LAMBPLAN – Big Picture (ii)



BREEDPLAN & LAMBPLAN

BREEDPLAN & LAMBPLAN – Big Picture (i)

Any new farming practice that is presented to them will be heavily scrutinised, and alternative viewpoints checked, before any action occurs. Any possible change has to clearly be able to work within a wide range of possible situations.

Commercial farmers are always looking for ways to squeeze out extra margin, yet do not usually consider MLA as an information source. More extension work needs to be done.

MLA should explore partnering with more rural networking / training organisations in order to expand the reach and frequency of its extension programmes.

BREEDPLAN / LAMBPLAN may be seen as focusing on overly-narrowly-focused animals (exemplified through prize-winning animals), so guidance needs to be provided on how the systems can work to promote versatility.



OPEN-MINDED, PRAGMATIC TINKERERS

EDUCATE THRU SELF, BREEDERS & EVENTS; ALWAYS LOOKING FOR OPPORTUNITIES TO IMPROVE THE ODDS

HIGHLY SUBJECT TO EXTERNAL FORCES

SOME USEFUL EXTENSION WORK, LESS SO FROM MLA

REDUCED USEFULNESS

THE NUMBERS SOME STUDS PROVIDE AT SALE – OPAQUE YET POSSIBLY USEFUL

A TREND TOWARDS COMPOSITES

LOW PROFILE 'INSURANCE CHECK'

MLA is mainly viewed positively, through its self-managed public face. However, some either do not consider MLA as an education source or think that MLA does not have the credibility or mandate to fulfil a farmer training role.

LOW MLA KNOWLEDGE

QUESTIONABLE REPUTATION AND RUMOURS

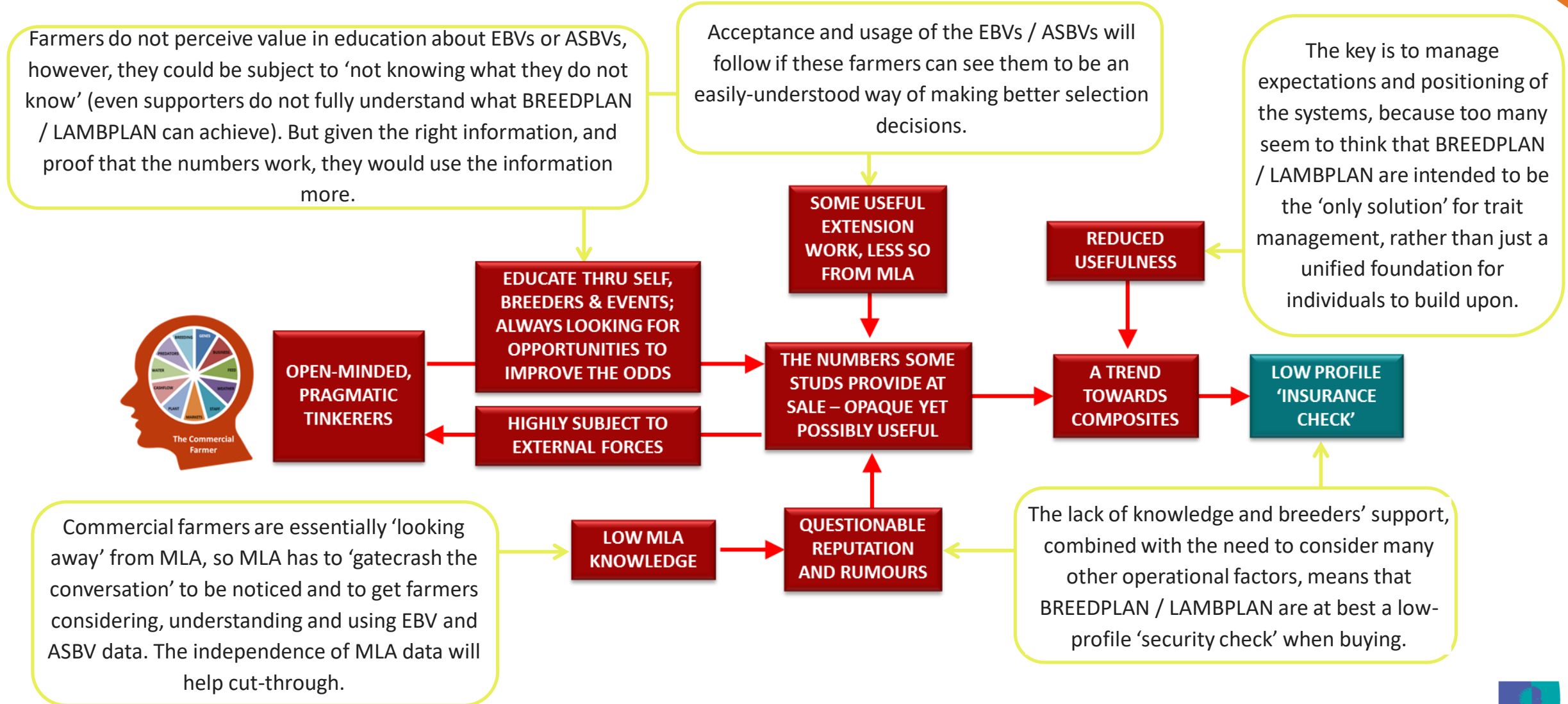
Many focus on crossbreds and / or 'versatile' animals, therefore promoting purebreds may run counter to their priorities.

Winning over the negative farmers will be very difficult as long as their stud / seedstock suppliers continue to undermine BREEDPLAN and LAMBPLAN.

Good long-term relationships with seedstock / stud suppliers obviate any recognised need for more involved genetic discussions with anyone else.

BREEDPLAN & LAMBPLAN

BREEDPLAN & LAMBPLAN – Big Picture (ii)



CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights

First, we will profile the Farmers, through understanding them and their context.

Farmers' Psychographics

- Personal & Business Objectives
- Motivations & Barriers
- Personal Farming Philosophies & Styles (segmentation psychographics)
- Practical Capabilities & Resources
- Mental Capabilities & Resources
- Wider Operating Context

Then we will discuss how Farmers relate to the Genetics & Genomics messenger (i.e. the MLA)

MLA's Relevance to Farming:

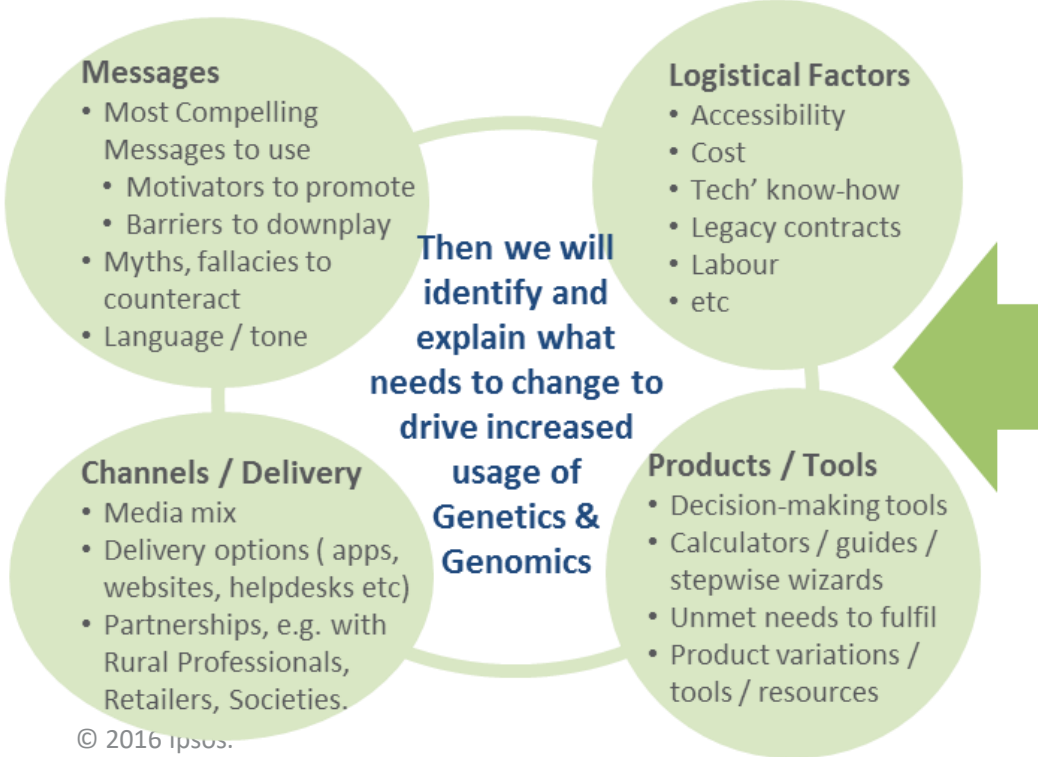
- Awareness & Familiarity
- Past Experiences / Word of Mouth
- Trust, Engagement & Respect
- Knowledge of Tools & Services
- Perceived Value / ROI of Offer
- Relevance to Farming today

Studs / Seedstock:

- Astute, financially-oriented self-managing confident entrepreneurs.
- Genes-savvy, detail-focused & questioning.
- Animal- & sales-focused.
- Capable, self-driven, challenging.

Commercial farmers:

- Pragmatic, reactive, big-picture oriented.
- Careful, conservative, thoughtful.
- Detail-focused, working on the whole farm system not just smaller elements.
- Capable when required.
- Hungry for knowledge that is locally & operationally relevant.



Then we will explain how Farmers relate to G&G at a Conceptual Level

Genetics & Genomics

- Awareness & Familiarity
- Past Experiences / Word of Mouth
- Knowledge of Tools & Services
- Trust & Respect
- Perceived Value of Offer
- Wider Operating Context
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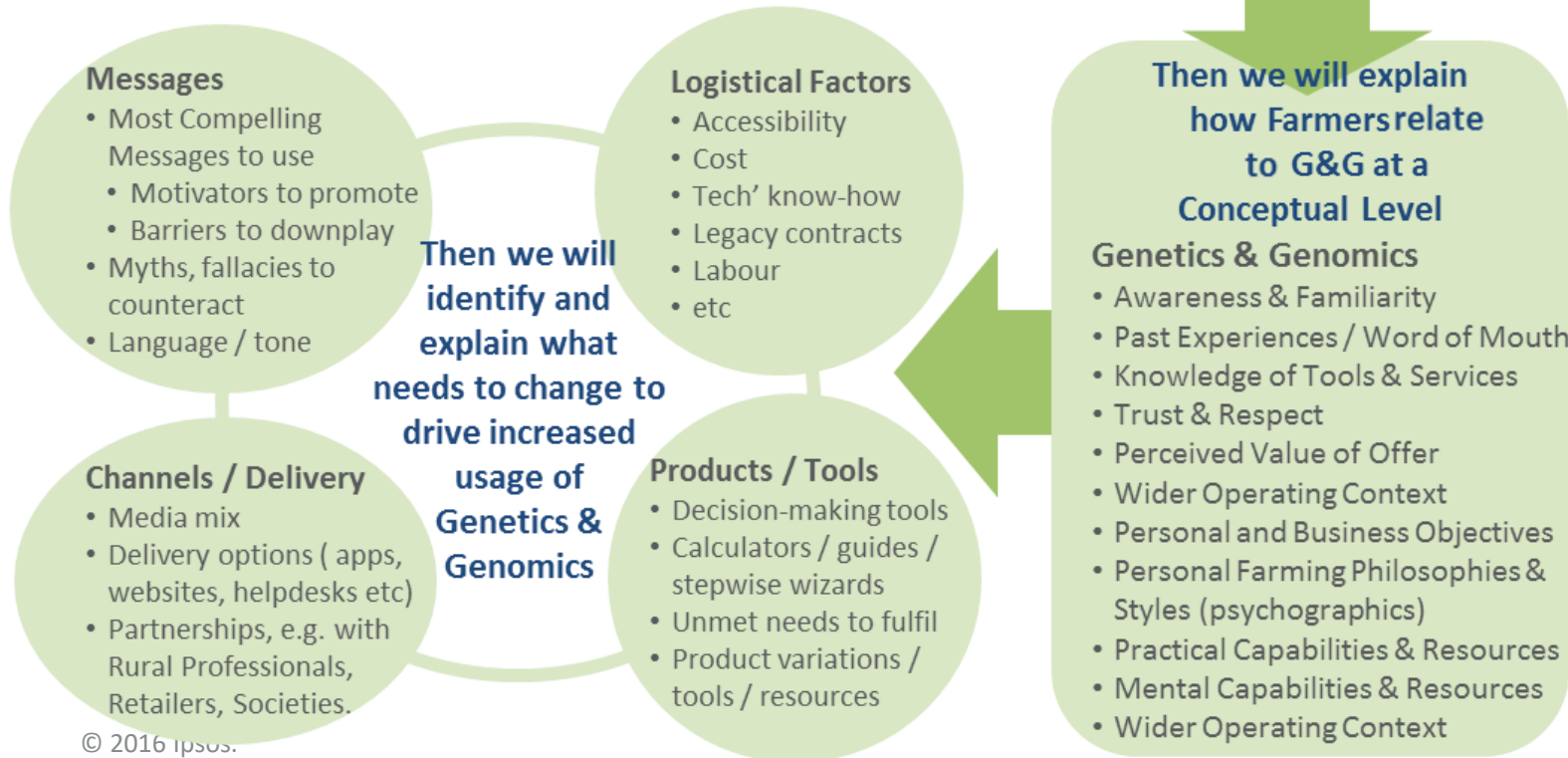
- Awareness & Familiarity
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- Trust, Engagement & Respect
- Knowledge of Tools & Services
- Perceived Value / ROI of Offer
- Relevance to Farming today

Studs / Seedstock:

- High awareness of MLA & usage of BREEDPLAN & LAMBPLAN.
- Very low trust due to questionable data inputs, calculations & black-box nature of the systems.
- Perceived value & relevance of BREEDPLAN, LAMBPLAN & MLA is low due to trust issues & limited usefulness due to focus on purebreds & limited trait coverage.
- Best work of MLA is seen as market development.

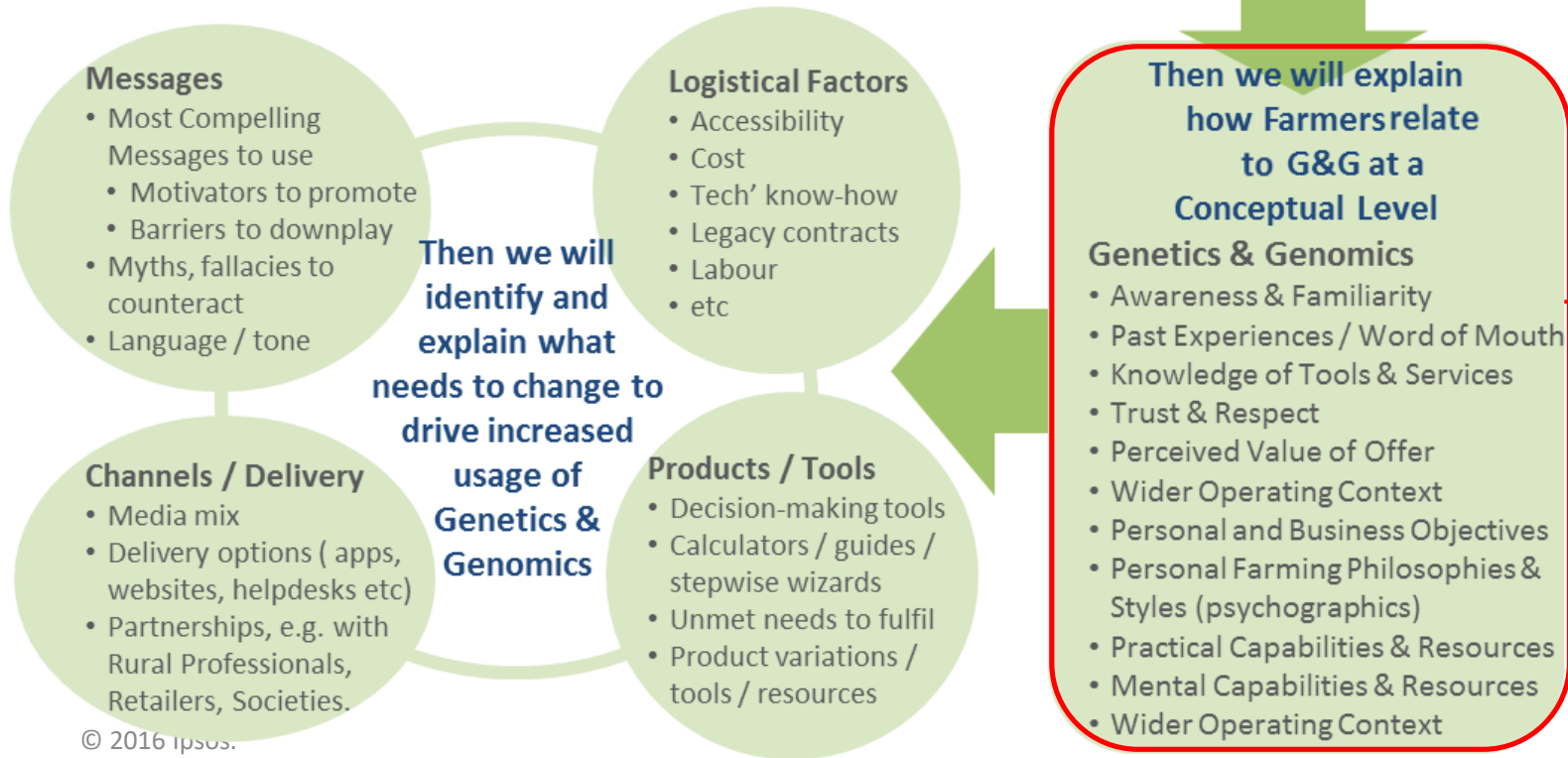
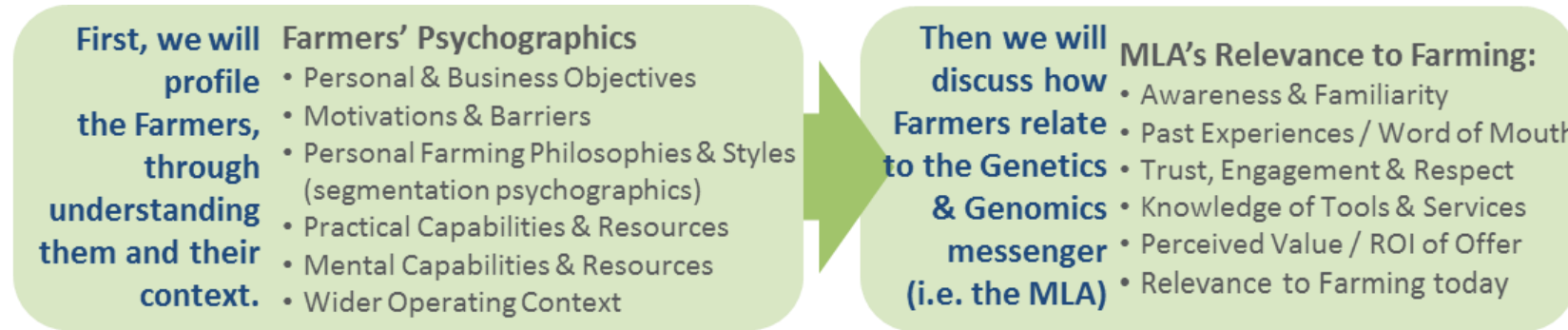
Commercial farmers:

- Low awareness & knowledge of MLA & its tools.
- Those with MLA experience are generally positive, but negativity expressed by Studs taints this.
- MLA not the obvious choice for training or information.
- Those knowledgeable of BREEDPLAN / LAMBPLAN are generally positive & use the information as a minor but respected additional information source when buying.



CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights



Studs / Seedstock:

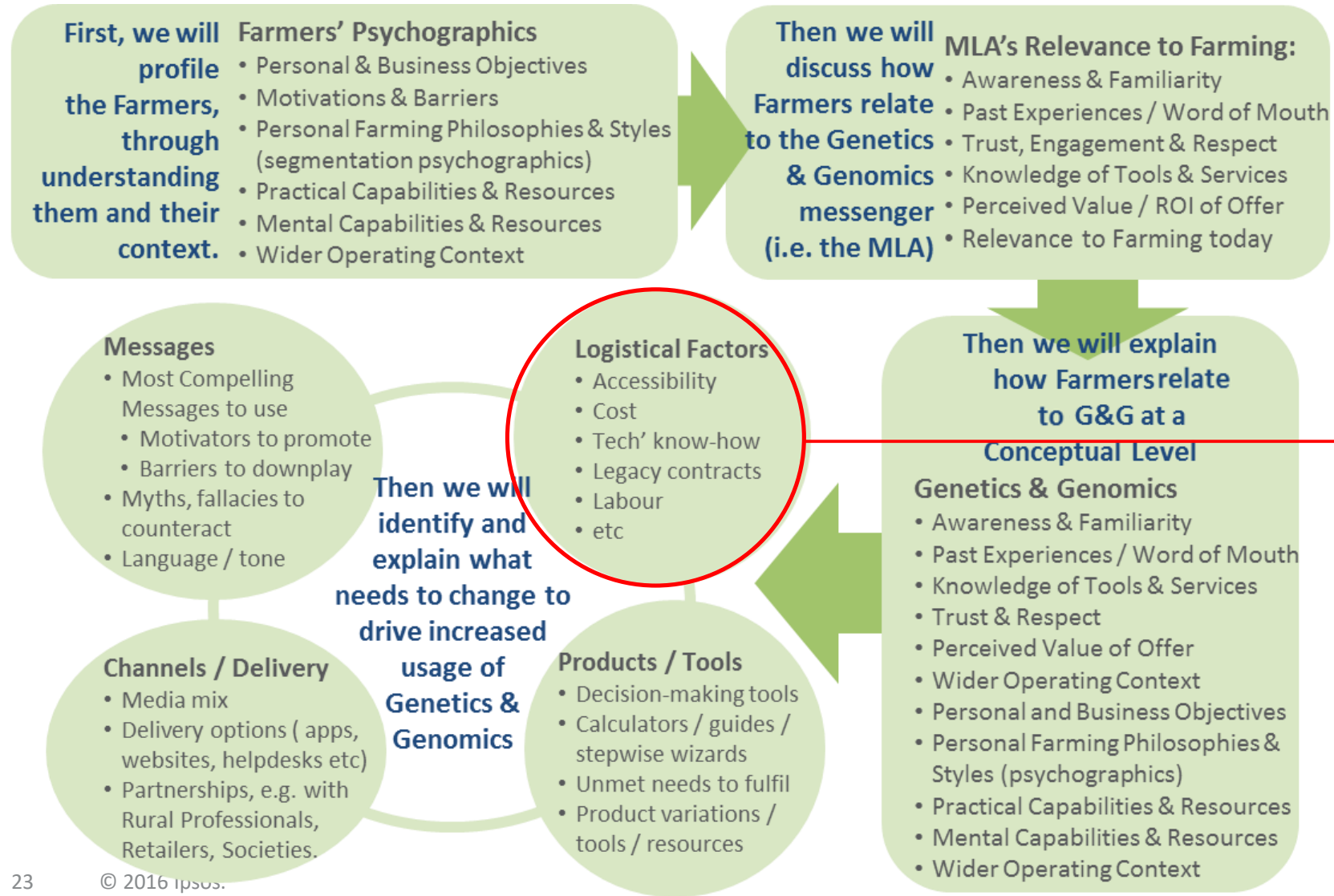
- Highly knowledgeable of genetic-based breeding, but this means that satisfaction, trust & perceived value of BREEDPLAN / LAMBPLAN are low / very low.
- Mistrust is exacerbated by these farmers' 'take-control' mentality & strong business focus.
- Hence while they are completely at ease with & value genetics-based breeding, this does not translate to automatic appreciation & usage of BREEDPLAN / LAMBPLAN; because of these systems' problems, they become *less* likely to endorse them.

Commercial farmers:

- Trait-based breeding decisions are very important but ultimately just one part of the bigger farming operation. Nutrition & climate are seen as equally or more influential on profits.
- Most have only basic awareness & knowledge of BREEDPLAN / LAMBPLAN, usage usually limited (at best) to being able to use EBV / ASBV numbers when buying breeding stock.
- Studs / seedstock suppliers are the main source of knowledge & so suppliers' denigration of BREEDPLAN / LAMBPLAN undermines the trust of

CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights



Studs / Seedstock:

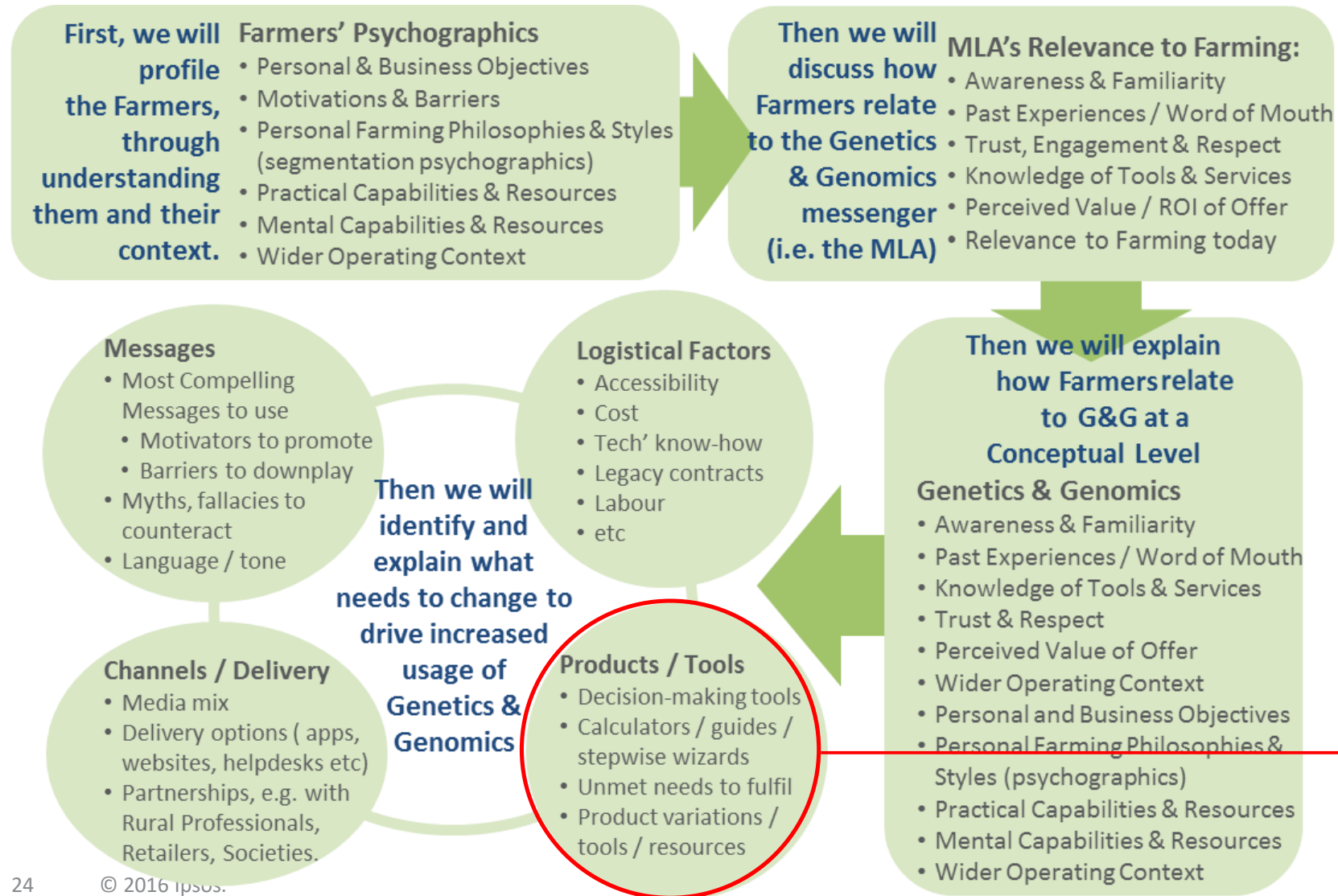
- BREEDPLAN / LAMBPLAN are felt to suffer from a cumbersome & dated interface & system, giving an impression of being outmoded & unprofessional.
- The complex procedural requirements are seen to potentially undermine data quality as well as hindering usage.
- The data input processes & data accuracy are also questioned, with much anecdotal evidence undermining the faith in inputted information.

Commercial farmers:

- Few need to use BREEDPLAN / LAMBPLAN, but do hear from their suppliers enough to question the systems.
- The provision of multiple trait-measure systems in sales catalogues, compounded by the caveats regarding accuracy, further undermines use & faith in EBV & ASBV numbers.
- Breeders' own trait-tracking systems have the greatest usage & trust.
- The increasing use of composite breeds undermines the value of BREEDPLAN / LAMBPLAN.

CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights



Studs / Seedstock:

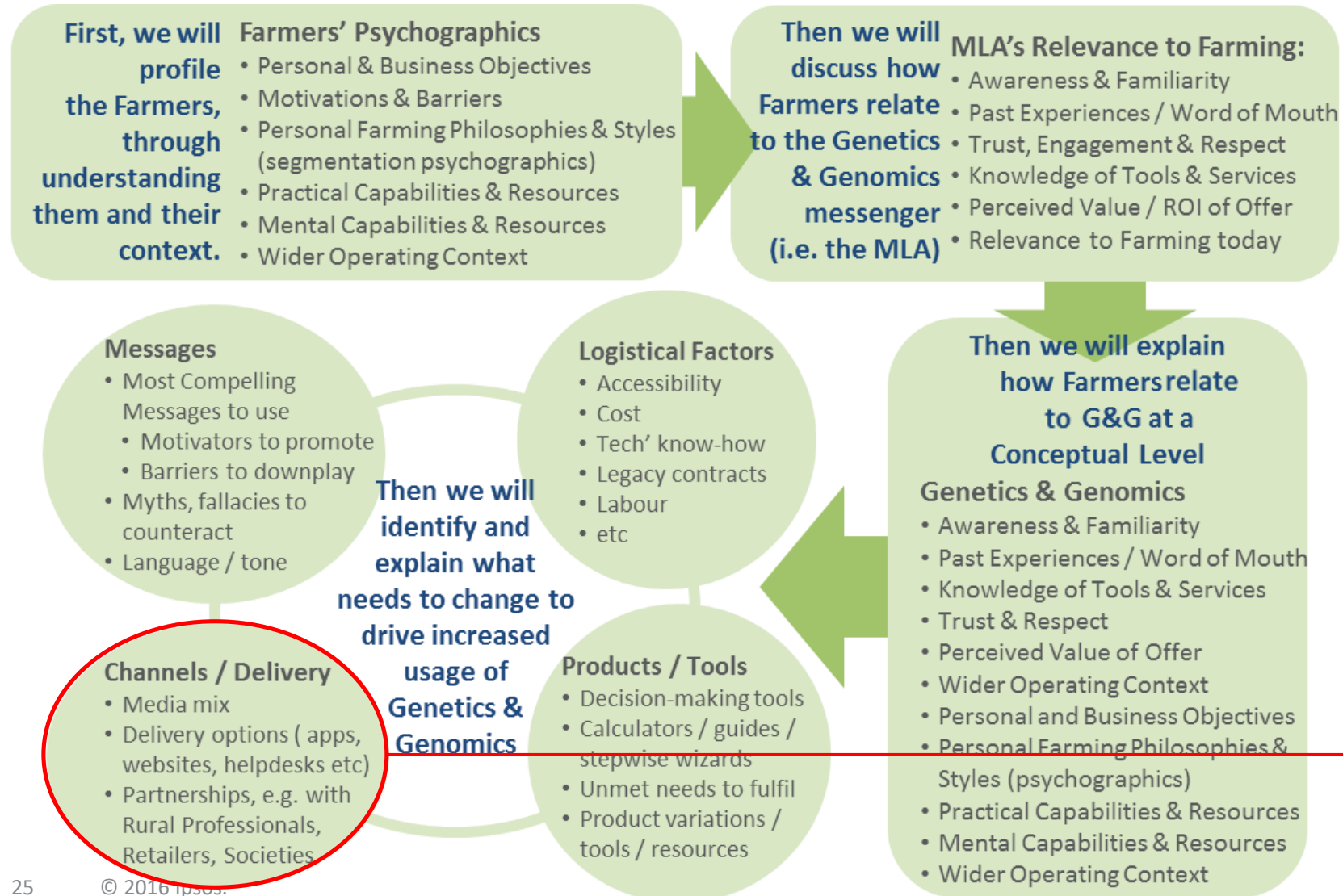
- These farmers usually develop their own trait-tracking systems, which cover more traits than BREEDPLAN / LAMBPLAN.
- Add-on systems like MateSel are sometimes used & the existence of these supplementary systems can be seen as proof of the limitations & inadequacy of the BREEDPLAN / LAMBPLAN interface.
- Use of specialist business software & apps is prevalent & the advances in these areas make BREEDPLAN / LAMBPLAN look increasingly outmoded.

Commercial farmers:

- With most relying on their core group of suppliers, there is little usage or perceived need for data-based modelling.
- Use of specialist business software & apps is prevalent & the advances in these areas make BREEDPLAN / LAMBPLAN look increasingly outmoded to those who have investigated the systems.

CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights



Studs / Seedstock:

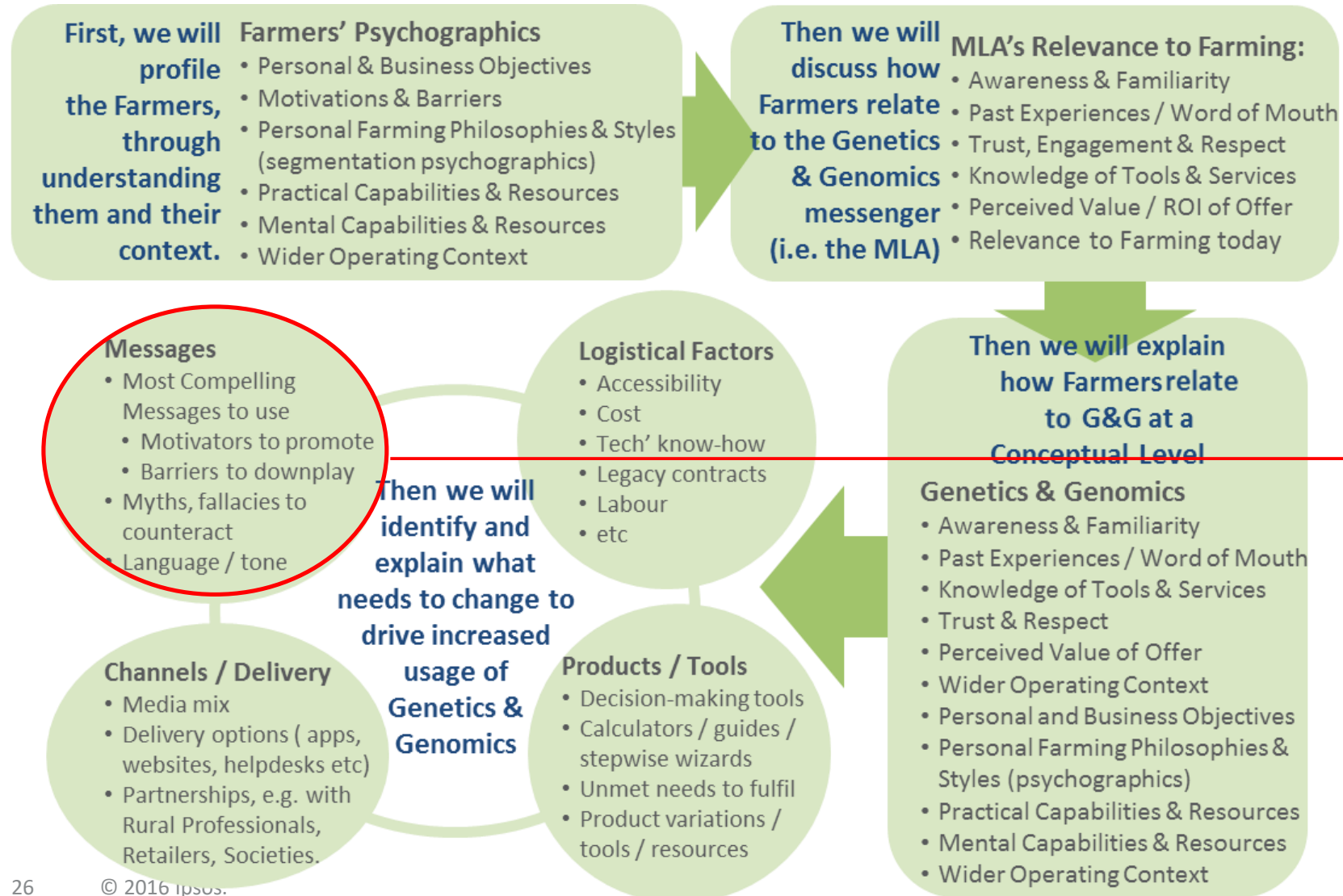
- These farmers have strong networks, often extending overseas.
- They do a lot online & will happily travel.
- Local informal breeders' groups are common.
- Breeding societies are a blessing & a curse – they can offer a lot but can be politically-driven.

Commercial farmers:

- As with most farmers, the emphasis is on information that is locally & operationally relevant, backed up with hard data as to profitability, etc. – they reject overly academic or theory-based information.
- Self-directed online research is common.
- MLA extension work is not well-known, with the best education coming from organisations such as RIST, DPI, local vets or stock agents, all via in-person sessions.

CONCLUSIONS & RECOMMENDATIONS

Reviewing the Promised Insights



Studs / Seedstock:

- These farmers will reject any over-statement of the value of BREEDPLAN / LAMBPLAN plus any indication that MLA 'knows what's best for them'.
- The best message is that BREEDPLAN / LAMBPLAN provide a proven measure of some key traits which breeders can use as a foundation on which to build their own systems – a complement to them, not a replacement.
- However, messaging will not be enough – work needs to be done to improve the product itself as well as transparency into its inner-working.
- Periodic EBV / ASBV adjustments need to be carefully presented as part of the ongoing refinement process rather than 'fixing problems', which is how they are being interpreted.

Commercial farmers:

- The best uptake of EBV- / ASBV-based decision-making comes from farmers who have had the numbers & how they are calculated explained to them in a simple way so that they feel empowered to make better purchase decisions.
- The numbers need to be presented as a simple way of reducing the chances of getting unwanted traits – 'improving the odds'.

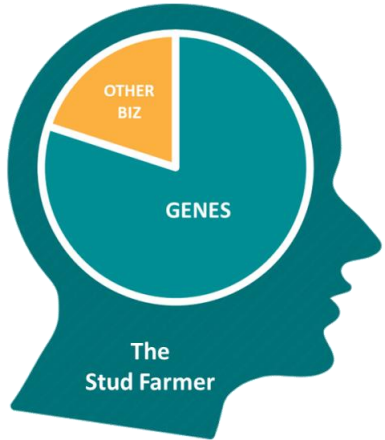


Summary of Key Points: QUALITATIVE INTERVIEWS

GAME CHANGERS



Stud & Commercial farmers have different mindsets & priorities; Studs value genes a lot; Commercial see genes as just one part of a complex mix



Studs / Seedstock:

- Astute, financially-oriented self-managing entrepreneurs.
- Genes-savvy, detail-focused and questioning.
- Animal- and sales-focused.
- Capable, self-driven, challenging.
- Appreciate genetic measures as a supplementary tool and insurance.

Anything that MLA promotes will have to fit in with farmers' objectives and plans. They will not change to suit MLA; MLA has to change to suit them.



Commercial farmers:

- Pragmatic, reactive, big-picture oriented.
- Careful, conservative, thoughtful.
- Detail-focused, working on the whole farm system not just smaller elements.
- Hungry for relevant knowledge.
- Focus on traits they can see.

Commercial farmers are more cautious and have many more factors to consider – therefore they will 'take more convincing' that any change is worth the time, effort and cost.

The importance of genes varies by complicating factors, esp. climate; the more breed-customisation conducted, the less relevant the purebred-oriented PLANS are

- Producers in easier (Southern) farming areas rate the importance of trait selection lower because they can afford to focus on a broader range of smaller tweaks across the whole farm system.
- Producers in harder farming areas, typically the North, rate the importance of trait selection higher because the animals have to survive tougher conditions – they are aiming for ‘big’ trait improvements rather than subtler shifts.
 - However, this does not translate into increased usage of BREEDPLAN (in the North) because they are more likely to use crossbreds, which are not as well supported in BREEDPLAN.

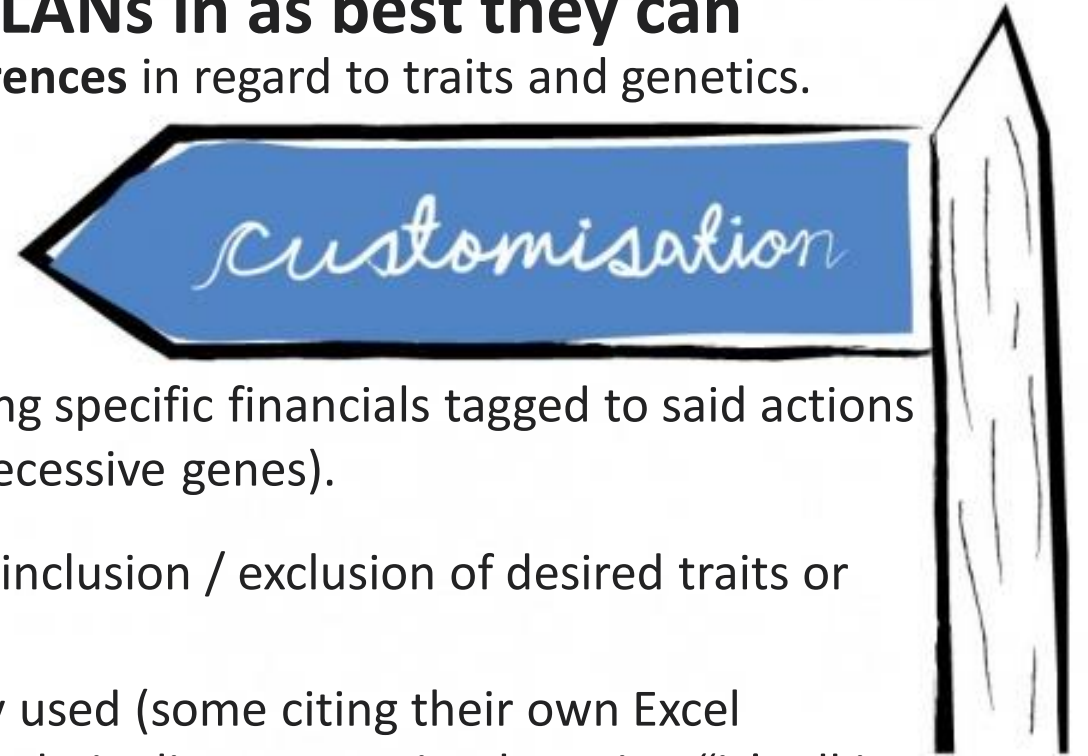


The tougher the climate, the more trait-customisation required and the lower the relevance of BREEDPLAN.

SUMMARY OF KEY QUALITATIVE RESULTS

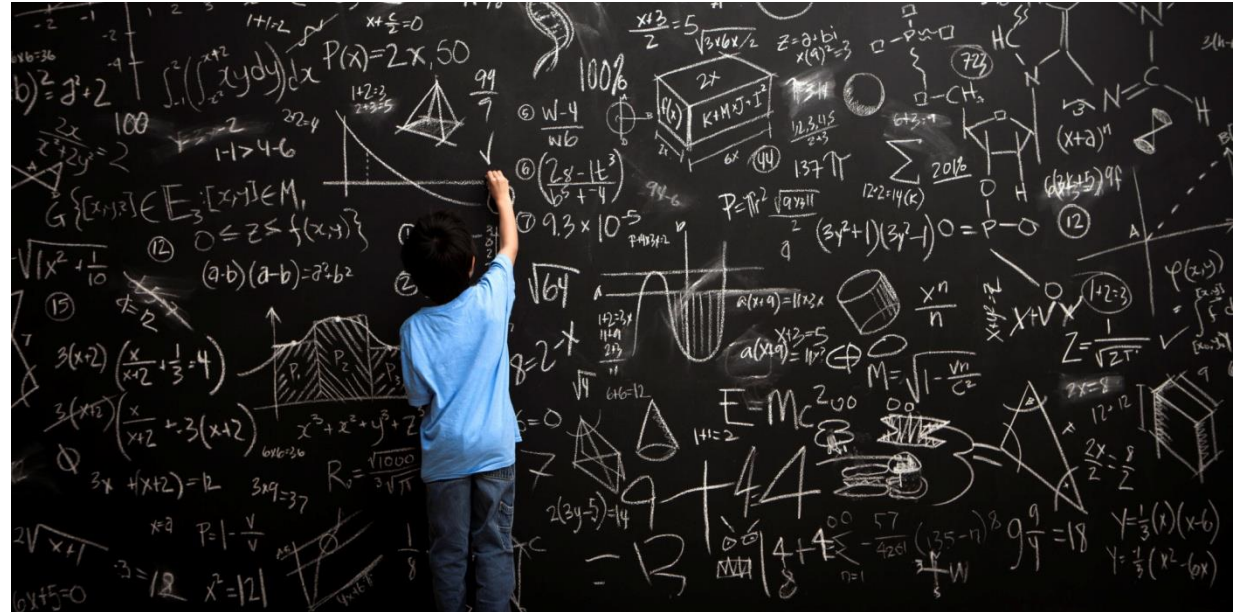
Genetics management is a very personal thing – most Producers are using their own systems & measures, fitting the PLANs in as best they can

- Commercial and Stud Producers alike **have their own preferences** in regard to traits and genetics.
- These can be:
 - **Subjective** (aesthetics);
 - **Commercially-based** (Studs seeking differentiation);
 - Or a simple matter of **good management**, without having specific financials tagged to said actions (e.g. avoiding the purchase of animals with unwanted recessive genes).
- This means that the PLANs are often **seen to be lacking** the inclusion / exclusion of desired traits or measures.
 - DIY genetics-based tracking systems are very commonly used (some citing their own Excel databases; some creating their own and promoting it to their clients; one simply saying “it’s all in my head”).
 - Additional trait measures are often used and the desire to track these was often cited as a reason for using a personalized system.
- This means that EBV or ASBV values are sometimes seen to be **‘missing the full picture’** and of **reduced value / accuracy / increased distrust** as a result.

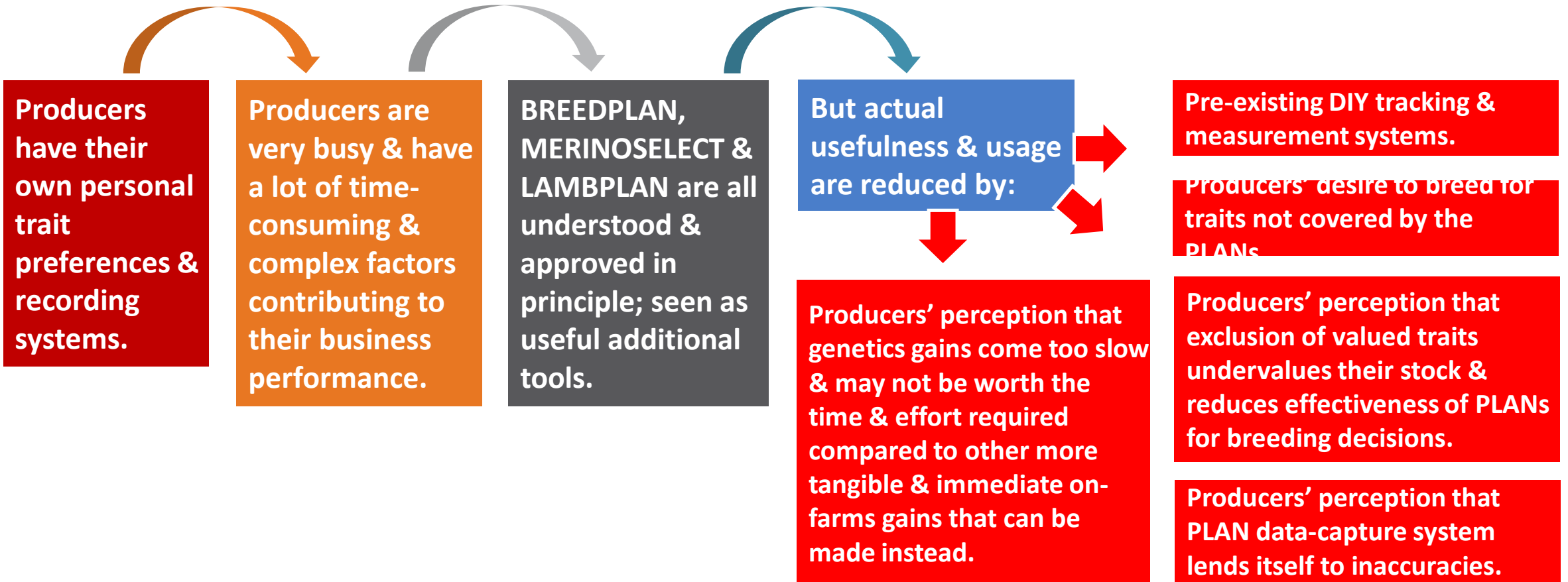


The perception of the PLANs' value is also reduced by perceived time & effort costs & suspected inaccuracies

- Capturing and entering data for the PLANs is seen to be an **arduous, complex and time-consuming process**, which therefore lends itself to **shortcuts and mistakes**.
- This further **reduces the perceived accuracy and value** of the measures.
- The perception of the PLANs being 'black boxes run by academics' further undermines the perceived value of the PLANs.



The PLANS are definitely approved & understood in principle but underperform in 'the real world'





QUANTITATIVE SURVEY RESULTS

METHODOLOGY

STAGE TWO: QUANTITATIVE SURVEY



Fieldwork Dates & Method

09/11/2015 – 15/11/2015
Telephone interview



Respondent Profile

Cattle and sheep Producers responsible for making key breeding decisions across Australia.
Quotas used to ensure breeds were covered in proportion of stock numbers (not farm numbers).



Most Producers farm more than one breed and many run both Stud / Seedstock and Commercial operations. Therefore, because this research had to focus only on their 'main' operations, respondents' cited usage and experience may appear at odds with their category.



Sample Provider

Sample provided by MLA and Breed Societies



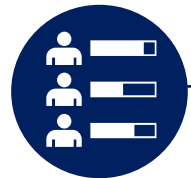
Measures

Interview duration: 21.6mins
Margin of error (total sample): 2.19%



Sample Size

Total number of Producers (n=2,001)



Sample (as categorized post-interviewing)

1,031 Cattle Producers (572 Studs; 459 Commercial; 759 BREEDPLAN Users and 272 Non-Users)
794 Sheep Producers (211 Studs; 364 Commercial; 169 LAMBPLAN Users, 119 MERINOSELECT Users)

Response rates by state (successful / ref+success)

- NSW 79%
- QLD 86%
- SA 67%
- TAS 67%
- VIC 82%
- WA 75%

STAGE TWO: NOTES ON THE QUANTITATIVE SURVEY SAMPLE (1)

Most of this report focuses on the differences between Users and Non-Users.

For the purposes of efficient interviewing, respondents self-identified:

- The main purpose of their operations (e.g. stud / seedstock or commercial; sheep or cattle);
- Whether they used BREEDPLAN (for cattle producers), LAMBPLAN or MERINOSELECT (for sheep).

Usage not restricted to formally-signed-up PLAN members but also Commercial producers who informally used PLAN measures when making breeding or purchasing decisions.

However, in 'real life', Producers often have multiple farming interests, can use multiple PLANs, or have used PLANs in the past.

This means that 'non-users' can sometimes say they have used user-only tools, or use tools that would be expected of different Producer types.

This simply reflects the widely varied nature of farming in the 'real world' and does not indicate inaccuracies in the research results.

STAGE TWO: NOTES ON THE QUANTITATIVE SURVEY SAMPLE (2)

The variables discussed on the previous page also meant that the databases used for sampling were not always good indicators of respondents' 'main operations', as indicated by the red numbers in the table below.

Therefore Ipsos and MLA collaborated to re-allocate respondents to their correct categories, with a particular focus on correctly categorizing sheep producers using neither LAMBPLAN nor MERINOSELECT into their correct status as non-users of either LAMBPLAN or MERINOSELECT (but not both). This was done by examining their main breed and their ratio of income from meat vs wool.

This means that there were some respondents whose responses were removed for some questions (because said questions were not suited to their re-allocated category) and/or not represented within the sub-sample for a given question as they may not have been asked it in the original interview due to their original category.

RE-ALLOCATED USER SEGMENTS ↓	DATABASE CATEGORIES				
	Total	Sheep Database MS user	Sheep Database LP user	BREEDPLAN Member Listing	MLA Members
MS-Seedstock User	81	81	0	2	21
MS-Seedstock Non-User	13	0	0	0	13
MS-Commercial User	38	0	0	0	38
MS-Commercial Non-User	230	0	0	1	230
LP-Seedstock User	95	0	95	3	18
LP-Seedstock Non-User	22	4	0	2	17
LP-Commercial User	74	1	0	1	74
LP-Commercial Non-User	241	0	0	1	241
BP-Seedstock User	544	1	4	544	80
BP-Seedstock Non-User	28	0	0	15	15
BP-Commercial User	215	0	1	23	215
BP-Commercial Non-User	244	0	0	2	244





Business Profile & Genetic Progress:

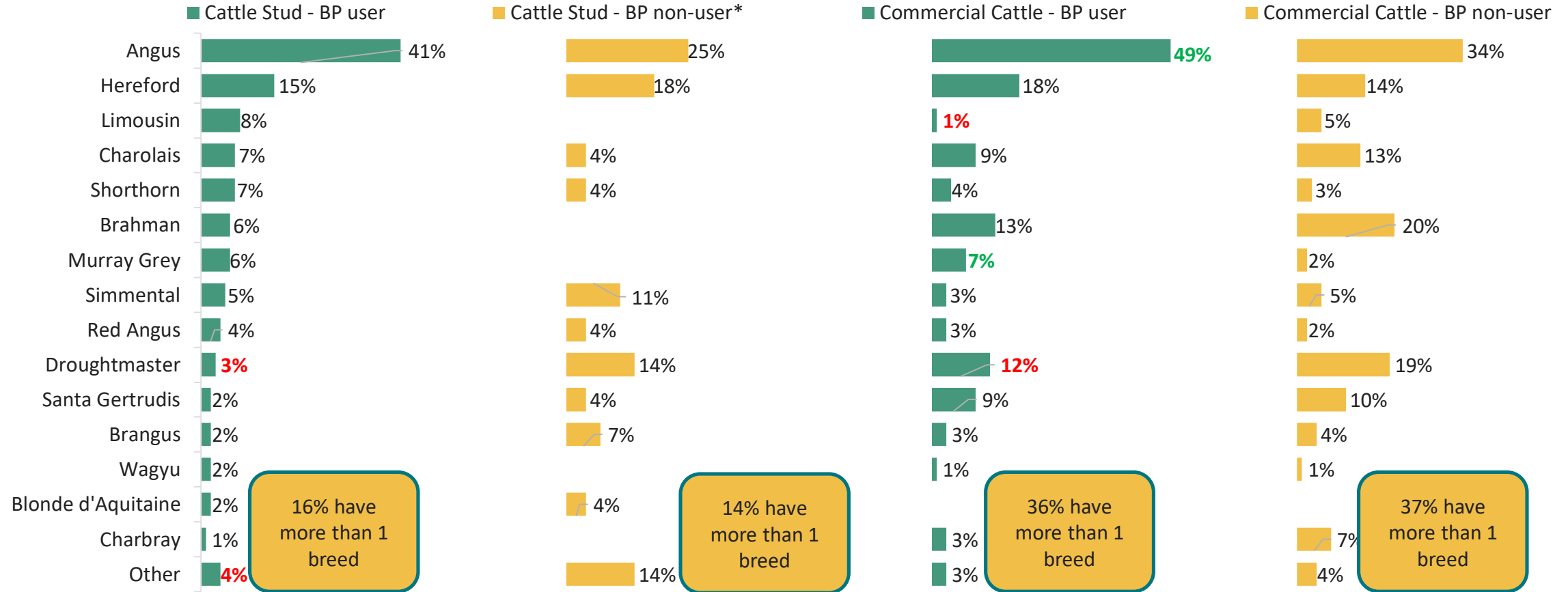
What we can learn by
comparing those using
the systems and those
who are not



Business Profile

Differences in BP usage show the clear skew towards Angus & multiple-breed management amongst Commercial Producers

The Breeds They Have



Q1. Which of the following best describes the main business purpose of your farm? / Q3a. What are the main cattle breeds, the ones that are dominant in your herd?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

Differences in LP usage show a clear skew towards White Suffolk amongst Studs, Merino amongst Commercial

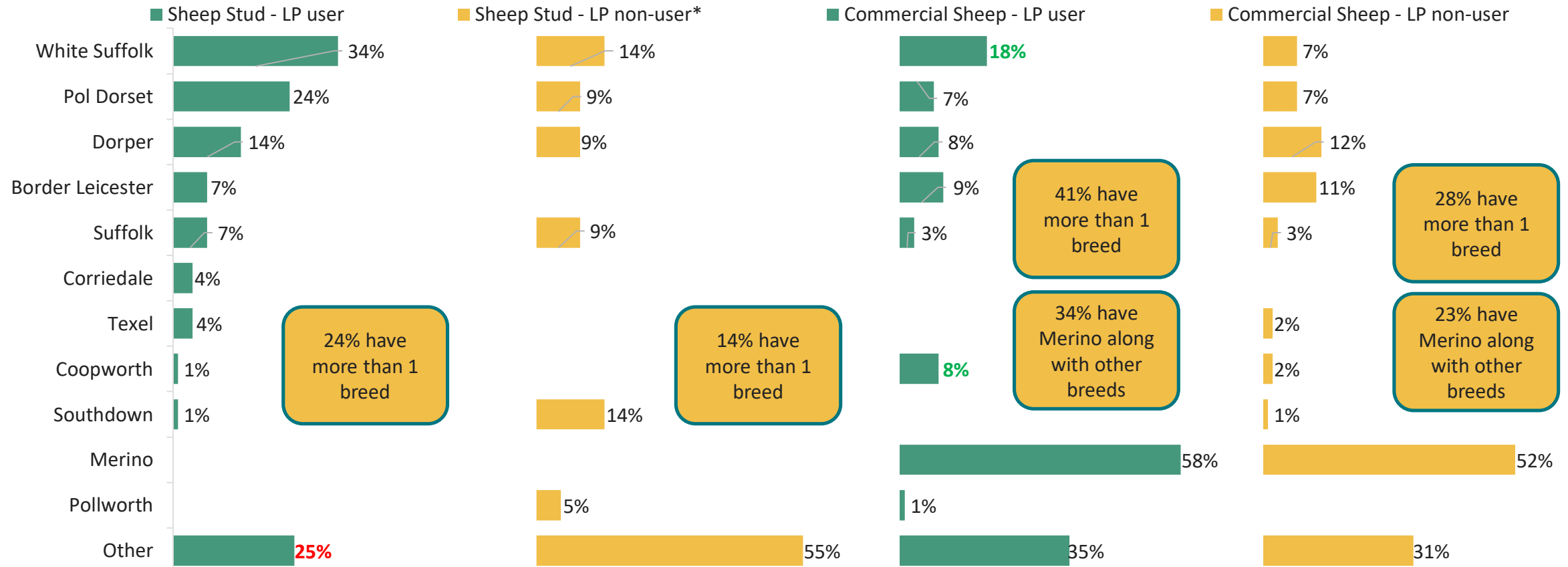


Commercial Producers are more likely to cross-breed.



As expected, Commercial Producers who cross-breed are significantly less likely to be a part of Sheep Genetics National Evaluation Service (although they can still be 'Users' of the data when making breeding and purchasing decisions).

The Breeds They Have



Due to oversight any Dohne mentions were recorded in the 'other' breed category.

Q1. Which of the following best describes the main business purpose of your farm? / Q3a. What are the main breeds, the ones that are dominant in your flock?

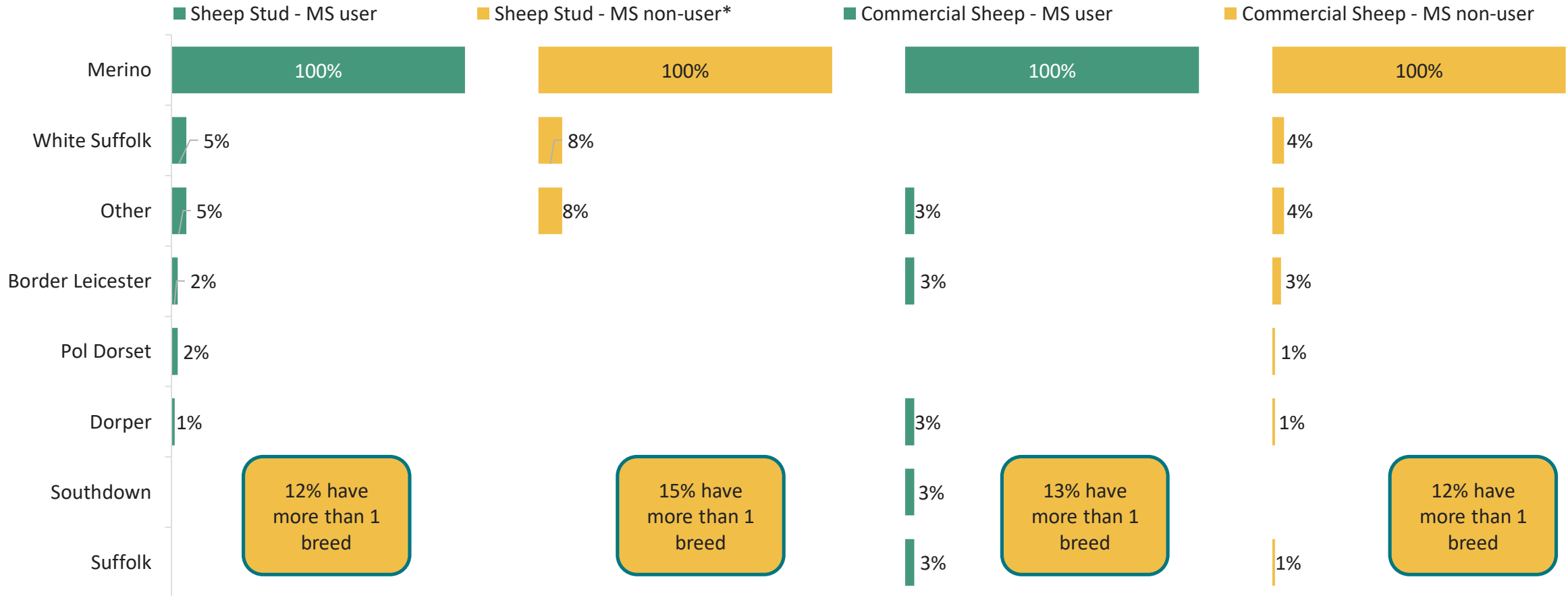
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

The majority of MS Users have only one breed



Due to oversight any Dohne mentions were recorded in the 'other' breed category.

The Breeds They Have




Q1. Which of the following best describes the main business purpose of your farm? / Q4a. What are the main sheep breeds, the ones that are dominant in your flock?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

SAMPLE PROFILE – OPERATION SIZE

MS- or LP-using sheep Studs tend to have fewer sires; yet Commercial Users have more animals

 Note that as not all Producers' animals will necessarily be recorded in a breeding programme, animal numbers shown here may differ from those recorded by MERINOSELECT, LAMBPLAN, etc.

	Cattle Stud “How many Stud animals do you usually have?”		Commercial Cattle “How many cows, calves and dry cattle do you usually have?”	
	BREEDPLAN user	BREEDPLAN non-user*	BREEDPLAN user	BREEDPLAN non-user
Average	217	89	1,203	893

	Sheep Stud “How many sires do you usually have?”		Commercial Sheep “How many sheep, lambs and dry ewes do you usually have?”	
	LAMBPLAN user	LAMBPLAN non-user*	LAMBPLAN user	LAMBPLAN non-user
Average	24	88	3,284	1,945

	Sheep Stud “How many sires do you usually have?”		Commercial Sheep “How many sheep, lambs and dry ewes do you usually have?”	
	MERINOSELECT user	MERINOSELECT non-user*	MERINOSELECT user	MERINOSELECT non-user
Average	56.4	104.2	5,055	3,657

Q2a. How many Stud animals do you usually have? / Q2b. How many cows, calves and dry cattle do you usually have? / Q2c. How many sires do you usually have? / Q2d. How many sheep, lambs and dry ewes do you usually have?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

SAMPLE PROFILE – BREEDING SOFTWARE USAGE

There is a huge variation in animal management software being used; many still use informal DIY options, some use multiple systems

Software	Cattle Stud		Commercial Cattle	
	BP user	*BP non-user	BP user	BP non-user
Excel / Microsoft	17%	21%	17%	10%
Herd-master	13%	7%	2%	0%
Stockbook	11%	11%	3%	1%
Kool software	1%	0%	0%	0%
Other	51%	54%	67%	75%
Unsure	11%	11%	13%	16%

Software	Sheep Stud		Commercial Sheep	
	LP user	*LP non-user	LP user	LP non-user
Pedigree Wizard / Master	48%	0%	1%	0%
Stockbook	9%	5%	1%	0%
Excel / Microsoft	8%	18%	16%	8%
Kool software	3%	0%	3%	0%
Other	31%	73%	69%	84%
Unsure	5%	5%	11%	10%

Software	Sheep Stud		Commercial Sheep	
	MS user	*MS non-user	MS user	MS non-user
Stockbook	22%	0%	5%	0%
Pedigree Wizard / Master	19%	0%	0%	0%
Excel / Microsoft	14%	31%	13%	9%
Kool software	10%	0%	3%	0%
BreedElite	6%	0%	0%	0%
Other	33%	46%	68%	80%
Unsure	4%	23%	13%	13%

Q1. Which of the following best describes the main business purpose of your farm? / Q11. Which, if any, data management software do you use for your animal management?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

Note that this question was not asked in reference to specific animals, so a sheep and cattle Producer who uses more than one software system could have cited more than one (hence a small number of sheep Producers citing BreedElite).

Note that ‘usage’ could also refer to the source of data used. E.g. a Commercial Sheep Producer could feel they use Pedigree Master if their Stud / Seedstock supplier uses it to help with breeding decisions.

PLAN Users are more likely to be breed society / SG members, but it is not a guaranteed link; breed society members will therefore be joining for reasons other than access to BP

	Cattle Stud		Commercial Cattle	
	BP user	BP non-user*	BP user	BP non-user
Member	98%	79%	37%	10%
Non-Member / Unsure	2%	21%	63%	90%

	Sheep Stud		Commercial Sheep	
	LP user	LP non-user*	LP user	LP non-user
Member	90%	18%	16%	1%
Non-Member / Unsure	10%	82%	84%	99%

	Sheep Stud		Commercial Sheep	
	MS user	MS non-user*	MS user	MS non-user
Member	96%	0%	32%	3%
Non-Member / Unsure	4%	100%	68%	96%



Note that sheep Producers were asked if they were a member or a user of the Sheep Genetics service, hence some Commercial Producers will have answered 'yes'. Some Commercial users may also have sideline Stud businesses.

Q8. Are you a member or user of a breed society / Sheep Genetics National Breeding Evaluation Service?

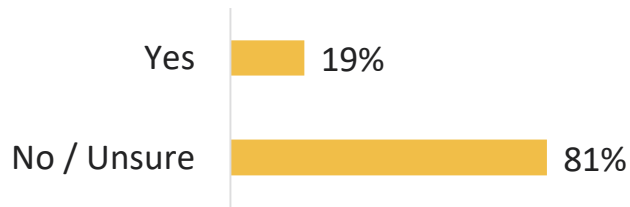
Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

A small minority are ex-BP Users; Commercial Producers' adoption has outpaced Studs in recent years; no relationship between time in breeding & usage

Has Your Operation Used BP Information In The Past? (Non-Users)



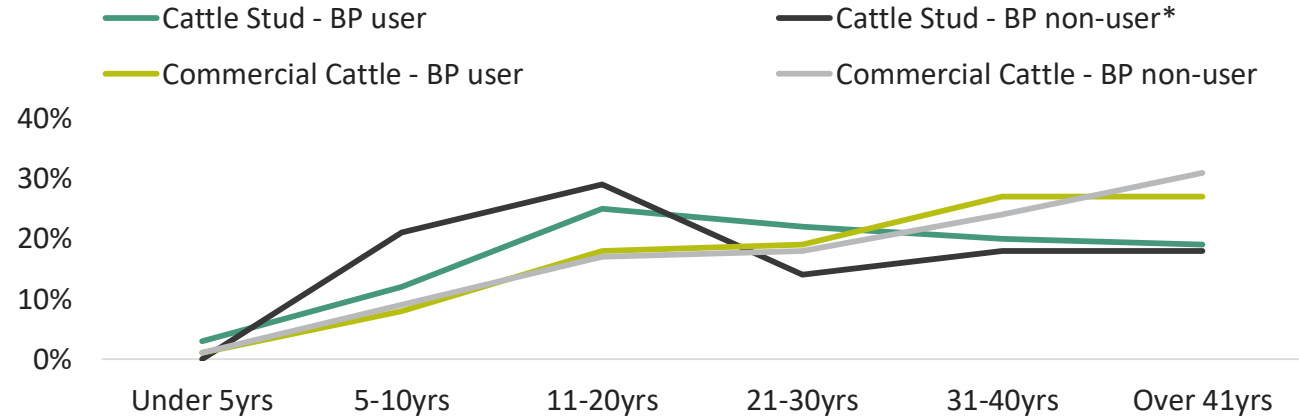
Cattle Stud or Seedstock



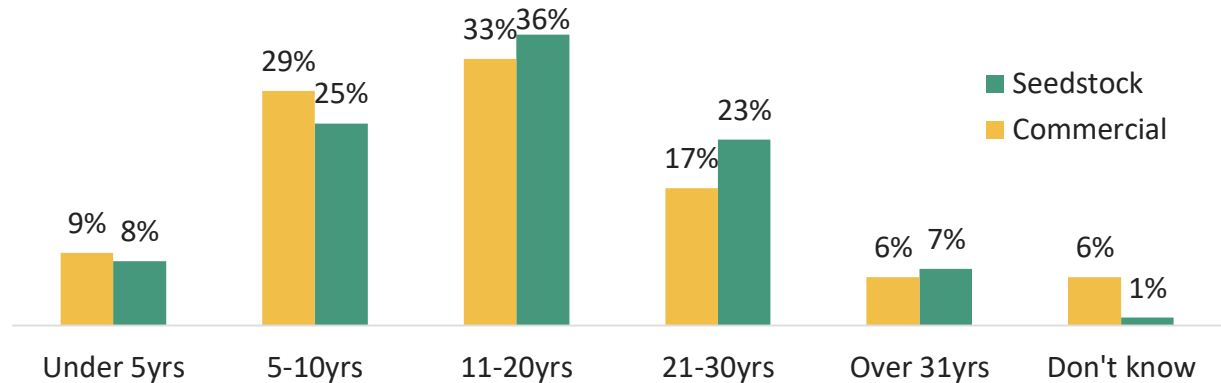
Commercial cattle farm

Past user	32%	18%
Never used	68%	82%

Length Of Time Making Breeding Decisions – By Use



Length Using BREEDPLAN On Operations

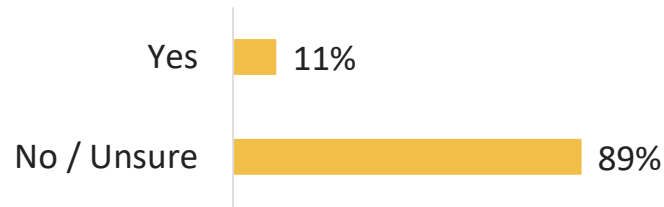


Q10c. Has your operation used BREEDPLAN information in the past? / Q10a. For how long has your operation used BREEDPLAN? / Q8. Are you a member of a breed society? / Q7. Taking into account all the farms you have owned or worked on, how long in total have you been involved in making key breeding decisions?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

A small minority are ex-LP Users; Commercial Producers' adoption has outpaced Studs in recent years; no relationship between time in breeding & usage

Has Your Operation Used LP Information In The Past? (Non-Users)



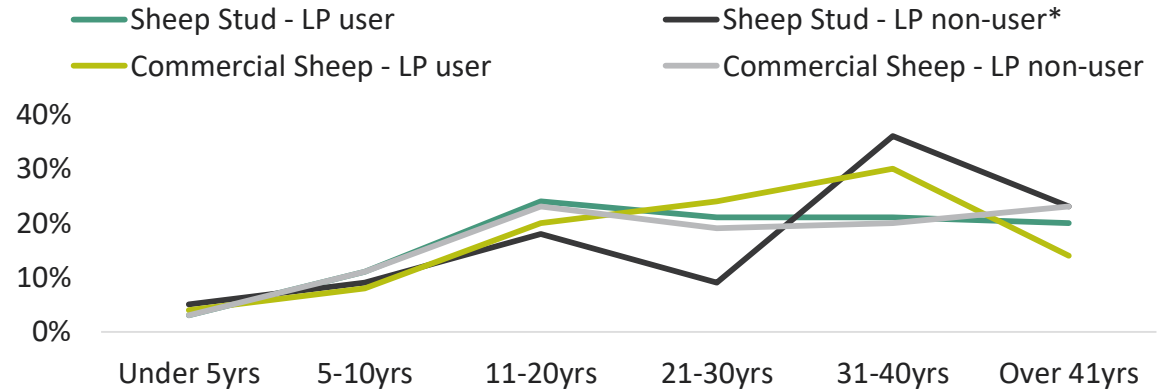
Sheep Stud or Seedstock



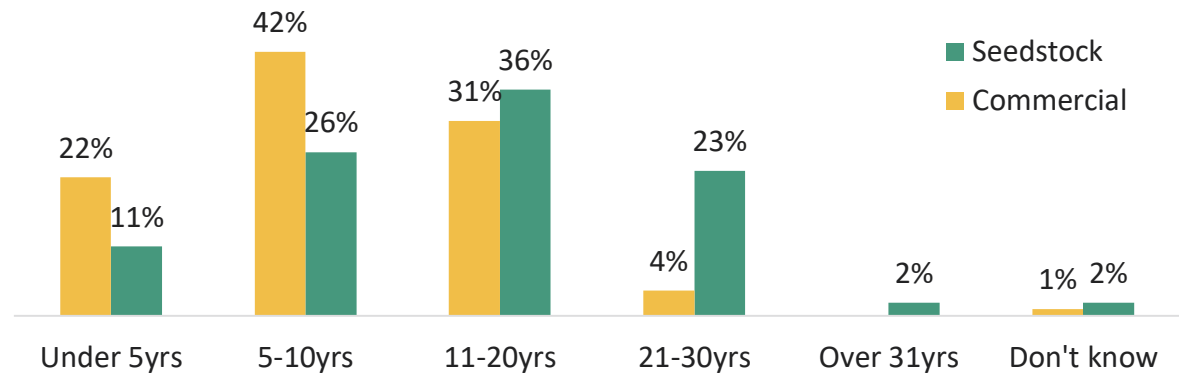
Commercial sheep farm

Past user	18%	16%
Never used	82%	84%

Length Of Time Making Breeding Decisions – By Use



Length Using LAMBPLAN On Operations

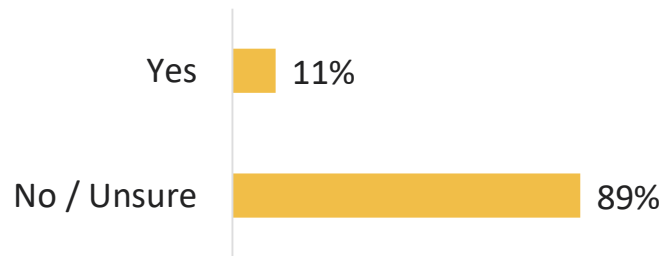


Q10c. Has your operation used LAMBPLAN information in the past? / Q10a. For how long has your operation used LAMBPLAN? / Q8. Are you a member or user of the Sheep Genetics National Breeding Evaluation Service? / Q7. Taking into account all the farms you have owned or worked on, how long in total have you been involved in making key breeding decisions?

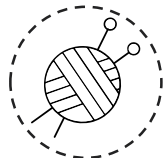
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

MS adoption rates appear very similar between Stud & Commercial Producers; no relationship with time in breeding

Has Your Operation Used MS Information In The Past? (Non-Users)



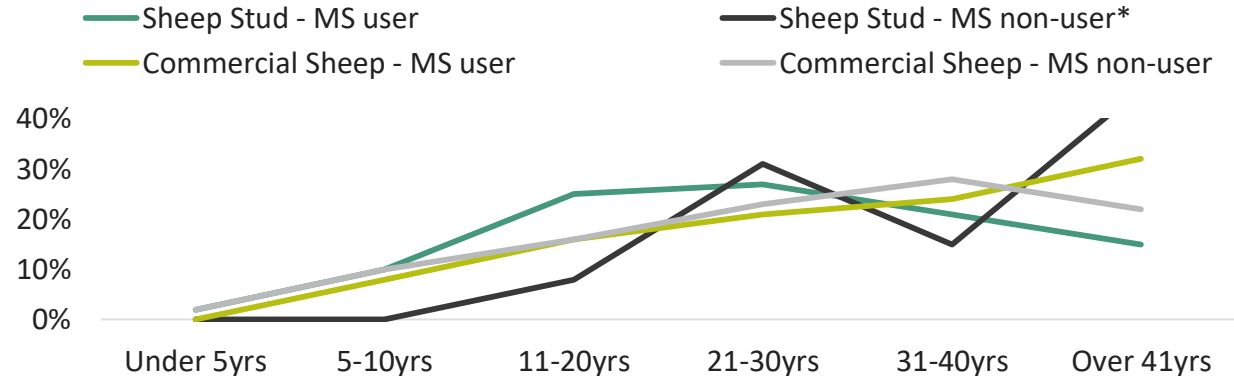
Sheep Stud or Seedstock*



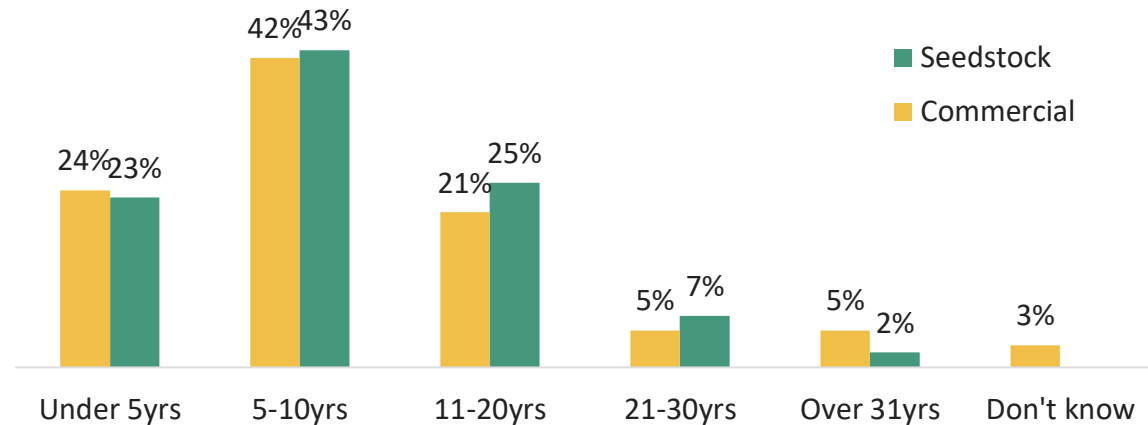
Commercial sheep farm

Past user	0%	12%
Never used	100%	89%

Length Of Time Making Breeding Decisions – By Use

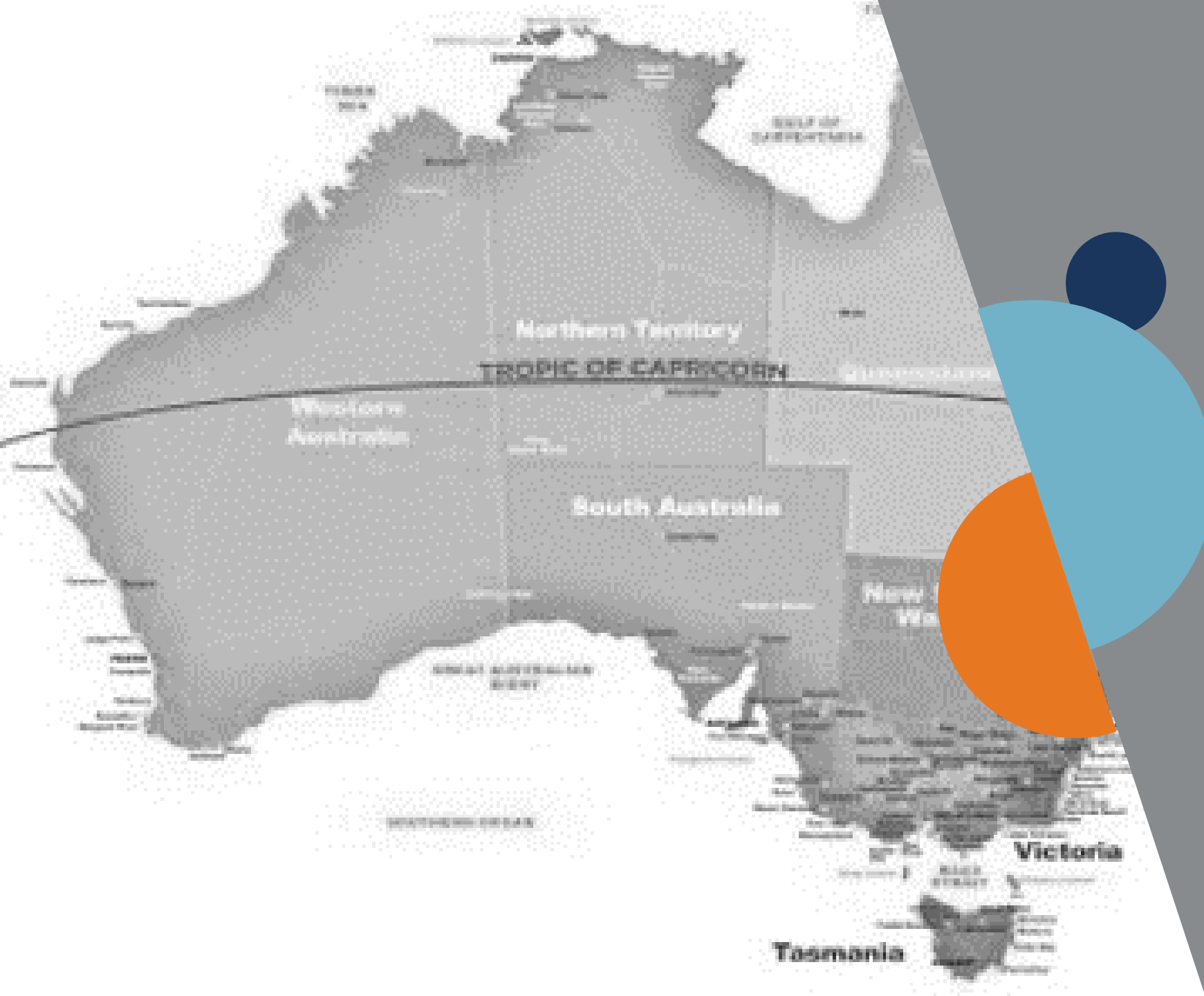


Length Using MERINOSELECT On Operations



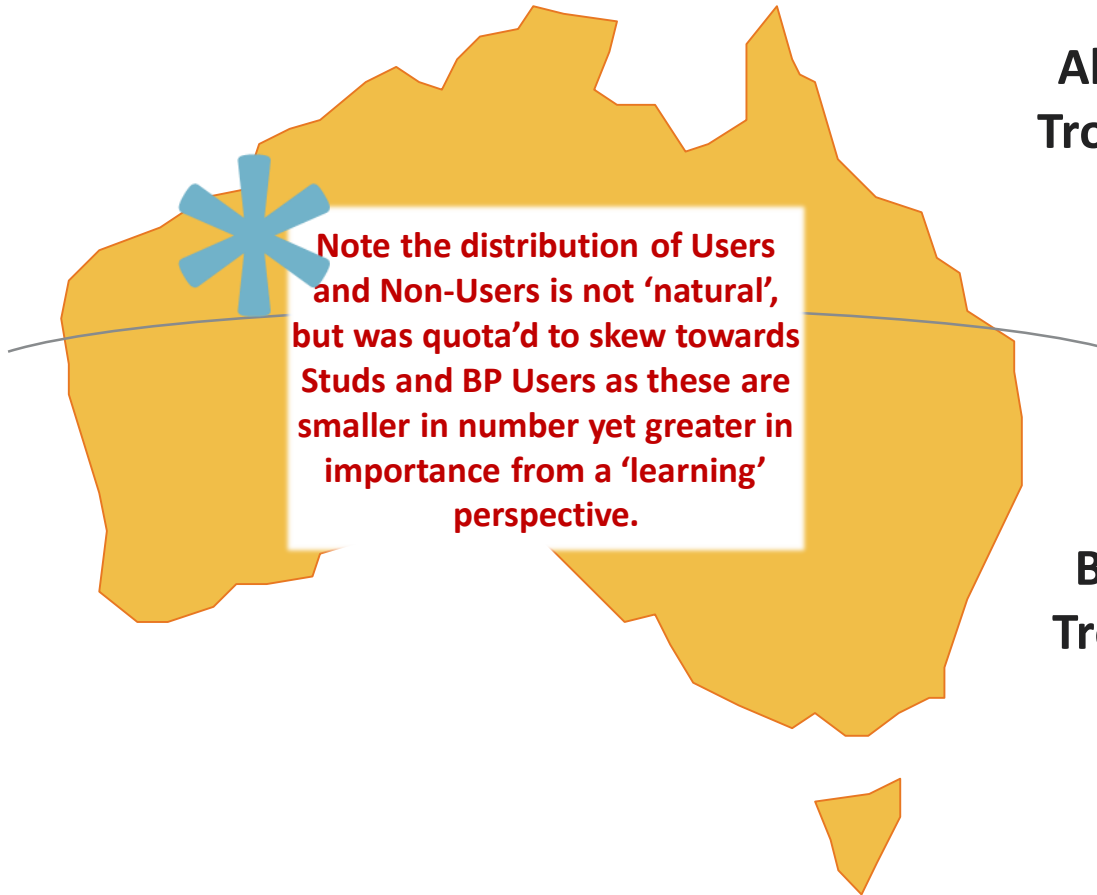
Q10c. Has your operation used MERINOSELECT information in the past? / Q10a. For how long has your operation used MERINOSELECT? / Q8. Are you a member or user of the Sheep Genetics National Breeding Evaluation Service? / Q7. Taking into account all the farms you have owned or worked on, how long in total have you been involved in making key breeding decisions?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)



Regional Differences

Studs & Commercial Producers value different traits in different locations



Above The Tropical Line

- STUD:**
Important Traits
 47% Temperament
 38% Body shape / structure
 25% Scrotal size
 6% 400 day growth rate
 6% Birth weight
 6% Fat depth

- COMMERCIAL:**
Important Traits
 42% Temperament
 22% Pregnancy test result
 18% Scrotal size
 7% Days to calving
 5% 600 day growth rate
 5% Calving ease
 4% 400 day growth rate
 3% 200 day growth rate

Below The Tropical Line

- STUD:**
Important Traits
 35% Birth weight
 29% Fat depth
 28% Temperament
 26% 400 day growth rate
 18% Body shape / structure
 11% Scrotal size

- COMMERCIAL:**
Important Traits
 30% Temperament
 15% 400 day growth rate
 14% 600 day growth rate
 13% 200 day growth rate
 13% Calving ease
 12% Pregnancy test result
 10% Scrotal size
 8% Milk production
 2% Days to calving

Q2b. How many cows, calves and dry cattle do you usually have? / Q9. Does your operation use BREEDPLAN or make a point of buying breeding stock with BREEDPLAN data? / Q3a. What are your main cattle breeds, the ones that are dominant in your herd? / Q22. What are the most important cattle traits that you consider when selecting your breeding bulls? / Q12. What is your most commonly used form of breeding?

Base: Cattle Stud Producers above the line (n=32), Commercial Cattle Producers above the line (n=131), Cattle Stud Producers below the line (n=540), Commercial Cattle Producers below the line (n=482)

There are clear North / South differences in Studs' breeding methods / traits

Above The Tropical Line



Main Breeds

- 56% Brahman
- 16% Droughtmaster
- 3% Angus

Important Traits

- 47% Temperament
- 38% Body shape / structure
- 25% Scrotal size
- 6% 400 day growth rate
- 6% Birth weight
- 6% Fat depth

Most Common Breeding Method

- 84% Putting a bull into the herd
- 9% AI

Note the distribution of Users and Non-Users is not 'natural', but was quota'd to skew towards Studs and BP Users as these are smaller in number yet greater in importance from a 'learning' perspective.

Below The Tropical Line



Main Breeds

- 42% Angus
- 3% Droughtmaster
- 3% Brahman

Important Traits

- 35% Birth weight
- 29% Fat depth
- 28% Temperament
- 26% 400 day growth rate
- 18% Body shape / structure
- 11% Scrotal size

Most Common Breeding Method

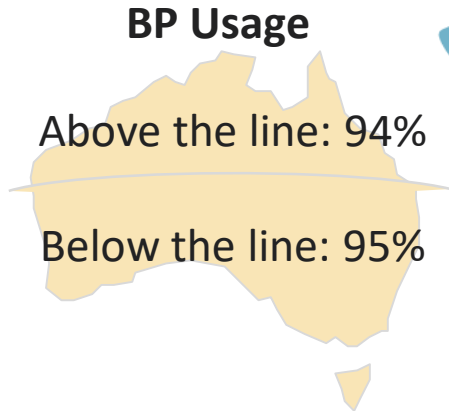
- 61% Putting a bull into the herd
- 36% AI

Q3a. What are your main cattle breeds, the ones that are dominant in your herd? / Q22. What are the most important cattle traits that you consider when selecting your breeding bulls? / Q12. What is your most commonly used form of breeding?

Base: Cattle Stud Producers above the line (n=32), Cattle Stud Producers below the line (n=540)

REGIONAL DIFFERENCES

There are clear differences in the traits tracked between the North & South Studs



Note the distribution of Users and Non-Users is not 'natural', but was quota'd to skew towards Studs and BP Users as these are smaller in number yet greater in importance from a 'learning' perspective.

Measurements Used To Keep Track Of Genetic Gains

Significant Differences	Above The Line	Below The Line
Birth weight	9%	27%
Nett physical factors	62%	43%
Scrotal size	38%	9%
Nett Gestation / weaning / fertility factors	47%	23%
Feedback from buyers	12%	3%

Traits You Would Like To See Added To BP

Significant Differences	Above The Line	Below The Line
Temperament	12%	0%

Performance Data Recorded From Cattle

Significant Differences	Above The Line	Below The Line
Birth weight	19%	57%
Pregnancy test result	25%	6%
Eye muscle area	6%	28%
Fat depth	6%	30%

Performance Data Reported Back To BP

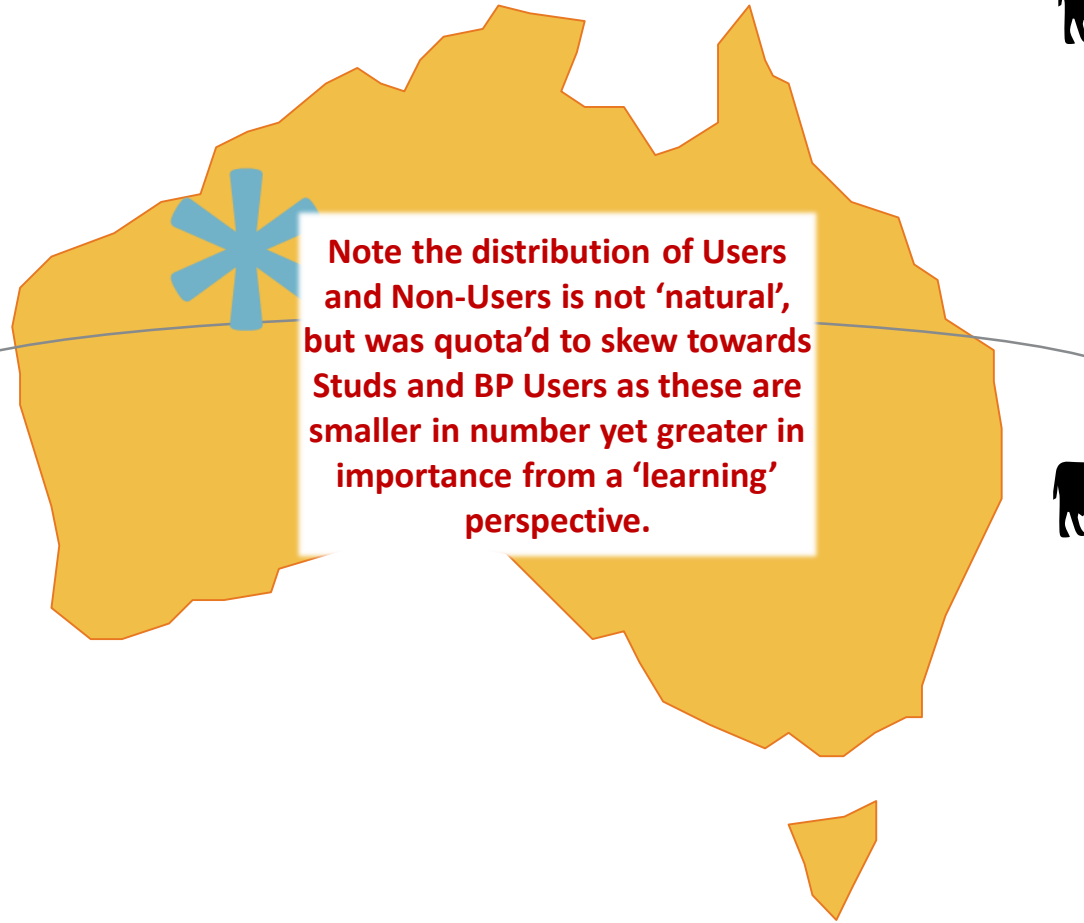
Significant Differences	Above The Line	Below The Line
Birth weight	21%	54%
Eye muscle area	3%	27%
Fat depth	3%	28%

Q14. What types of measurements do you use to keep track of your genetics gains or progress towards your breeding objectives? / Q23. What, if any, traits would you like to see added to BREEDPLAN? /

Q24. What performance data do you regularly record from your cattle? / Q25. And which of that data do you routinely report back to BREEDPLAN?

Base: Cattle Stud Producers above the line (n=32), Cattle Stud Producers below the line (n=540)

Different Commercial breeds & traits are desired in the two different regions



Above The Tropical Line



Average Herd Size: **2,367**

Main Breeds

- 44% Brahman
- 25% Droughtmaster
- 14% Angus
- 9% Brangus
- 6% Hereford
- 6% Braford

Important Traits

- 42% Temperament
- 22% Pregnancy test result
- 18% Scrotal size
- 7% Days to calving
- 5% 600 day growth rate
- 5% Calving ease
- 4% 400 day growth rate
- 3% 200 day growth rate

Below The Tropical Line



Average Herd Size: **827**

Main Breeds

- 49% Angus
- 19% Hereford
- 13% Droughtmaster
- 9% Brahman
- 2% Brangus
- 1% Braford

Important Traits

- 30% Temperament
- 15% 400 day growth rate
- 14% 600 day growth rate
- 13% 200 day growth rate
- 13% Calving ease
- 12% Pregnancy test result
- 10% Scrotal size
- 8% Milk production
- 2% Days to calving

Q2b. How many cows, calves and dry cattle do you usually have? / Q9. Does your operation use BREEDPLAN or make a point of buying breeding stock with BREEDPLAN data? / Q3a. What are your main cattle breeds, the ones that are dominant in your herd? / Q22. What are the most important cattle traits that you consider when selecting your breeding bulls? / Q12. What is your most commonly used form of breeding?

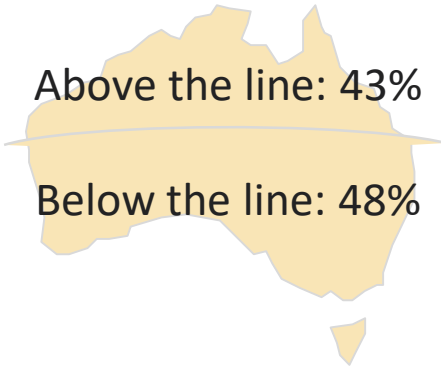
Base: Commercial Cattle Producers above the line (n=355), Commercial Cattle Producers below the line (n=482)

REGIONAL DIFFERENCES

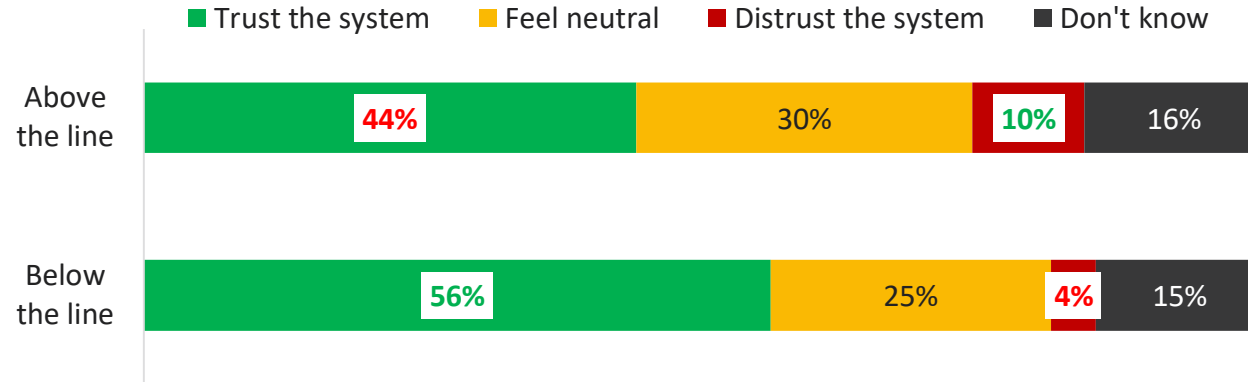
Commercial cattle Producers' trust in BP is higher in the South, while training is more common in the North



BP Usage

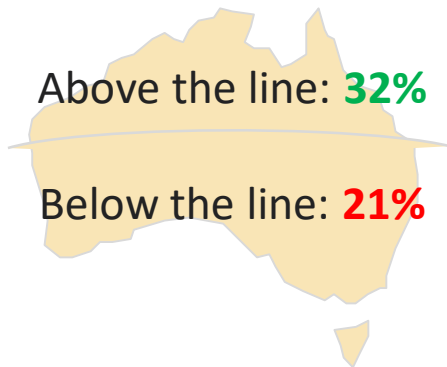


Trust In BREEDPLAN



Note the distribution of Users and Non-Users is not 'natural', but was quota'd to skew towards Studs and BP Users as these are smaller in number yet greater in importance from a 'learning' perspective.

Have You Had BP Training?



Who Provided The Training?

Top-3 Providers For Cattle Stud	Above The Line (n=31)	Below The Line (n=71)
MLA	29%	13%
Breed society	6%	21%
DPI	16%	11%

Who Do You Expect Training?

Top-3 Expected Providers For Cattle Stud	Above The Line	Below The Line
MLA	41%	41%
Breed society	10%	14%
DPI	15%	7%

Sample sizes?

Q30d. Still thinking about the overall BREEDPLAN system, taking into account all of the things which you think are important, how much do you trust or distrust it? / Q32. Have you ever had proper training or guidance in how to use BREEDPLAN information such as EBVs to make your breeding or purchase decisions? / Q33. Who provided that training or guidance? / Q35. If you wanted to get more training or guidance, who would you expect to provide it?

Base: Commercial Cattle Producers above the line (n=97 - 104), Commercial Cattle Producers below the line (n=333 - 355) – note reduced bases for Q32, Q33 and Q35.

Key Learnings: Business Profile



1. Clear and expected **variation in breeds** by PLAN usage and location.
2. Many Producers farm more than one breed and many run both Stud / Seedstock and Commercial operations. Therefore, because this research had to focus only on their 'aim' operations, respondents' cited usage and experience may appear at odds with their category.
3. Predictable **regional differences** exist; Northern Producers use and trust BP less, have more composite breeds, and focus on different traits than those in the South.
4. A lot of software variance; many **informal DIY tracking options** used.
5. No relationship between Producers' duration in breeding, operation size and system usage.
6. Breed society membership naturally higher amongst PLAN Users, but **many Non-Users are also breed society** members.
7. Around 11-19% are ex-Users.



Genetic Progress

BREEDING HABITS – OBJECTIVES

PLAN Users are more likely to have clearly-set breeding objectives, but most Non-Users have clear objectives too; the promotion of ‘clear breeding objectives’ will not always lead to immediate uptake of PLANs

Biggest usage gap

Clear set breeding objectives	Cattle Stud		Commercial Cattle	
	BP user	BP non-user*	BP user	BP non-user
Yes	96%	86%	88%	65%
No / Unsure	4%	14%	12%	35%

Note: Gaps are indicated by arrows: Cattle Stud (10%), Commercial Cattle (23%).

Clear set breeding objectives	Sheep Stud		Commercial Sheep	
	LP user	LP non-user*	LP user	LP non-user
Yes	97%	91%	83%	77%
No / Unsure	3%	9%	17%	23%

Note: Gaps are indicated by arrows: Sheep Stud (6%), Commercial Sheep (6%).

Clear set breeding objectives	Sheep Stud		Commercial Sheep	
	MS User	MS non-user*	MS user	MS non-user
Yes	100%	85%	100%	87%
No / Unsure	0%	15%	0%	13%

Note: Gaps are indicated by arrows: Sheep Stud (15%), Commercial Sheep (13%).

Q13. Do you have a clear set of breeding objectives for your animals?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

BREEDING HABITS – FORMS OF BREEDING

The main form of breeding is putting a sire into the flock or herd; BP & MS Studs are more likely to use a form of AI

Breeding Methods used	Cattle Stud		Commercial Cattle	
	BP user	BP non-user*	BP user	BP non-user
AI	36%	18%	1%	1%
Embryo transfer	3%	7%	1%	0%
Putting a bull into the herd	61%	71%	96%	90%
No breeding done	0%	4%	1%	9%

Breeding Methods used	Sheep Stud		Commercial Sheep	
	LP user	LP non-user*	LP user	LP non-user
AI	9%	9%	1%	0%
Embryo transfer	1%	5%	0%	0%
Putting a ram into the herd	89%	86%	99%	95%
No breeding done	0%	0%	0%	4%

Breeding Methods used	Sheep Stud		Commercial Sheep	
	MS user	MS non-user*	MS user	MS non-user
AI	14%	0%	0%	0%
Embryo transfer	0%	0%	0%	0%
Putting a ram into the herd	86%	100%	100%	100%
No breeding done	0%	0%	0%	0%

Q12. What is your most commonly used form of breeding? Is it...?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

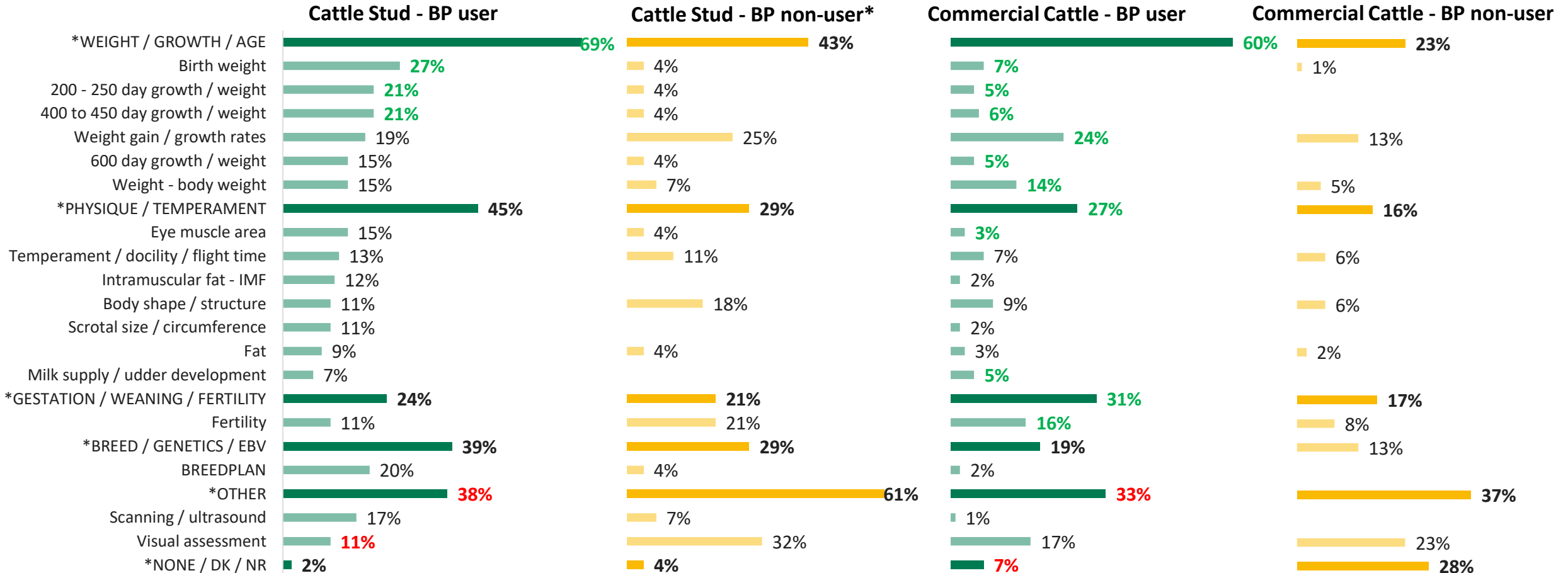
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

BREEDING HABITS – OBJECTIVES / BREEDPLAN

Weight-gain is the main measure of breeding progress across Commercial & Stud farms; BP Users employ a wider range of measures; Non-Users are more likely to use less specific visual & weight-gain assessments

Measurements Used To Keep Track Of Progress Towards Objectives



Q14. What types of measurement do you use to keep track of your genetics gains or progress towards your breeding objectives?

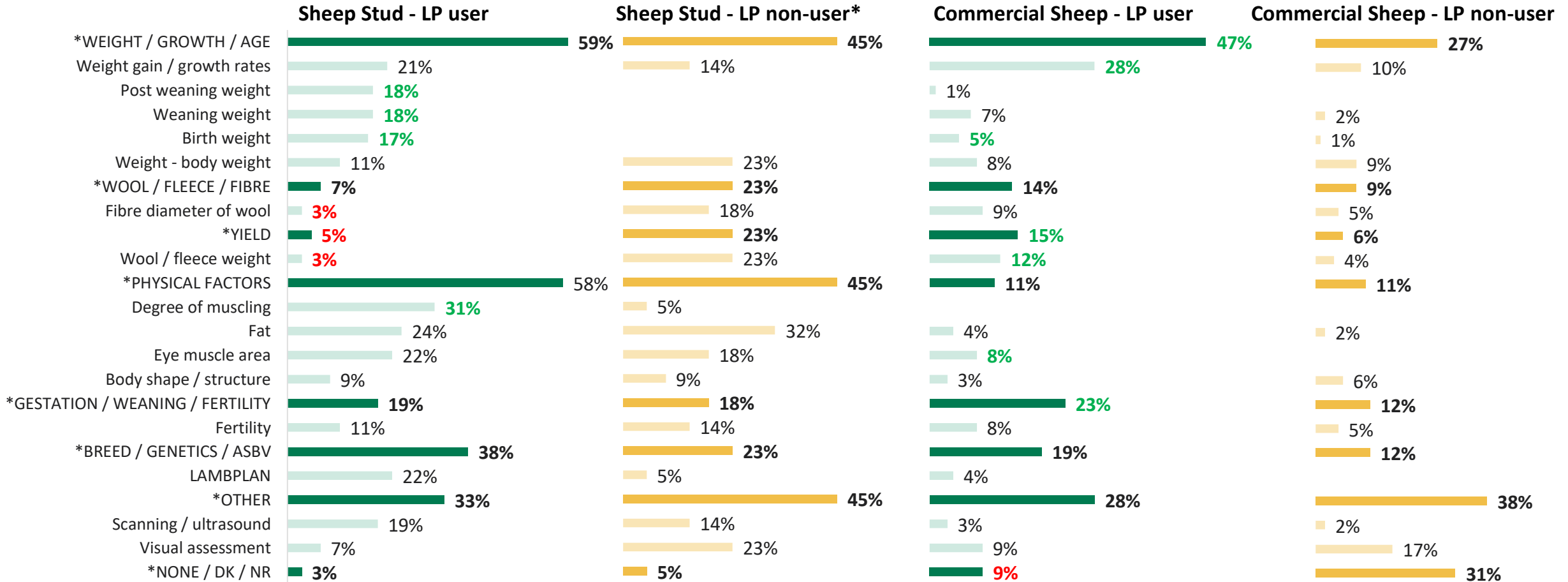
Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

Significantly higher than BP non-user – Significantly lower than BP non-user

BREEDING HABITS – OBJECTIVES / LAMBPLAN

Weight-gain is the main measure of breeding progress across Commercial & Stud farms; LP Users have a wider range of measures; Non-Users are more likely to use visual assessments

Measurements Used To Keep Track Of Progress Towards Objectives



Q14. What types of measurement do you use to keep track of your genetics gains or progress towards your breeding objectives?

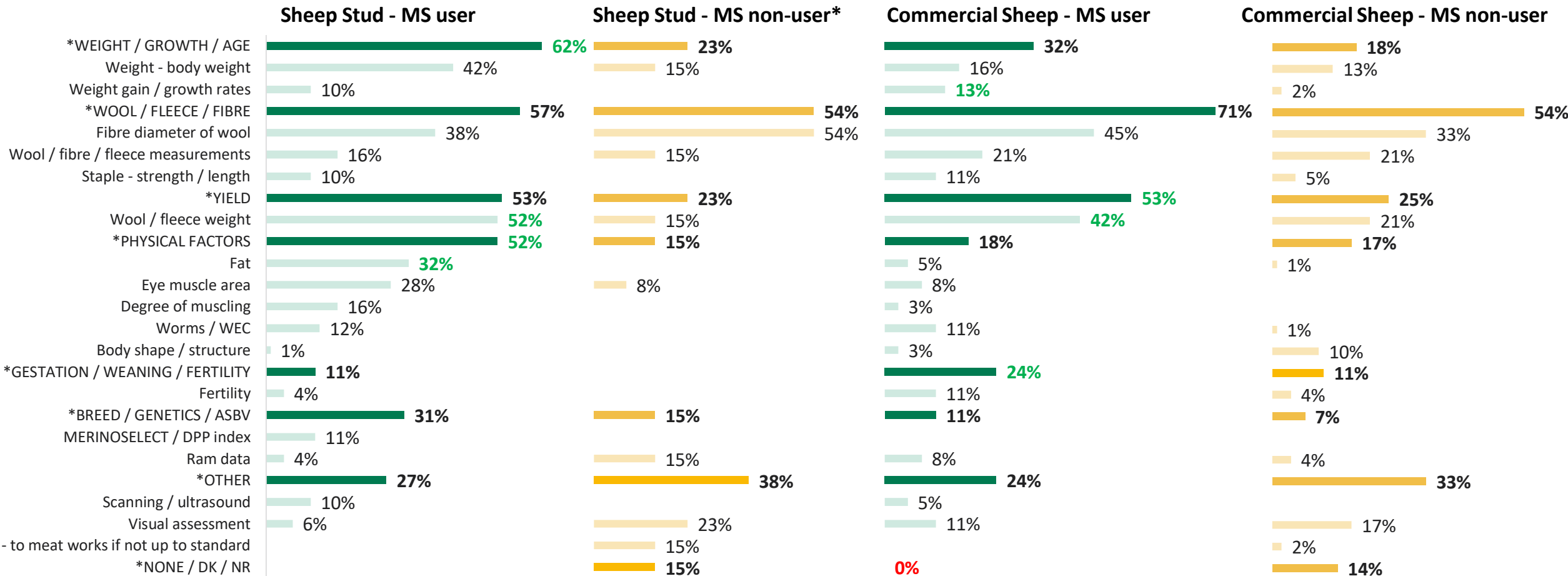
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

Significantly higher than LP non-user – Significantly lower than LP non-user

BREEDING HABITS – OBJECTIVES / MERINOSELECT

Wool & fleece indicators are the main measure of breeding progress across Merino Commercial & Stud farms; MS Users employ a wider range of measures & place greater importance on yield

Measurements Used To Keep Track Of Progress Towards Objectives



Q14. What types of measurement do you use to keep track of your genetics gains or progress towards your breeding objectives?

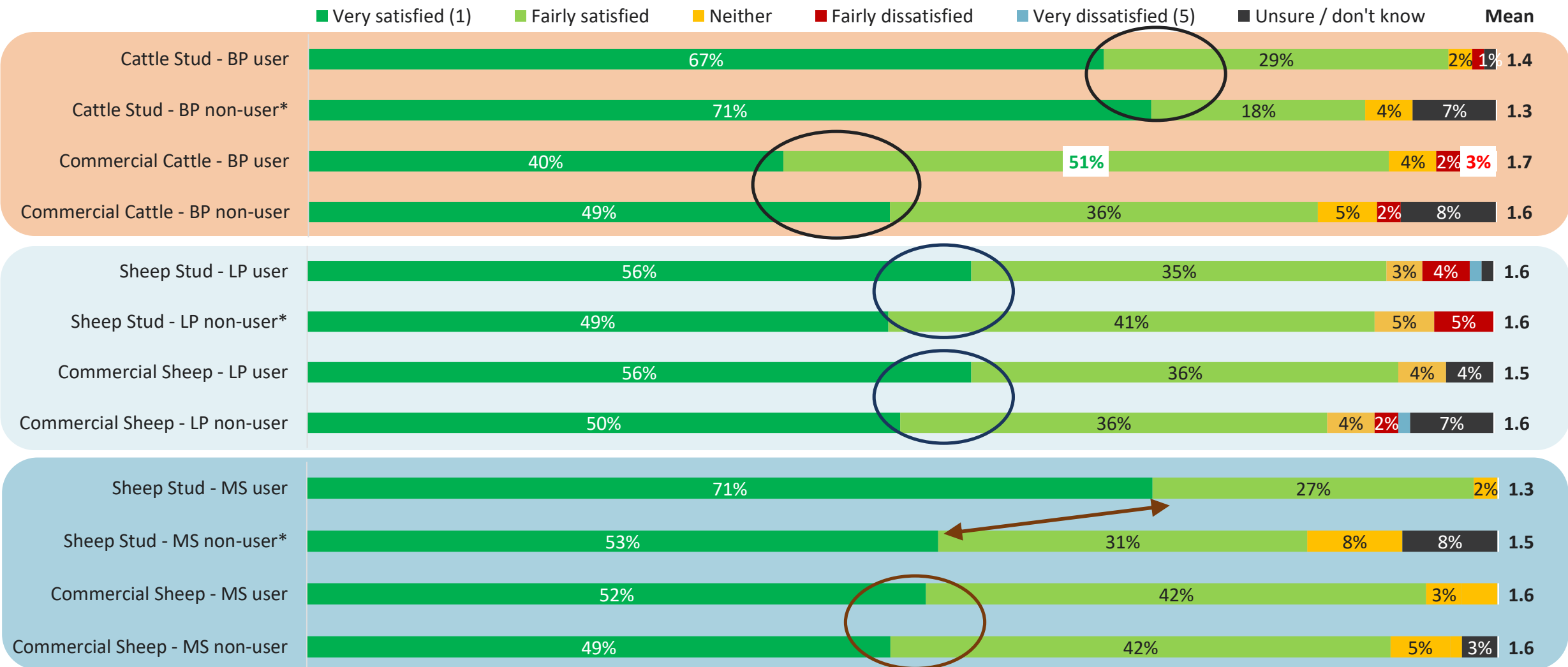
Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Significantly higher than MS non-user – Significantly lower than MS non-user

BREEDING MEASURES – GENETIC GAINS

Except for MS Studs, there is little difference in genetic gains satisfaction between PLAN Users & Non-Users

Non-Users may have lower expectations, knowledge of unmet potential, or both.



Significantly higher than non-user – Significantly lower than non-user

Q17. All things considered, how satisfied are you with the genetic gains you have achieved in your animals over the last 10 or so years?
 Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)
 Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)
 Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

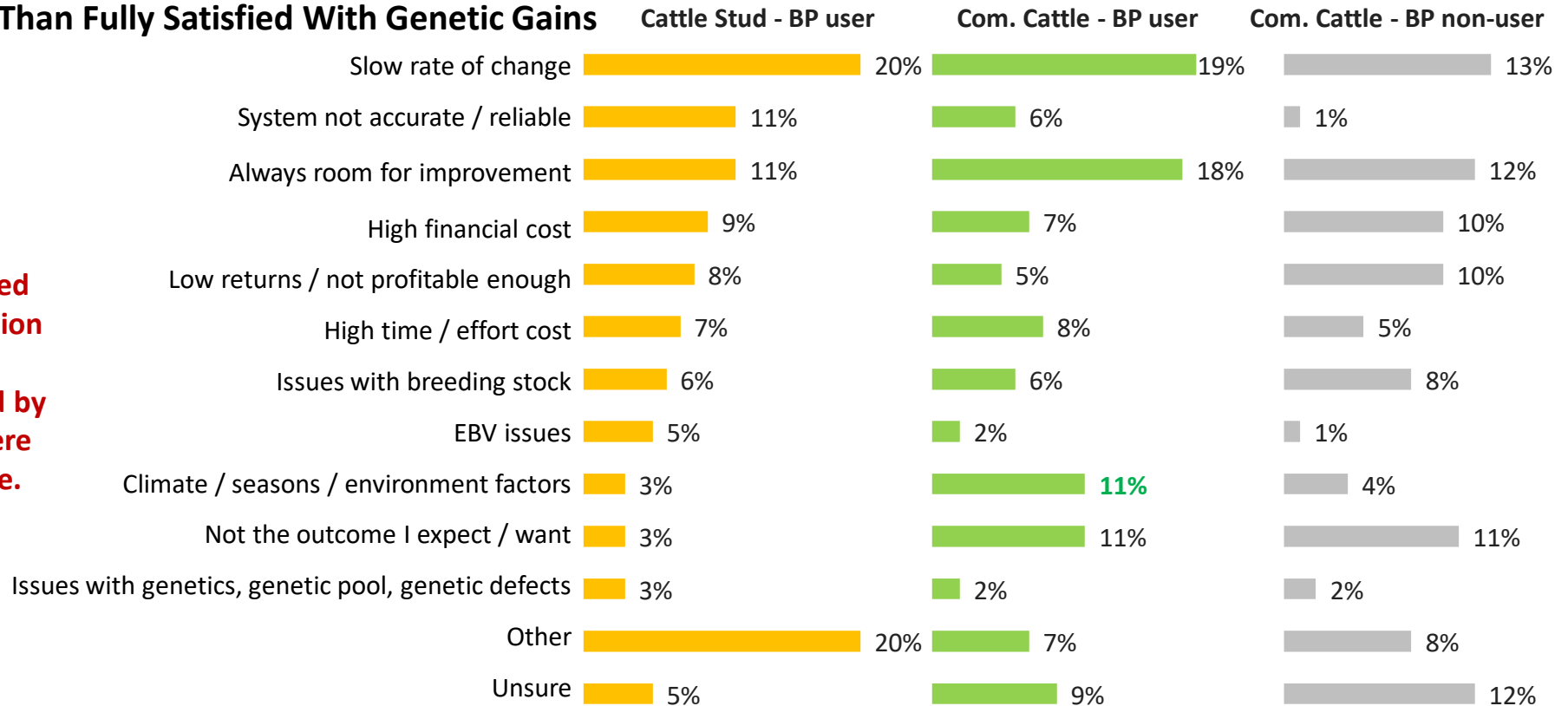
*Note: Small base size.

GAME CHANGERS



Rate of change, system inaccuracies & costs are the most commonly cited specific reasons for cattle Producers' genetic gains dissatisfaction

Reasons Less Than Fully Satisfied With Genetic Gains



Note that this question was asked only of those professing satisfaction levels below 'very'. Therefore these reasons are cited by smaller %s than those shown here when based on the total sample.

Note: Cattle Stud – BP non-user not shown due to small base (n=6)

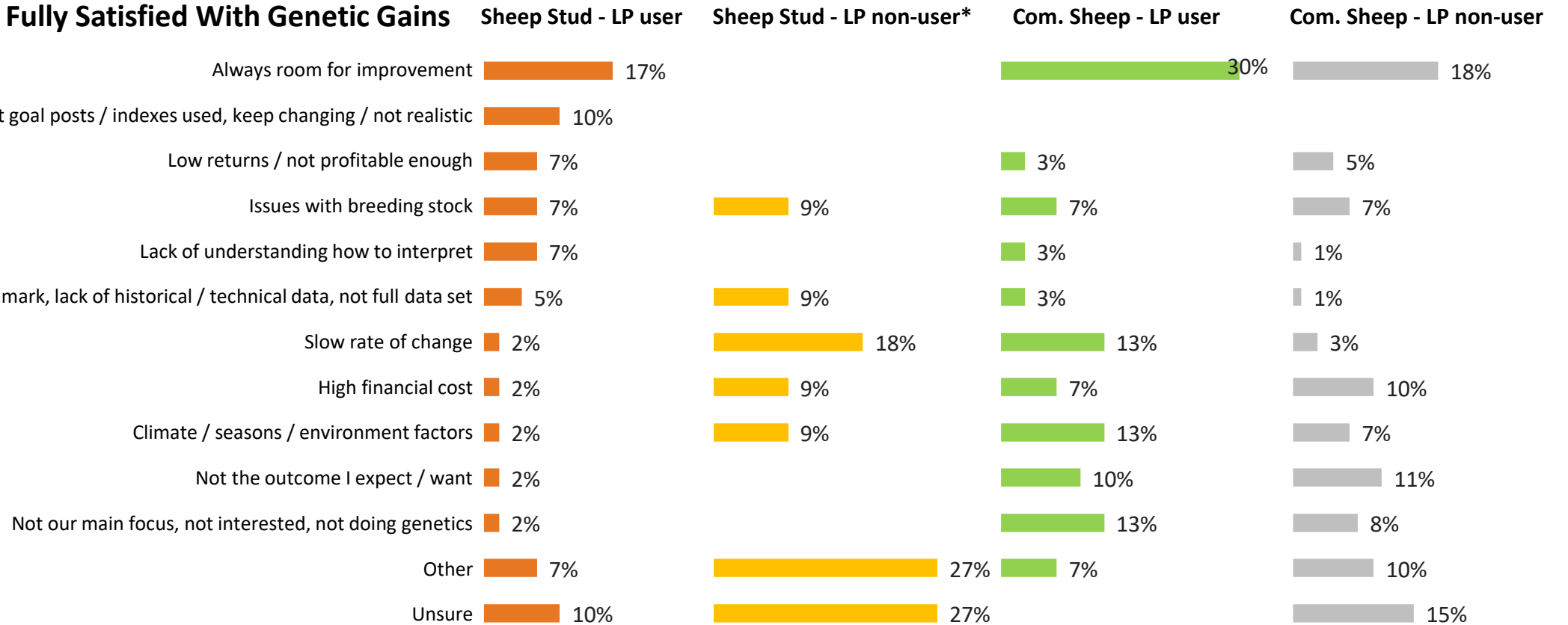
Q18. For what reasons are you less than fully satisfied?

Base: Producers not 'Very satisfied' from Q17: Cattle Stud – BP user (n=175), Commercial Cattle – BP user (n=123), Commercial Cattle – BP non-user (n=105)

Sheep Producers who were not fully satisfied with their genetic gains generally felt that there is *always room for improvement*, esp. in regard to *speed of change* & the complications of *environmental factors*

Reasons Less Than Fully Satisfied With Genetic Gains

Note that this question was asked only of those professing satisfaction levels below 'very'. Therefore these reasons are cited by smaller %s than those shown here when based on the total sample.



Q18. For what reasons are you less than fully satisfied?

Base: Producers not 'Very satisfied' from Q17: Sheep Stud – LP user (n=41), Sheep Stud – LP non-user (n=11*), Commercial Sheep – LP user (n=30), Commercial Sheep – LP non-user (n=104). *Note: Small base size.

Dissatisfied sheep Producers mainly cited a *slow rate of change* & *unwanted outcomes*

Reasons Less Than Fully Satisfied With Genetic Gains

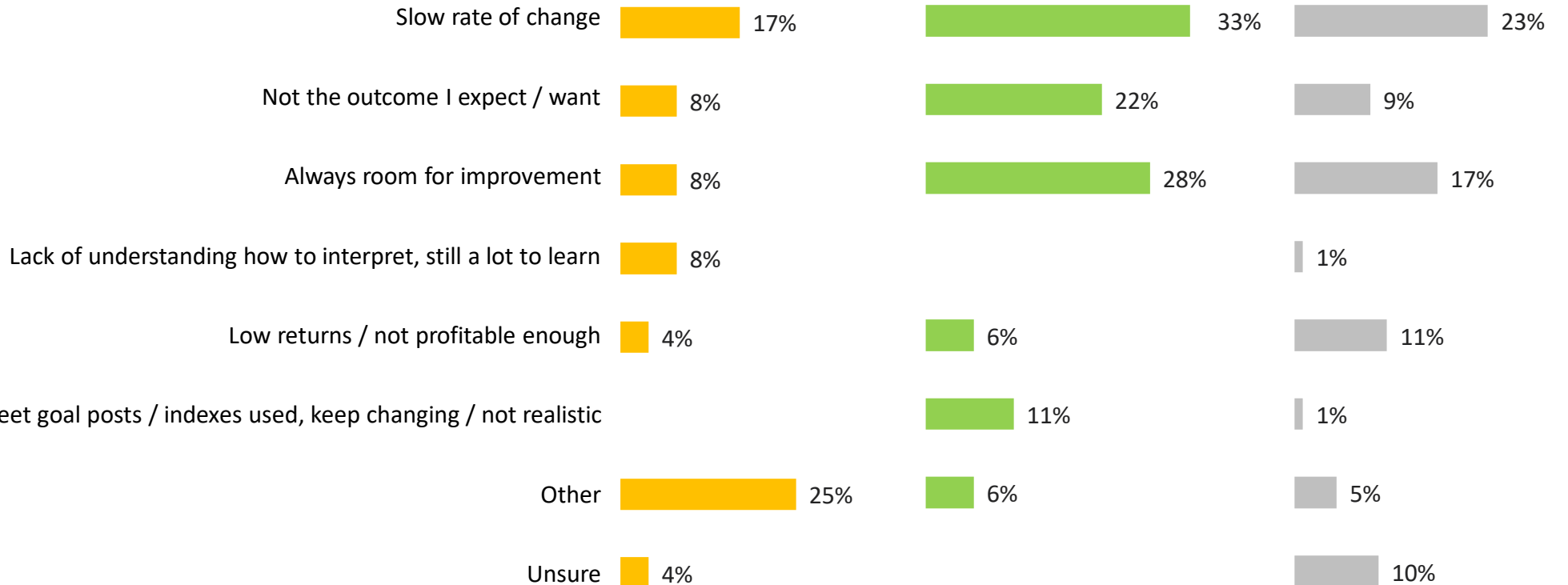
Sheep Stud - MS non-user*

Com. Sheep - MS user*

Com. Sheep - MS non-user



Note that this question was asked only of those professing satisfaction levels below 'very'. Therefore these reasons are cited by smaller %s than those shown here when based on the total sample.



Note: Sheep Stud – MS user not shown due to small base (n=5)

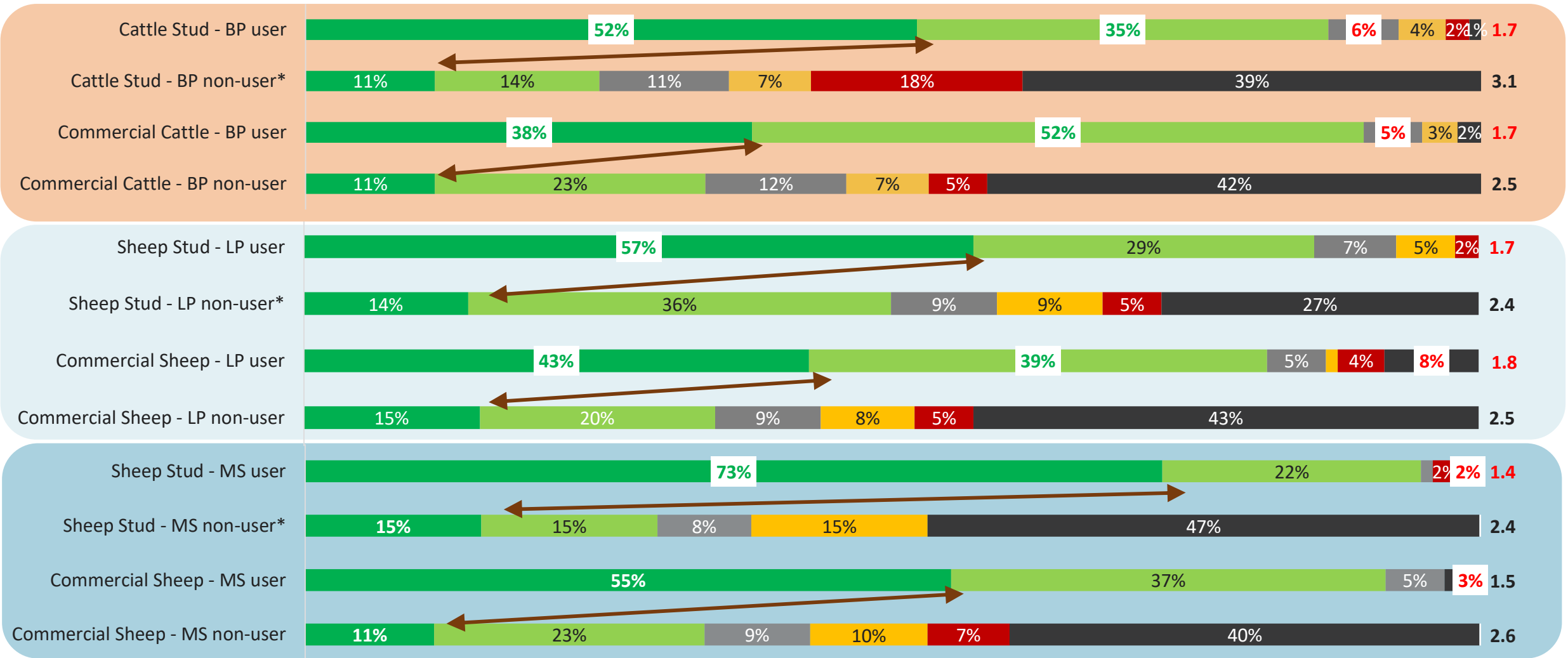
Q18. For what reasons are you less than fully satisfied?

Base: Producers not 'Very satisfied' from Q17: Sheep Stud – MS non-user (n=24*), Commercial Sheep – MS user (n=18*), Commercial Sheep – MS non-user (n=111). *Note: Small base size.

BREEDING MEASURES – EBVS / ASBVS

EBVs / ASBVs are significantly more important to PLAN Users

■ Very important (1)
 ■ Fairly important
 ■ Neither
 ■ Fairly unimportant
 ■ Very unimportant (5)
 ■ Don't use them
 Mean



Significantly higher than non-user – Significantly lower than non-user

Q15. How important are EBVs for selecting your breeding bulls? How important are ASBVs for selecting your breeding rams?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

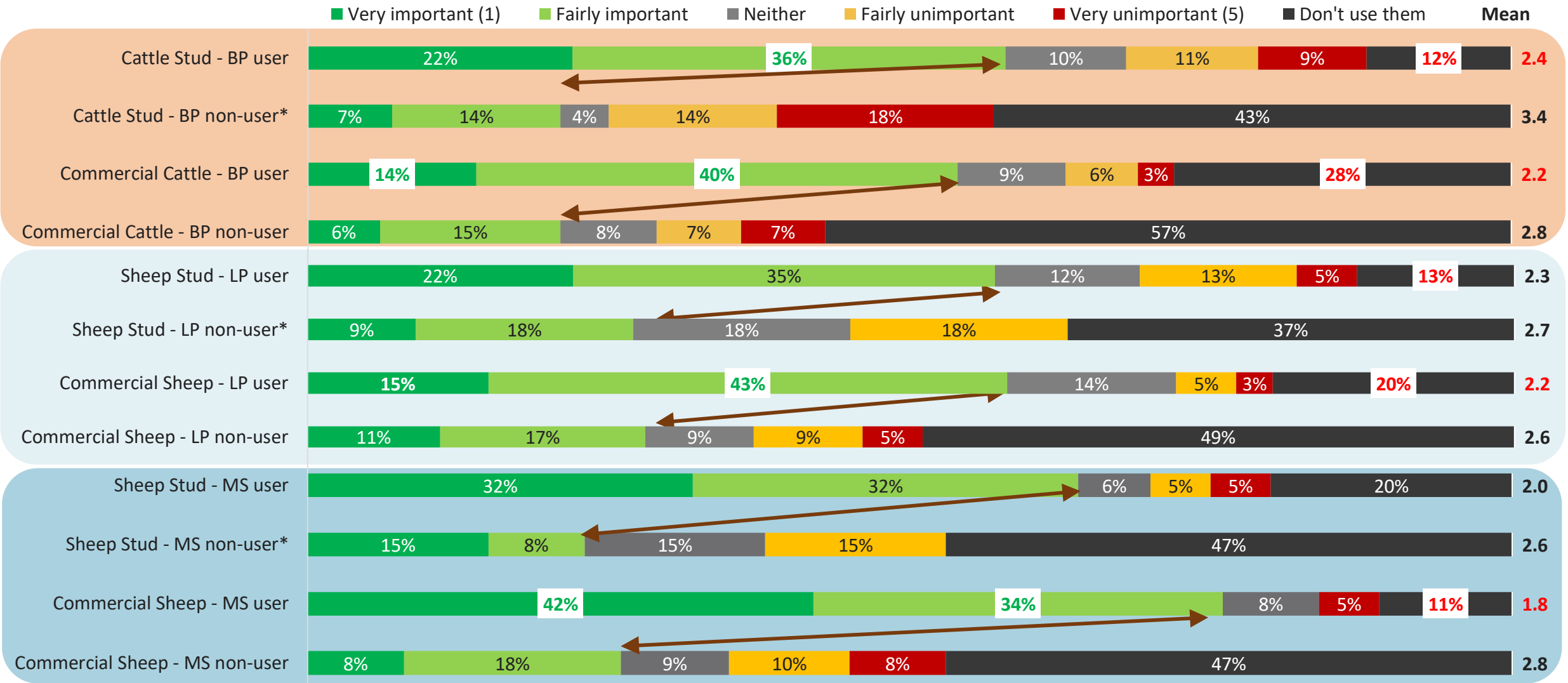
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

*Note: Small base size.

BREEDING MEASURES – DOLLAR INDEXES

Dollar Indexes are clearly more important to PLAN Users



Significantly higher than non-user – Significantly lower than non-user

Q16. How important are Dollar Indexes, also called Selection Indexes, for selecting your breeding animals?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244)

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241)

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230)

*Note: Small base size.

Key Learnings: Genetic Progress

1. PLAN Users are predictably more likely to have set breeding objectives but not exclusively so – **the presence of set breeding objectives is not a predictor of PLAN usage**, nor is the absence an indicator of dissatisfactory genetic gains progress.
2. **Those using PLANs use a wider range of metrics** and are also more likely to track ‘hidden’ traits; Non-Users are more likely to rely on fewer, more basic assessments such as visuals and weight gain.
3. With the exception of MERINOSELECT Studs, **satisfaction with genetic gains is not related to PLAN usage** (remembering that satisfaction is related to investment as well as outcome). This means that dissatisfaction with genetics gains will have limited influence in promoting better genetics-based breeding.
4. **PLAN Users value metrics** like EBVs, ASBVs and Dollar Indexes much more than Non-Users. This indicates that Non-Users are not as desirous of these measures as current Users.





Perceptions of MERINOSELECT LAMBPLAN BREEDPLAN

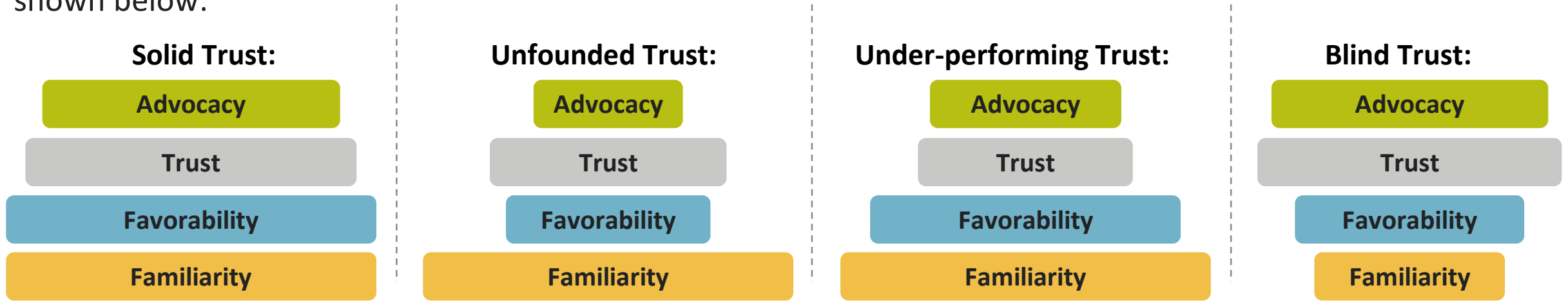


Measuring TRUST

REPUTATION PYRAMID

Understanding types of Trust

Because the qualitative research uncovered an apparently large degree of distrust in the PLANs and MLA, the nature of the trust felt towards the PLANs was explored within the quantitative survey using the Ipsos model shown below:

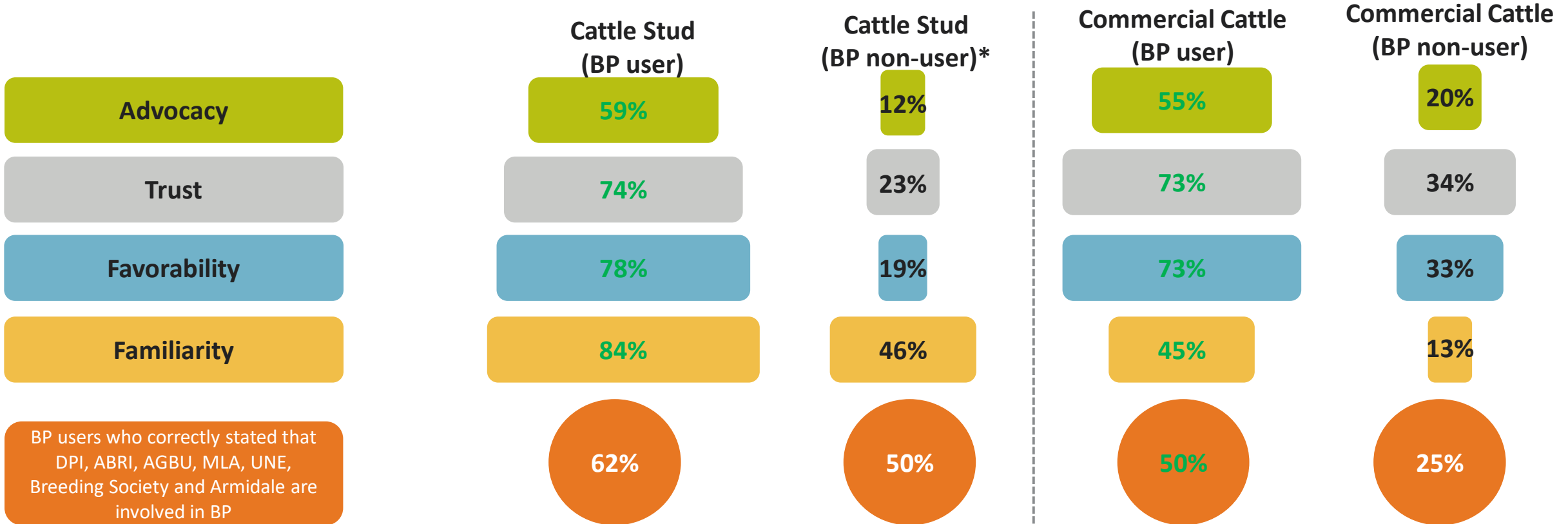


Note that Advocacy is not contingent on Usage, Trust, Favorability or Familiarity (people may see themselves as recommending something in certain circumstances); but when these factors are absent, the conviction and likelihood of such Advocacy are reduced.

Q30b. How much do you feel you know about the overall XYZ system as whole, taking into account all the ways you have learned about or had contact with it. Would you say that you know the XYZ system... / Q30c. Still thinking about the overall XYZ system, taking into account all of the things which you think are important, how favourable or unfavourable is your overall opinion or impression of it? / Q30d. Still thinking about the overall XYZ system, taking into account all of the things which you think are important, how much do you trust or distrust it? / Q30e. Which one of the following statements best reflects your overall opinion and perceptions of the XYZ system?

REPUTATION PYRAMID – BREEDPLAN

Both Commercial & Stud Users have a high level of trust in BP; however, Commercial Users are less familiar with the system & so their ‘Blind Trust’ will be more vulnerable to misinformation from other sources



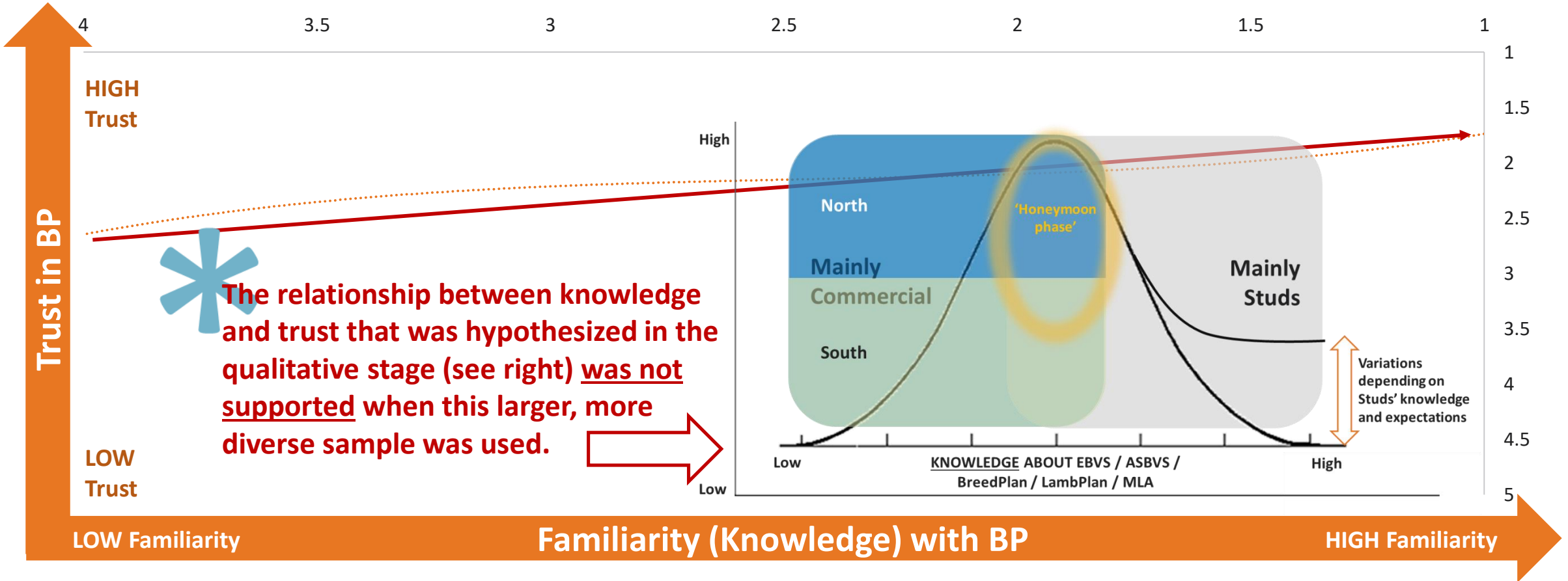
Q30b. How much do you feel you know about the overall BREEDPLAN system as whole, taking into account all the ways you have learned about or had contact with it? Would you say that you know the BREEDPLAN system...? / **Q30c.** Still thinking about the overall BREEDPLAN system, taking into account all of the things which you think are important, how favourable or unfavourable is your overall opinion or impression of it? / **Q30d.** Still thinking about the overall BREEDPLAN system, taking into account all of the things which you think are important, how much do you trust or distrust it? / **Q30e.** Which one of the following statements best reflects your overall opinion and perceptions of the BREEDPLAN system?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=26* - 28*), Commercial Cattle – BP user (n=210 - 215), Commercial Cattle – BP non-user (n=220 - 244) – note reduced bases for favorability, Trust and Advocacy.

Significantly higher than BP non-user – Significantly lower than BP non-user

*Note: Small base size.

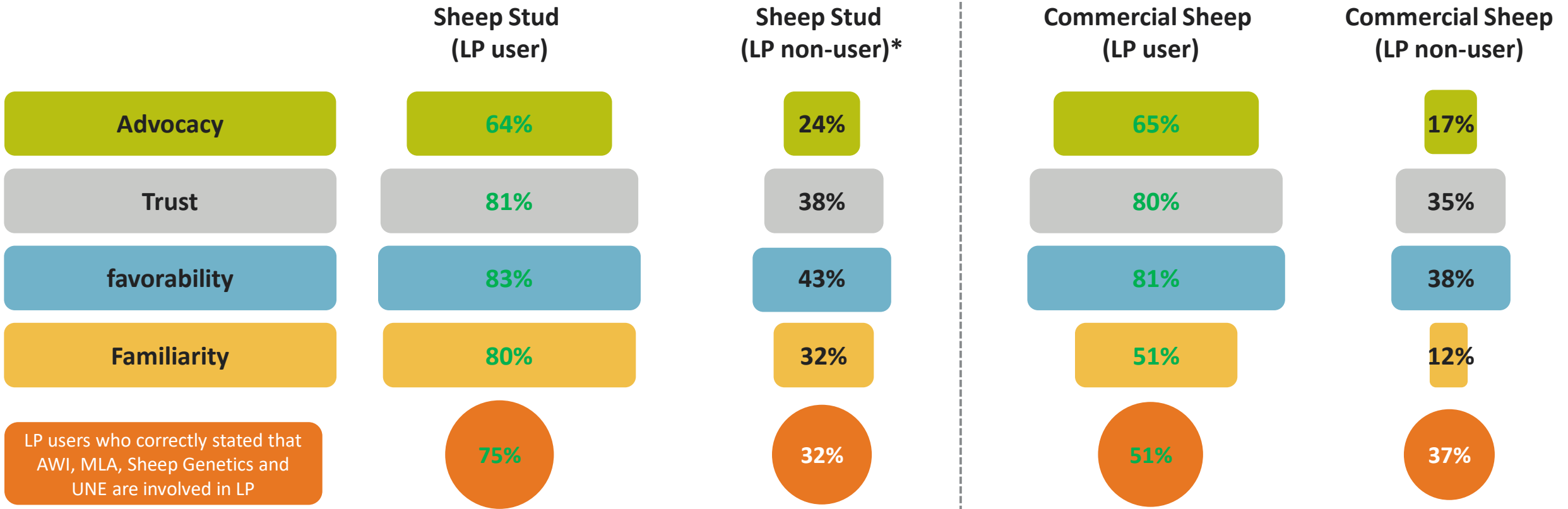
There is a small but positive relationship between BREEDPLAN Trust & Knowledge



Q30b. How much do you feel you know about the overall BREEDPLAN system as whole, taking into account all the ways you have learned about or had contact with it. Would you say that you know the BREEDPLAN system...? / **Q30d.** Still thinking about the overall BREEDPLAN system, taking into account all of the things which you think are important, how much do you trust or distrust it?

Base: Total cattle Producers (n=1,057)

Both Commercial & Stud Users have high levels of trust in LAMBPLAN; however, Commercial Users are less familiar with the system & so their ‘Blind Trust’ will be more vulnerable to misinformation from other sources

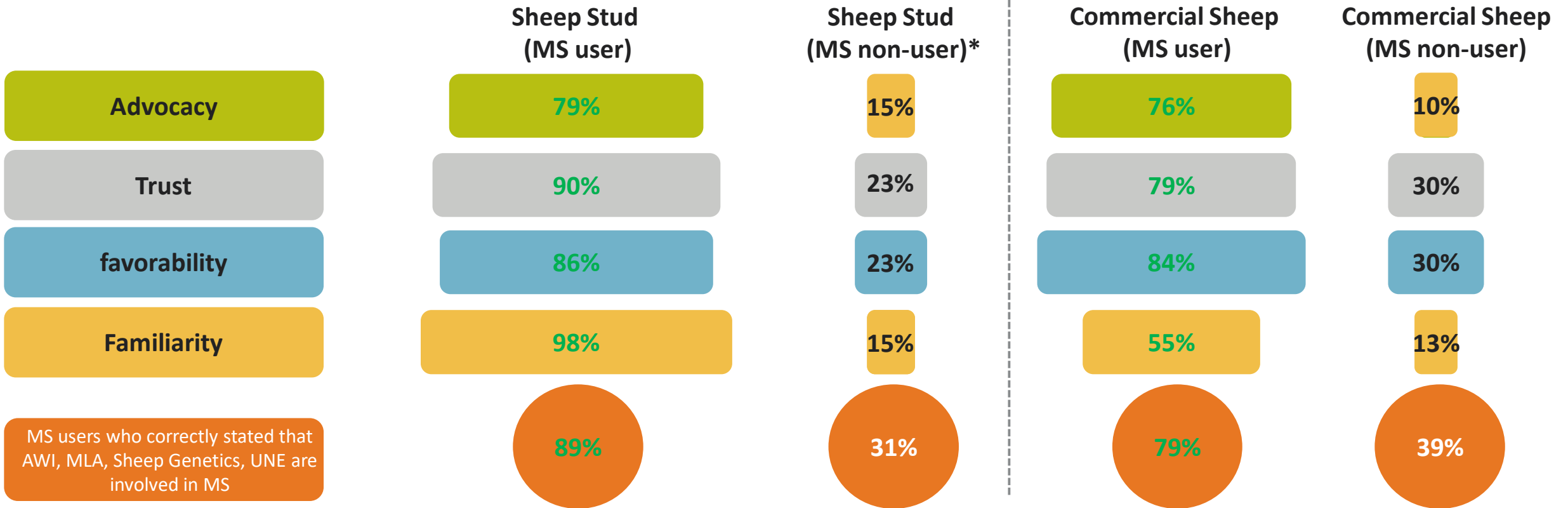


Q30b. How much do you feel you know about the overall LAMBPLAN system as whole, taking into account all the ways you have learned about or had contact with it? Would you say that you know the LAMBPLAN system... ? / **Q30c.** Still thinking about the overall LAMBPLAN system, taking into account all of the things which you think are important, how favourable or unfavourable is your overall opinion or impression of it? / **Q30d.** Still thinking about the overall LAMBPLAN system, taking into account all of the things which you think are important, how much do you trust or distrust it? / **Q30e.** Which one of the following statements best reflects your overall opinion and perceptions of the LAMBPLAN system?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=21* - 22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241 - 244) – note reduced bases for favorability, Trust and Advocacy.

REPUTATION PYRAMID – MERINOSELECT

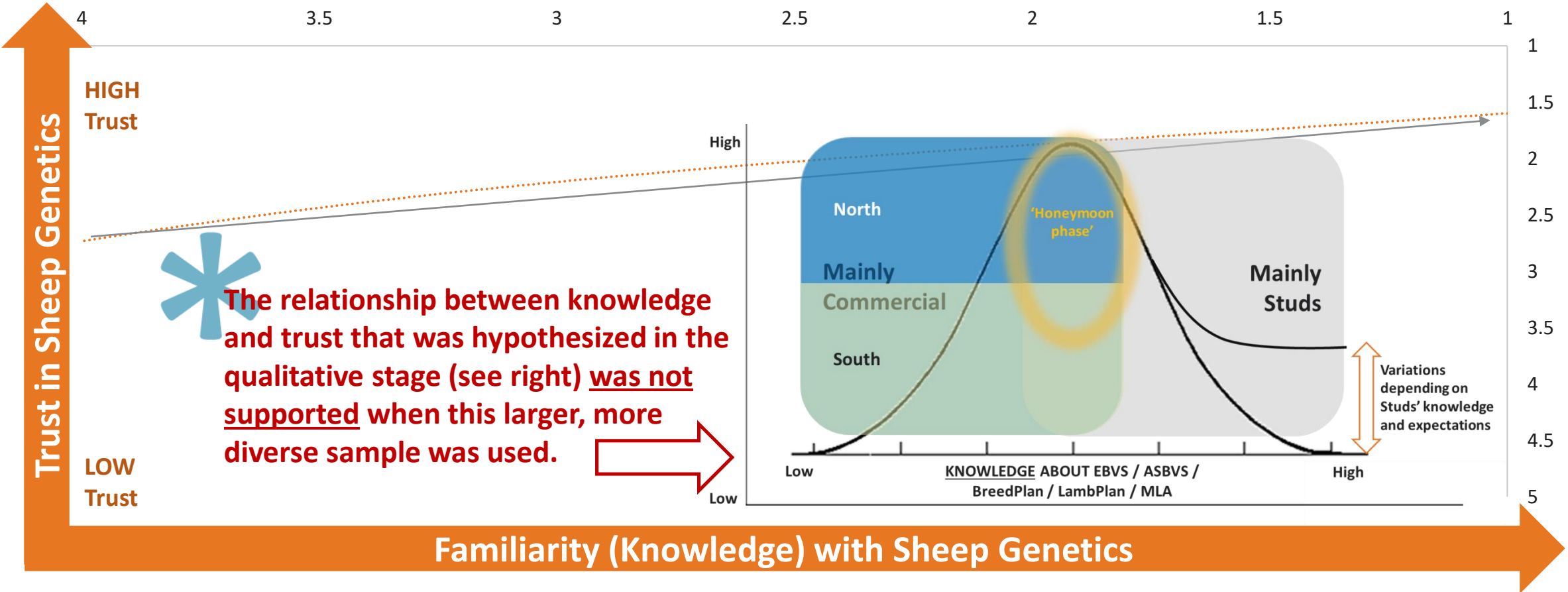
Both Commercial & Stud MS Users have high levels of trust in MERINOSELECT; however, Commercial Users are less familiar with the system & so their ‘Blind Trust’ will be more vulnerable to misinformation from other sources



Q30b. How much do you feel you know about the overall MERINOSELECT system as whole, taking into account all the ways you have learned about or had contact with it? Would you say that you know the MERINOSELECT system...? / **Q30c.** Still thinking about the overall MERINOSELECT system, taking into account all of the things which you think are important, how favourable or unfavourable is your overall opinion or impression of it? / **Q30d.** Still thinking about the overall MERINOSELECT system, taking into account all of the things which you think are important, how much do you trust or distrust it? / **Q30e.** Which one of the following statements best reflects your overall opinion and perceptions of the MERINOSELECT system?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=210 - 230) – note reduced bases for favorability, Trust and Advocacy.

There is a small but positive relationship between Knowledge & Trust in the Sheep Genetics systems



Q30b. How much do you feel you know about the overall MERINOSELECT system as whole, taking into account all the ways you have learned about or had contact with it. Would you say that you know the MERINOSELECT system...? / Q30d. Still thinking about the overall MERINOSELECT system, taking into account all of the things which you think are important, how much do you trust or distrust it? Base: Total sheep Producers (n=944)



Perceptions of BREEDPLAN

PERCEPTIONS OF BREEDPLAN

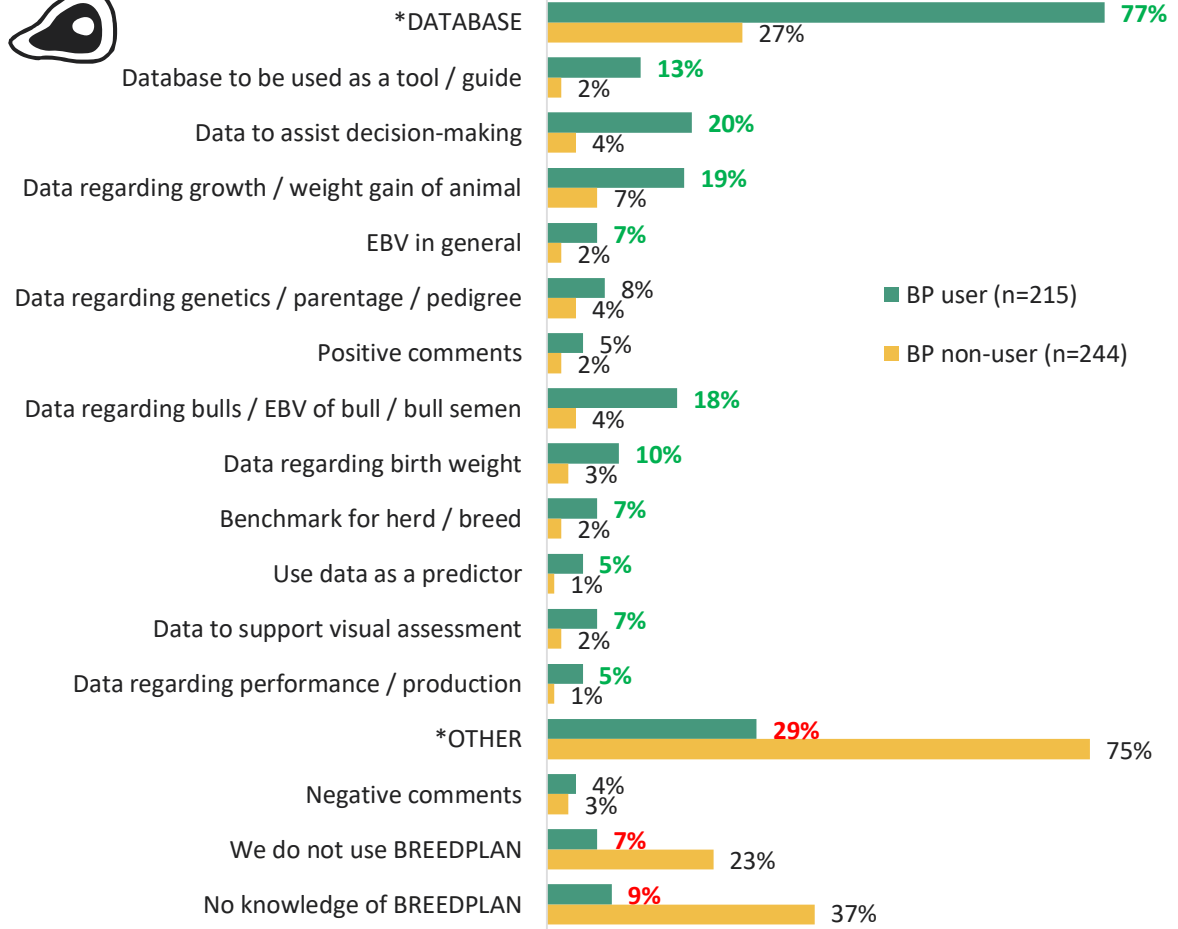
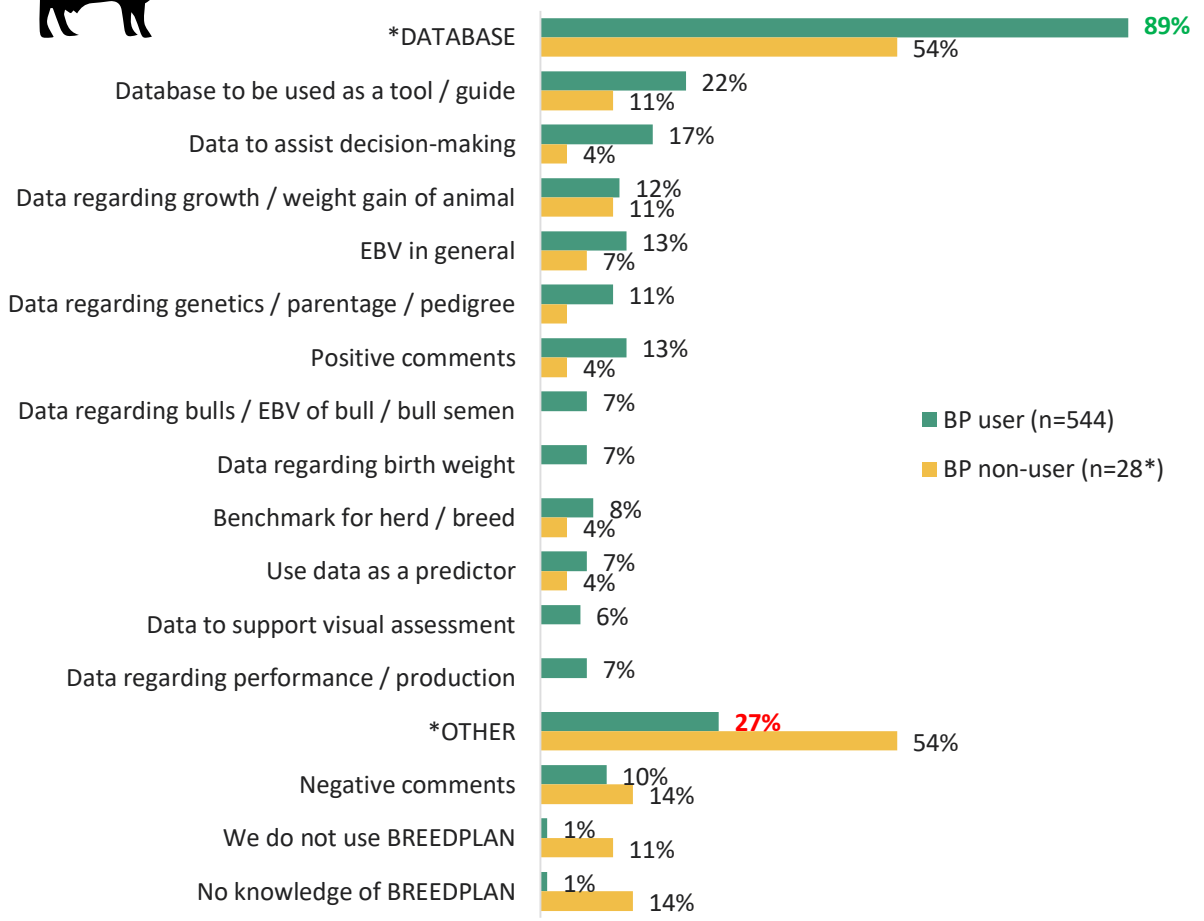
Studs mainly see BP as a *database* for helping decisions, whereas Commercial Producers also highlight specific measures for *weight gain & EBVs*



Cattle Stud

What Can You Tell Me About BP?

Commercial Cattle



Q20a. So before we go any further, what can you tell me about BREEDPLAN?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

Significantly higher than BP non-user – Significantly lower than BP non-user

The majority of Producers view BP positively, with some reservations

What Can You Tell Me About BP?

Cattle Stud – BP user

BREEDPLAN gives a better idea of where you are going and where you want to go. As far as selling something it serves a purpose. So there is guidance there.

It's an important tool that we contribute data to and we get estimated breeding values that help us and our customers...

Cattle Stud – BP non-user*

BREEDPLAN is a calculation of the relative Commercial benefit of animal with high EBV figures.

Is not a major tool in my operation; I don't feel it is a massive tool in the industry; there is a big change to get away from it. Is there to keep data records; you can manipulate these numbers; it's not what people should buy cattle from. They market cattle on these figures.

Commercial Cattle – BP user

It's just a matter of collecting data from birth weight calving scanning eye muscle fat and performance.

We would use semen as we use AI sometime; then we would look at the EBVs because we are small operation; temperament is important to us.

It's an objective tool for improving genetic gain.

Commercial Cattle – BP non-user

Measure the animals' weight at birth and compare with animals in the herd, think it's quite a good idea.

It can be considered when you are purchasing bulls and females for crossbreeding or breeding of any sort.

It's about trying to prove the genetics and the weight gain.

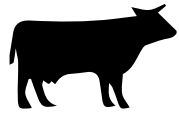
It's a rough guide / size on the cows.

Q20a. So before we go any further, what can you tell me about BREEDPLAN?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

The most commonly-cited benefits of BP are its *decision-helping capabilities*

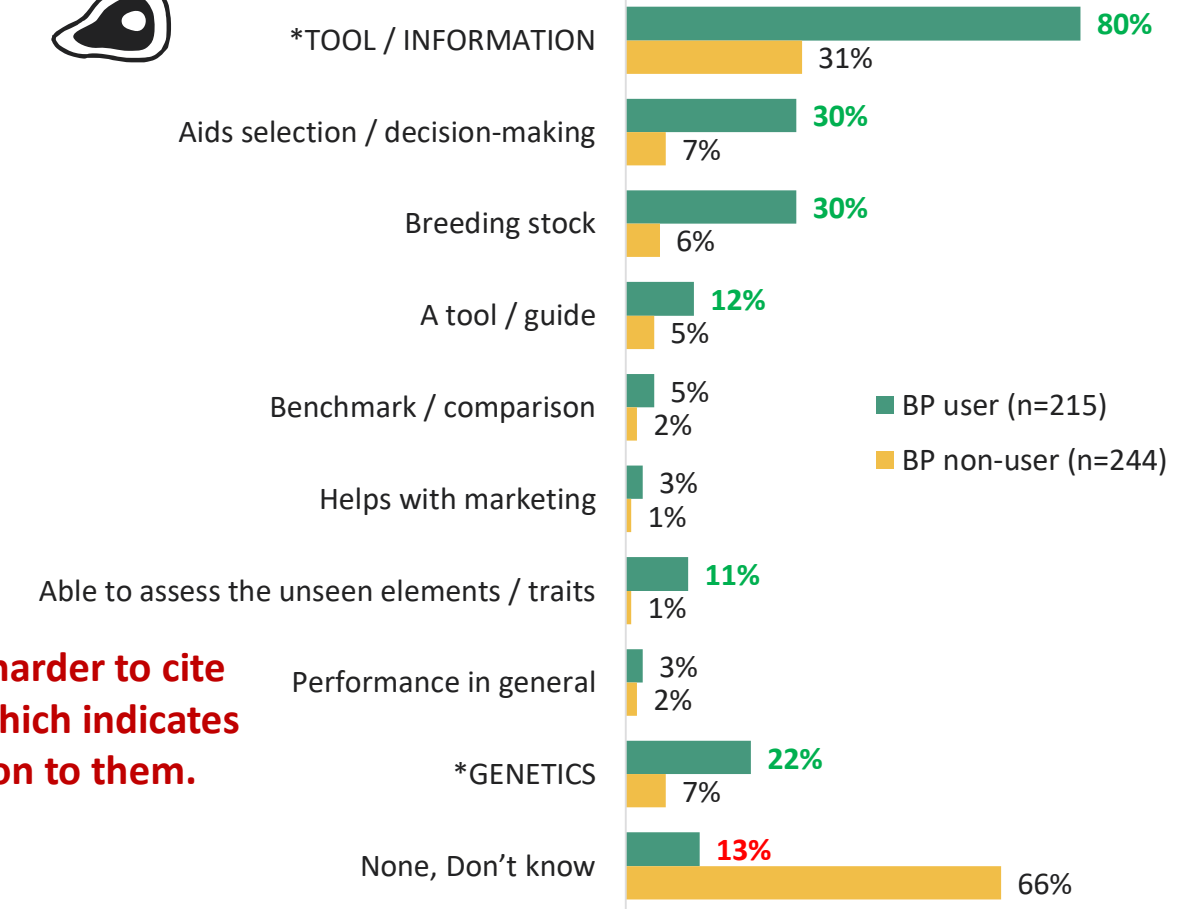
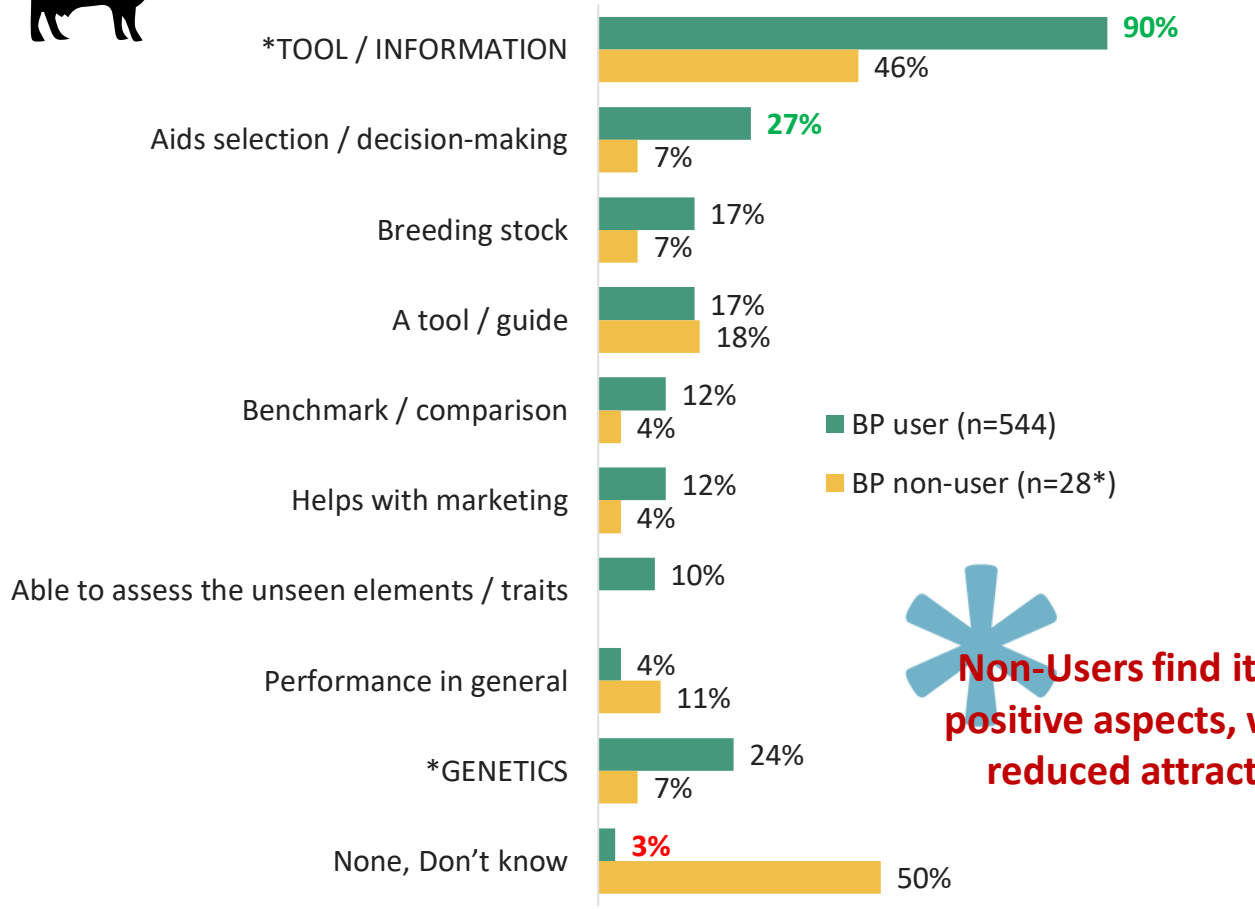
What Are The Best Things About BP?



Cattle Stud



Commercial Cattle



Non-Users find it harder to cite positive aspects, which indicates reduced attraction to them.

Q20b. What are the best things about BREEDPLAN for people running businesses like yours?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

Significantly higher than BP non-user – Significantly lower than BP non-user

The majority of comments relate to how BP can be *a useful tool*

What Are The Best Things About BP?

Cattle Stud – BP user

It provides a quantifiable and measurable product. It's a useful indicator and provides productive indicator for your seed stock.

Good, quick, easy guide to sell animals, it is also a useful tool.

Benchmarking, using BREEDPLAN to select good bulls. I suppose the hard thing is if you put more into it, you get more out of it.

Cattle Stud – BP non-user*

It's a tool for people who don't know how to look at cattle and how to see; it's a tool on how to assess them.

Showing you the animals and comparisons, size of calves, etc., allows you to look at genetics all over the world and gives the advantage to source from overseas.

Management tool for assisting selection.

Commercial Cattle – BP user

It makes it easier to check whether genetics would suit what you are aiming for. It makes it easier to match the genetics to your objectives.

Gives you another option to look at when buying stock. Before it was just done on visual with no actual history. Now there is.

A good tool to work with.

Commercial Cattle – BP non-user

Gives you some idea on how to make decisions on what you are buying when it comes to bulls.

It gives you what the breeding value of the animal is based on genetics rather than just environment.

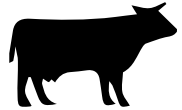
You can track your herd's growth to make sure it is going in the direction you want it to go in, i.e. financial and physical beef growth.

Q20b. What are the best things about BREEDPLAN for people running businesses like yours?

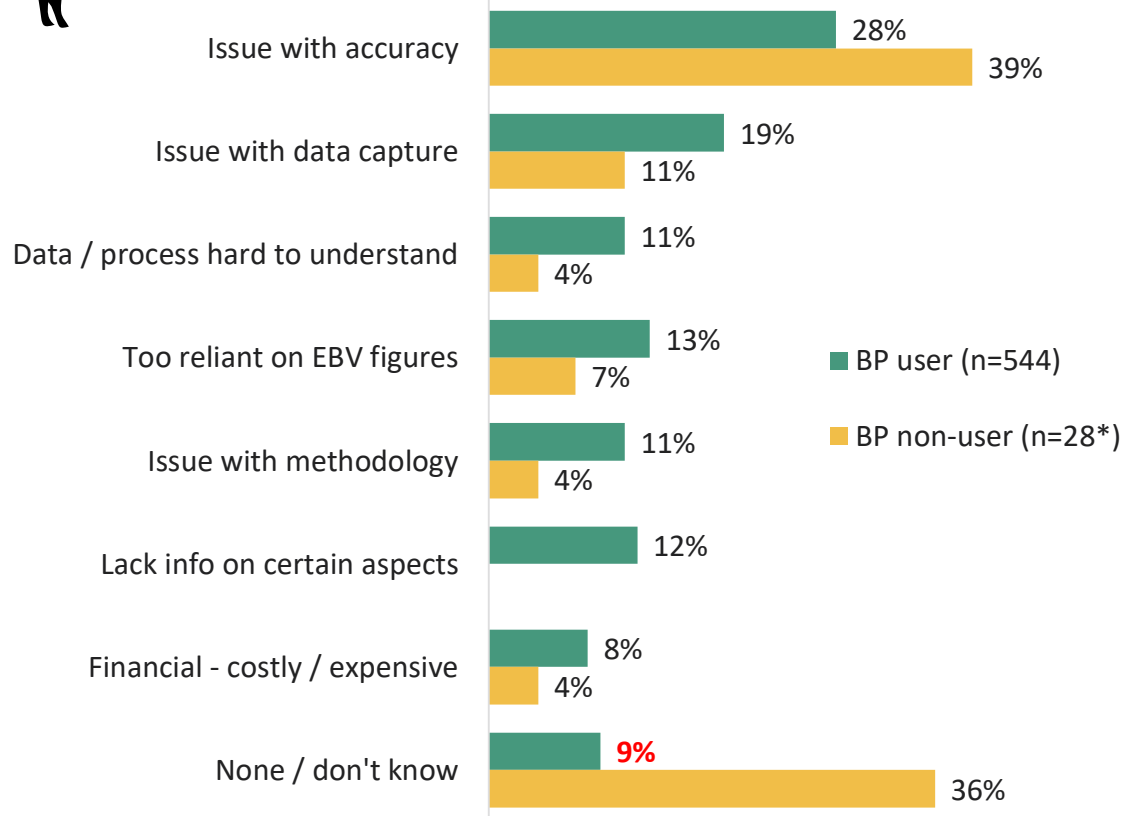
Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

The most commonly-cited problems of BP concern *accuracy, complexity & the time involved*; however, most Non-Users cannot cite any problems at all

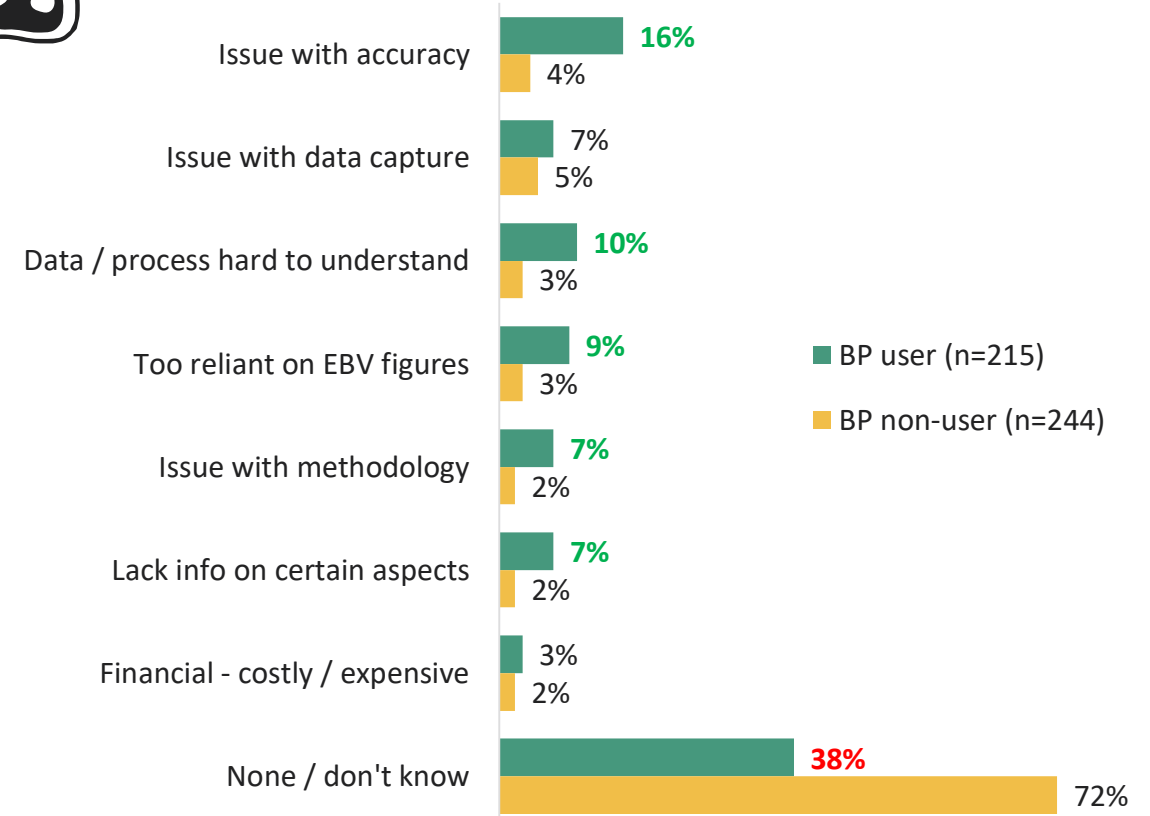
What Are The Worst Things About BP?



Cattle Stud



Commercial Cattle



Q20c. What are the worst things about BREEDPLAN for people running businesses like yours?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

Significantly higher than BP non-user – Significantly lower than BP non-user

Accuracy & the time involved are key themes

What Are The Worst Things About BP?

Cattle Stud – BP user

The downside of it it's another job and it's another cost.

All animals that somebody records a trait for get issued with a series of BP figures, which are very inaccurate and low. Buyers tend to rely on that and don't understand the accuracy.

If you relied on it totally it is not a fail safe or a guaranteed measure of genetic traits. EBVs are all probability...

Cattle Stud – BP non-user*

The EBVs don't necessarily reflect what you're looking for - in particular temperament.

The figures don't relate to the performances of the animals. The birth weights and milk and a whole lot of the EBVs just don't relate to the animals.

A lot of paperwork and I don't want to do that, I just want to produce good cattle.

Commercial Cattle – BP user

You don't know the temperament of animal and confirmation of animal, so those things have to go into your assessment of the animal.

I've always questioned the truthfulness or accuracy of them.

Some people are obsessed with following just the figures and it's not always right. The theories are wonderful, but you need to put it into practice.

Commercial Cattle – BP non-user

Don't know if there is a worst thing; you still need a viable animal, can have all the breeding traits you want, but since there's no visual assessment, it's tough.

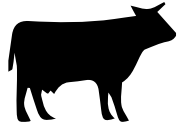
Our own hands-on experience and management is the best things for your enterprise; far better than getting too involved in the figures and getting outside people making decisions for you.

I don't have an opinion, as no experience with it.

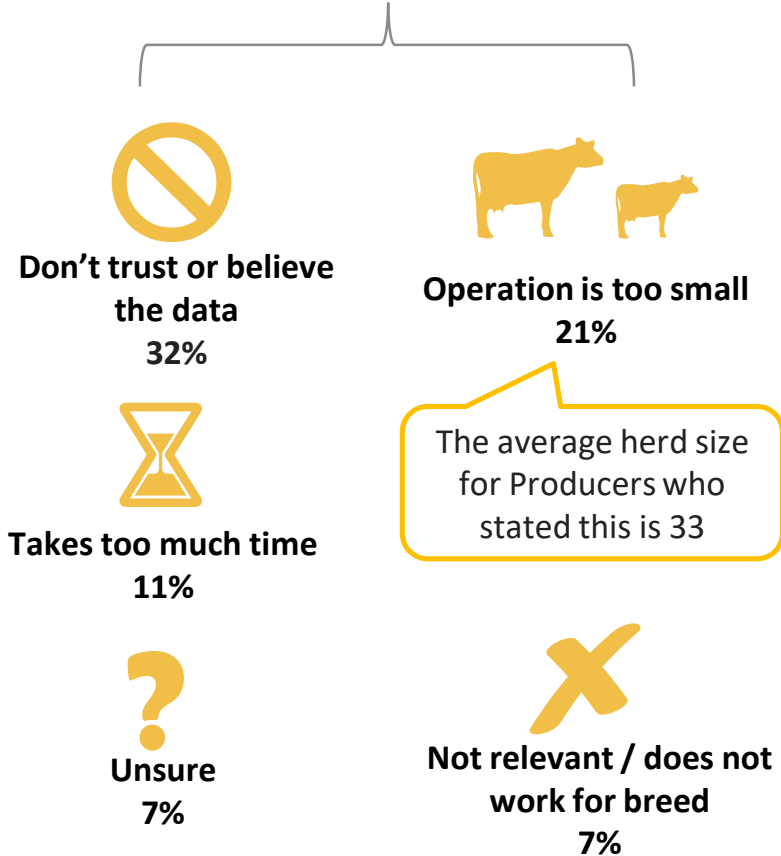
Q20c. What are the worst things about BREEDPLAN for people running businesses like yours?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP user (n=215), Commercial Cattle – BP non-user (n=244). *Note: Small base size.

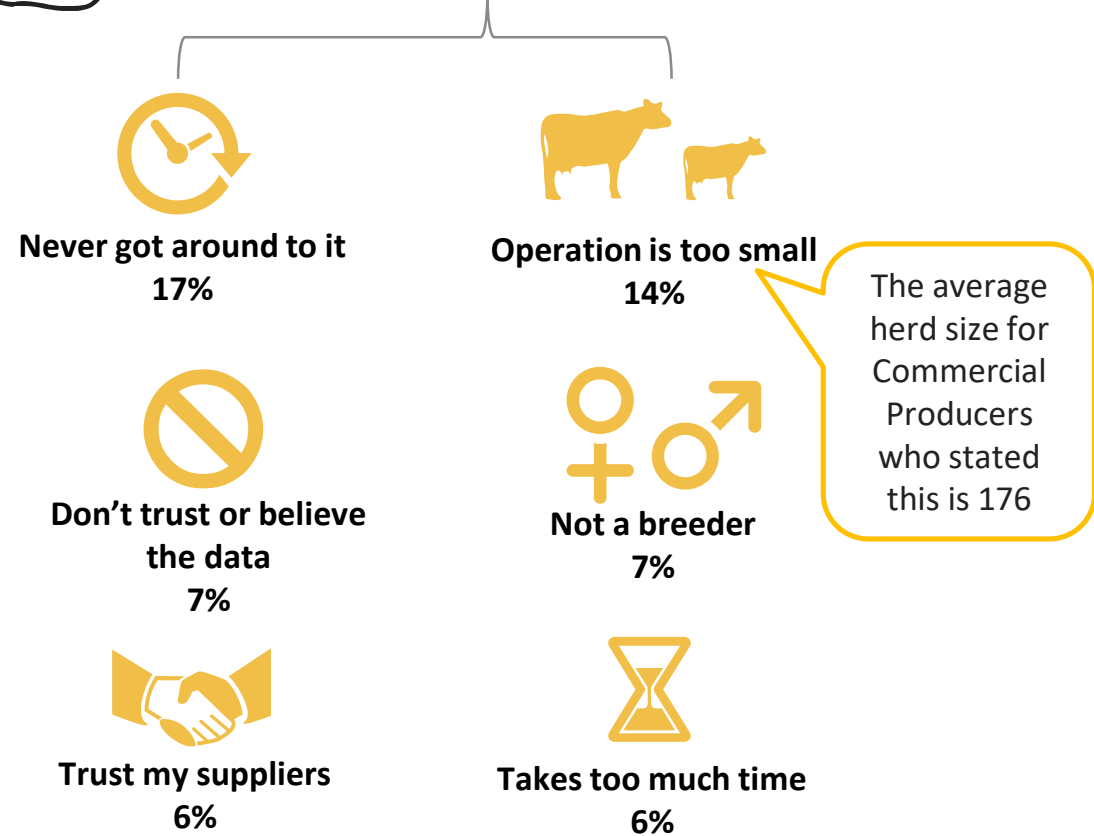
Mistrust, operation size & the time involved are key reasons for not using BP



For What Reasons Does Your Cattle Stud Operation Not Use BP? (n=28*)



For What Reasons Does Your Commercial Cattle Operation Not Use BP? (n=270)



Q10b. For what reasons does your operation not use BREEDPLAN information?

Base: Cattle Stud – BP non-user (n=28*), Commercial Cattle – BP non-user (n=270). *Note: Small base size.



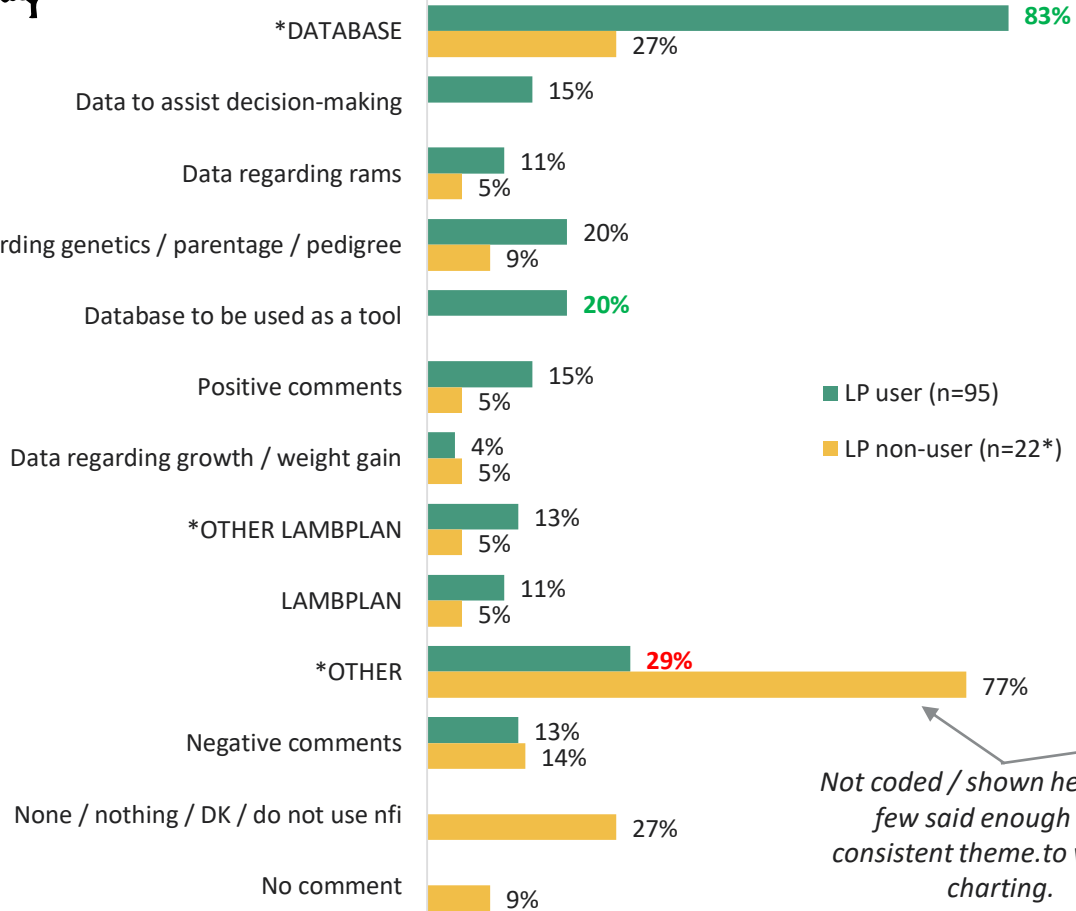
Perceptions of LAMBPLAN

Commercial sheep Producers tend to cite a wider range of LP features

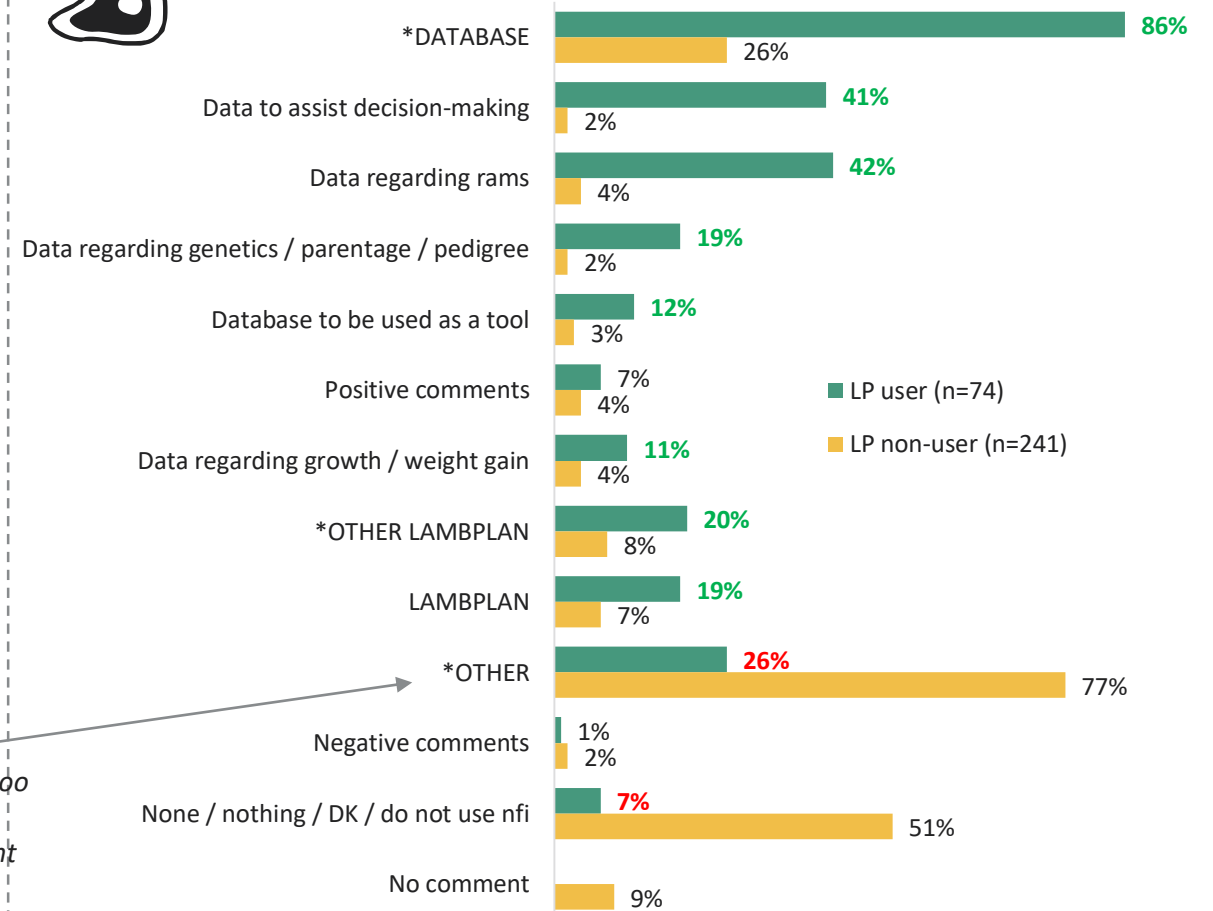


What Can You Tell Me About LP?

Sheep Stud



Commercial Sheep



Not coded / shown here as too few said enough on a consistent theme to warrant charting.

Q21a. So before we go any further, what can you tell me about LAMBPLAN?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

The majority of Producers view LP as a *database* (what it is not what it offers)

What Can You Tell Me About LP?

Sheep Stud – LP user

The integrity of the data is questionable. However, that is the reason we use the Dohne database due to it having full traceability of pedigrees and integrity of the information.

I have used LAMBPLAN to make genetic gains since 1991. I'm happy with the system, but I wish the stock agent and buyer of sheep knew more about it.

Sheep Stud – LP non-user*

Basically it's an estimated numeric value of genetic potential.

Because we have our own separate system for our own breed, we use our own EBVs for our own breed system, so don't know a lot.

We don't use them.

Commercial Sheep – LP user

Keeping the digital stats on their birth weight, weighing weights.

I use those figures as guides and analyse the various figures and use after a visual assessment to make a final decision on which ram to buy. Is a secondary tool.

It's a data recording follow-up to get good use of the EBVs stock particularly the rams I am buying.

Commercial Sheep – LP non-user

It is a tool that is very good for Studs to improve their genetics.

Not really, I don't go into that too much. I think the Studs that you buy off they're the people who are doing that work.

They provide data on type of parameters of performance and potential performances on breeding values.

Q21a. So before we go any further, what can you tell me about LAMBPLAN?

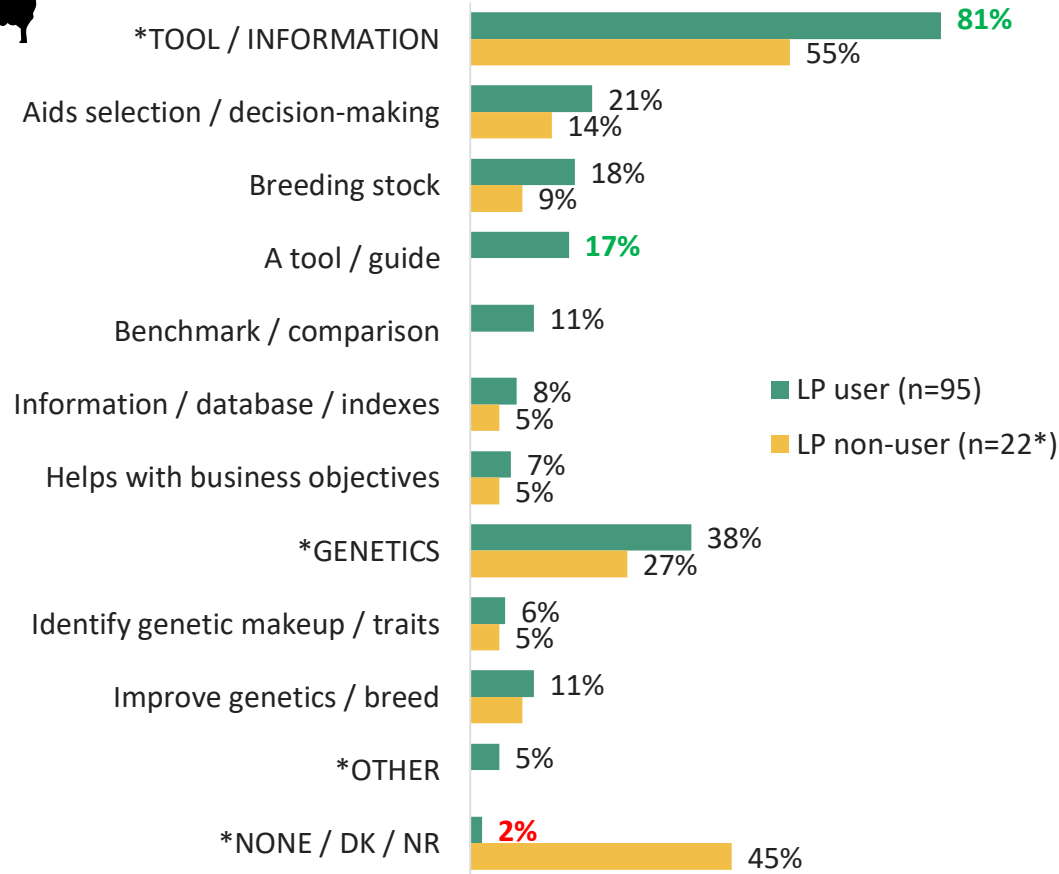
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

The majority of LP Non-Users don't know what the best things about LP are, which reduces the attractiveness of adopting it

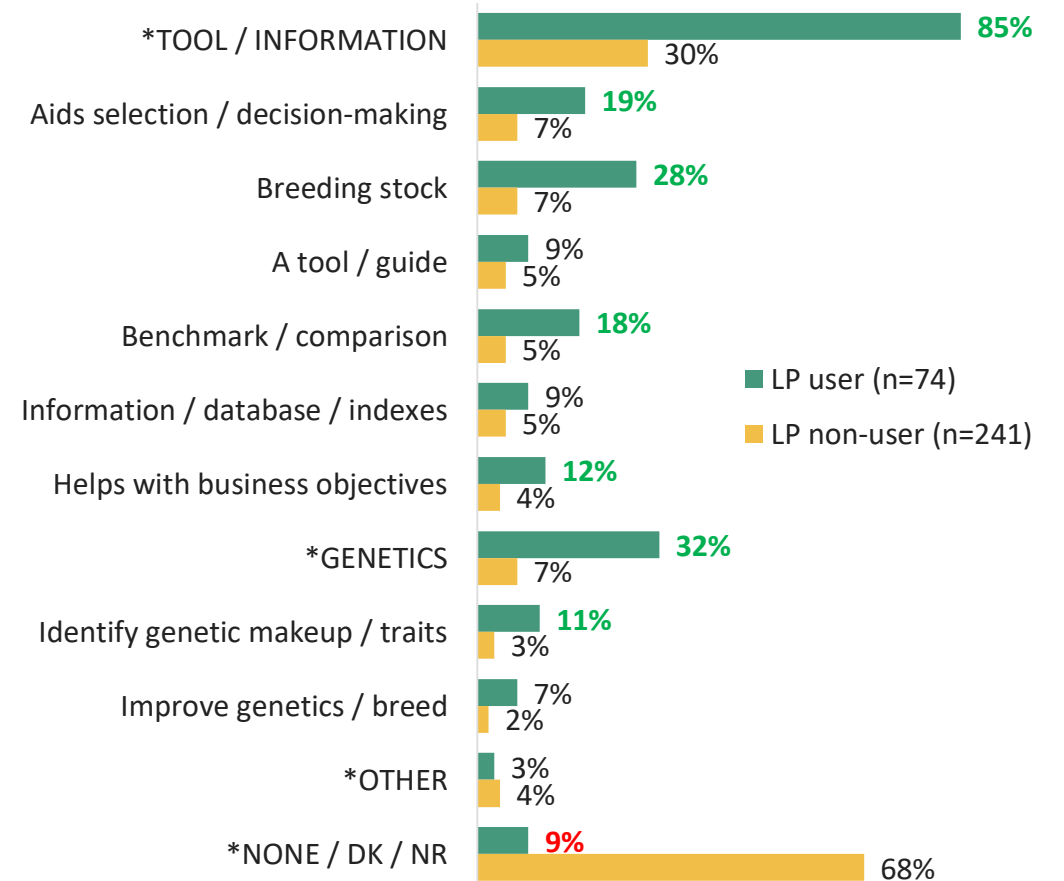
What Are The Best Things About LP?



Sheep Stud



Commercial Sheep



Q21b. What are the best things about LAMBPLAN for people running businesses like yours?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

Significantly higher than LP non-user – Significantly lower than LP non-user

The majority of comments relate to how LP can be a *useful tool*

What Are The Best Things About LP?

Sheep Stud – LP user

From a Seedstock Producer's point of view it gives buyers information on your animals through the different traits that they need.

You're able to assess the value of a sheep you have information about which is not visual.

Giving us information we can compare with other Studs. And also gives us information to improve our productivity.

Sheep Stud – LP non-user*

They give you an idea of the animals you are buying and what they are predicted to do.

It allows you to improve your breeding and hopefully increases the money you make.

They can go towards getting the best out of your lambs / can pick the best traits, i.e. grow more wool or produce more meat.

Commercial Sheep – LP user

It's an objective tool for ram selection and adds weight to confidence in ram selection.

It gives us good guidelines on how the Studs are improving.

It takes the emphasis away from feeding rams up for sale and more emphasis on genetics merits of the ram. Allows you to put together a team of rams with similar figures but not visually the same.

Commercial Sheep – LP non-user

It's a guide in your selection process.

The in-depth information of all the different traits of the animals, the EBVs can push you in a direction of the market you want to target.

Supposed to give you the values to compare animals across a flock.

Q21b. What are the best things about LAMBPLAN for people running businesses like yours?

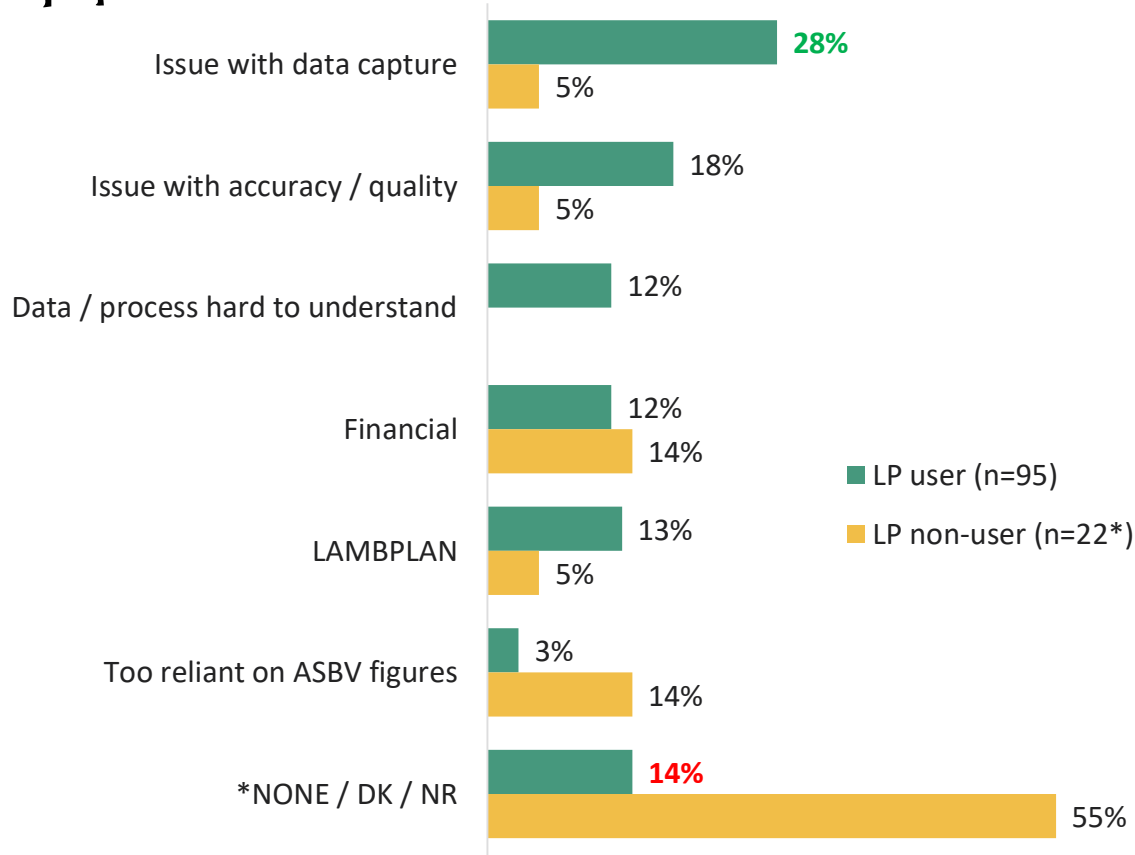
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

The common LP problems relate to issues with *accuracy & data capture*

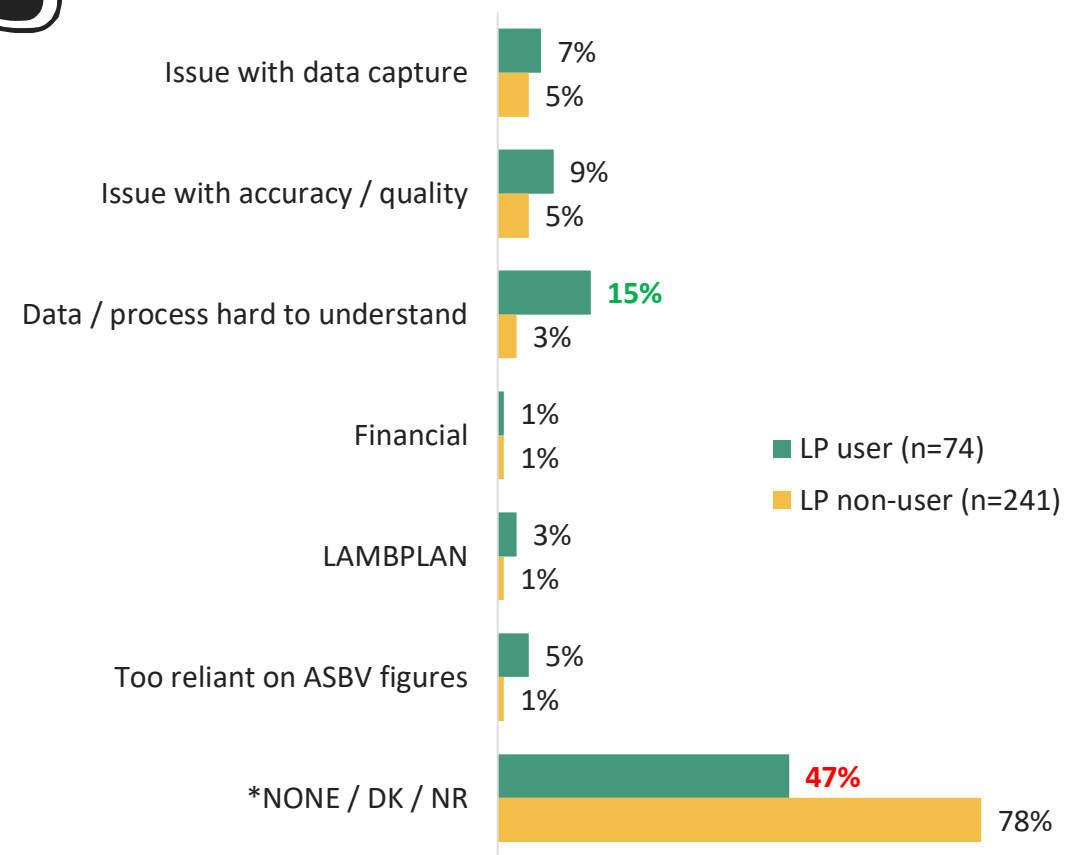
What Are The Worst Things About LP?



Sheep Stud



Commercial Sheep



Q21c. What are the worst things about LAMBPLAN for people running businesses like yours?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

Significantly higher than LP non-user – Significantly lower than LP non-user

Data capture, accuracy & understanding are key themes

What Are The Worst Things About LP?

Sheep Stud – LP user

A bit costly, the whole process is costly, if you're in the system it isolates your genetic selection to only people within the system.

Not convinced with comparing against Studs.

The amount of data that you have to put in, the weight scanning is a lot of work involved and you have to pay to get it done.

Sheep Stud – LP non-user*

Not relevant to me as I'm not using it, but I think that other people rely on it too much.

The figures don't always show up in the sheep, sheep may have real high figures and when you look at him in the paddock he does not look like a sheep.

Sometimes you can get blinded by figures and still need to look at the animal itself.

Commercial Sheep – LP user

If you have no visual appraisal of the lambs, LAMBPLAN does not work.

Sometimes you can find the numbers confusing, as it is a moving scale. May be difficult for some people to follow.

There's that many figures involved, they can get a bit baffled with that.

Commercial Sheep – LP non-user

Trying to take it all in to get what you want out of it the best part out of it.

The accuracy of the data collected by individual Studs and the associated ambiguity around that.

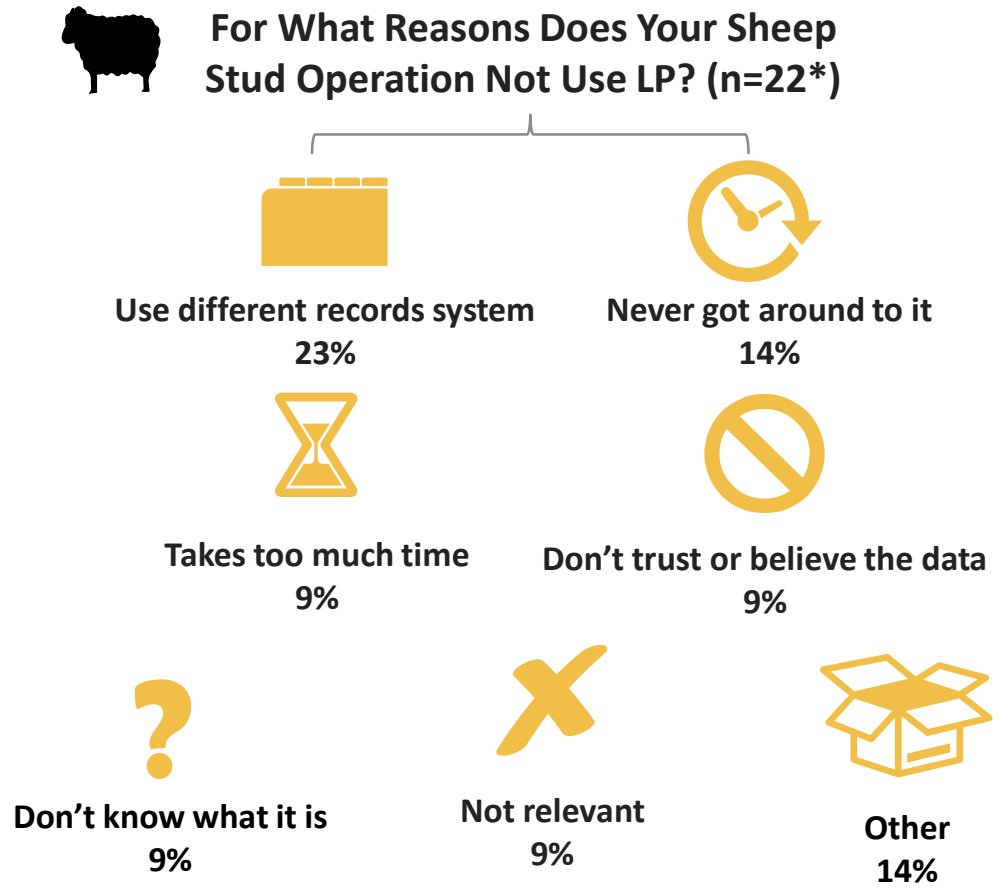
I think added workload in the office and increased time to deal with it.

Q21c. What are the worst things about LAMBPLAN for people running businesses like yours?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241). *Note: Small base size.

PERCEPTIONS OF LAMBPLAN

Never getting around to it is a key reason for LP non-use among both types of operations – this indicates that the benefit proposition is not known or too weak, especially when other systems are used



Q10b. For what reasons does your operation not use LAMBPLAN information?
 Base: Sheep Stud – LP non-user (n=22*), Commercial Sheep – LP non-user (n=241). *Note: Small base size.



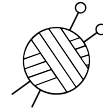
Perceptions of MERINOSELECT

Half of MS Non-Users struggle to recall anything about MS

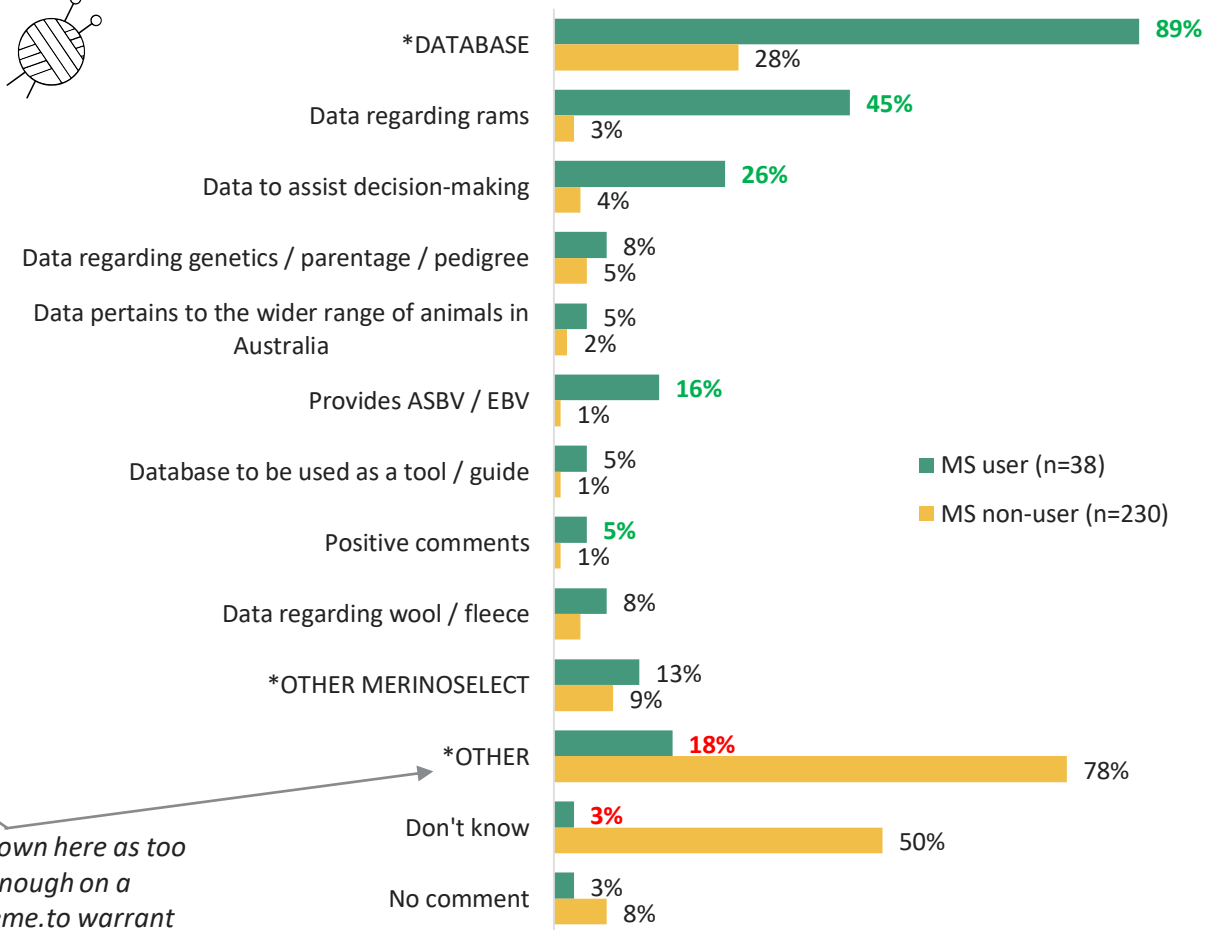
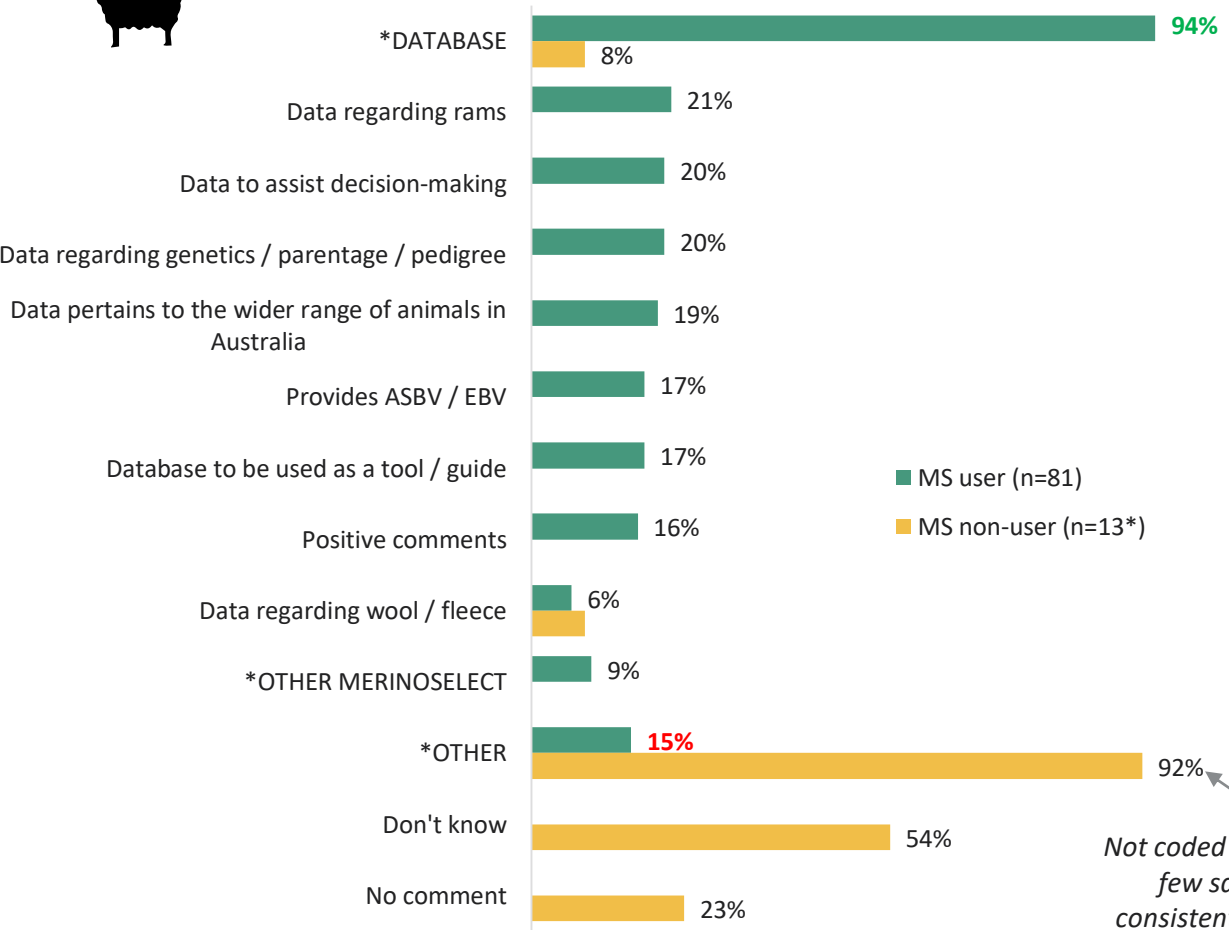
What Can You Tell Me About MS?



Sheep Stud



Commercial Sheep



Not coded / shown here as too few said enough on a consistent theme to warrant charting.

Q21a. So before we go any further, what can you tell me about MERINOSELECT?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Significantly higher than MS non-user – Significantly lower than MS non-user

MS is generally viewed as a *helpful database tool*

What Can You Tell Me About MS?

Sheep Stud – MS user

We use it as a bit of a sales tool for selling rams.

It collects data from all over Australia. It allows us measure our animals to compare with others.

It's a tool, it's not a 'be all or end all'. We have to use visuals as well. ASBV figures are very handy.

Sheep Stud – MS non-user*

All traits and the two that are number of lambs / fertility / traits for Caracas / fat depth / muscle depth / yearly weight / worm egg count / wool.

Don't know much about it don't have much to do with that sort of thing.

Know a little bit / do look at figures.

Commercial Sheep – MS user

It is a way of comparing rams from different breeders across the country to remove environmental effects.

They are informative, don't take everything on board, pick and choose what suits me. Info there if and when I require it.

I use ASBV to select my rams and don't buy rams without ASBV.

Commercial Sheep – MS non-user

MERINOSELECT has a pool of animals with genetic characteristics.

Compares sheep from other flock, tries to standardise. Don't worry much about it.

MERINOSELECT has influence in comparing merino genetics on national basis.

Q21a. So before we go any further, what can you tell me about MERINOSELECT?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

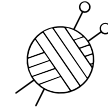
PERCEPTIONS OF MERINOSELECT

The most commonly-cited benefits of MS are *data regarding rams & aiding decision-making*; however, around 16% of users could not cite 'the best thing' about MS

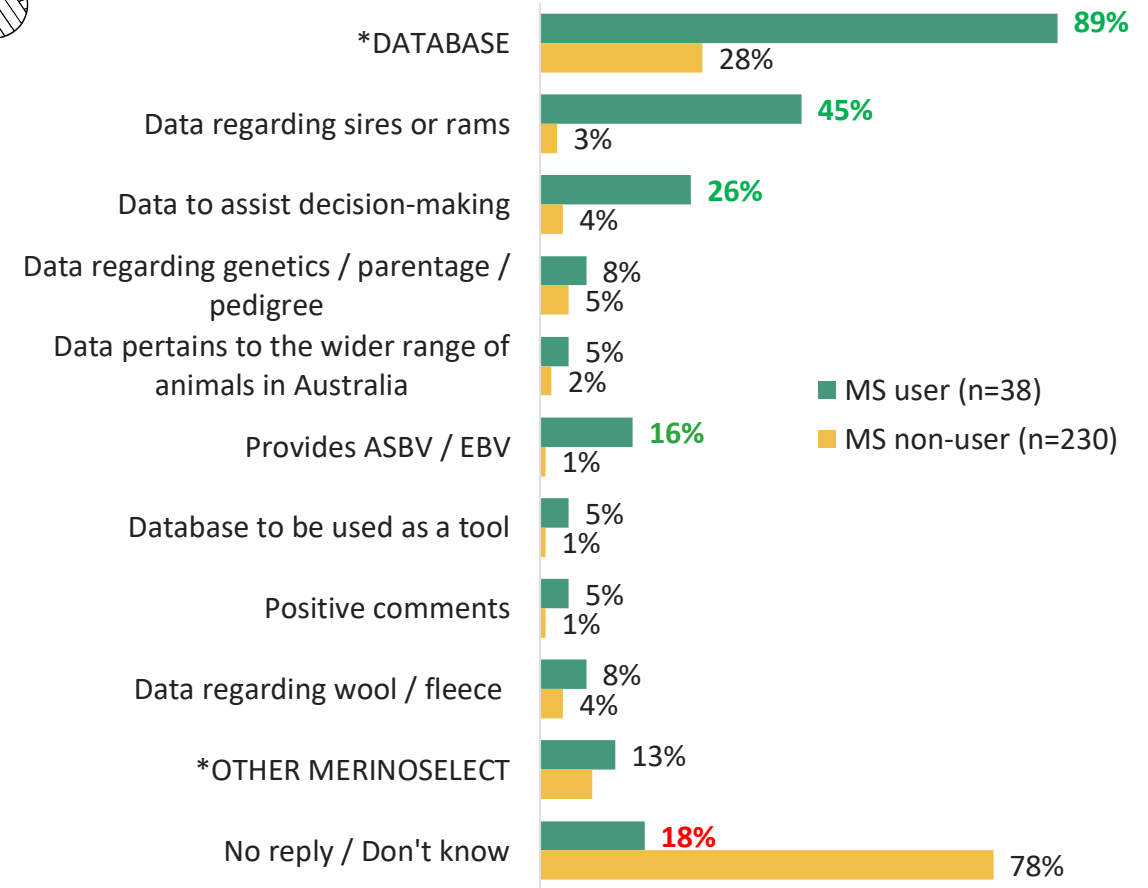
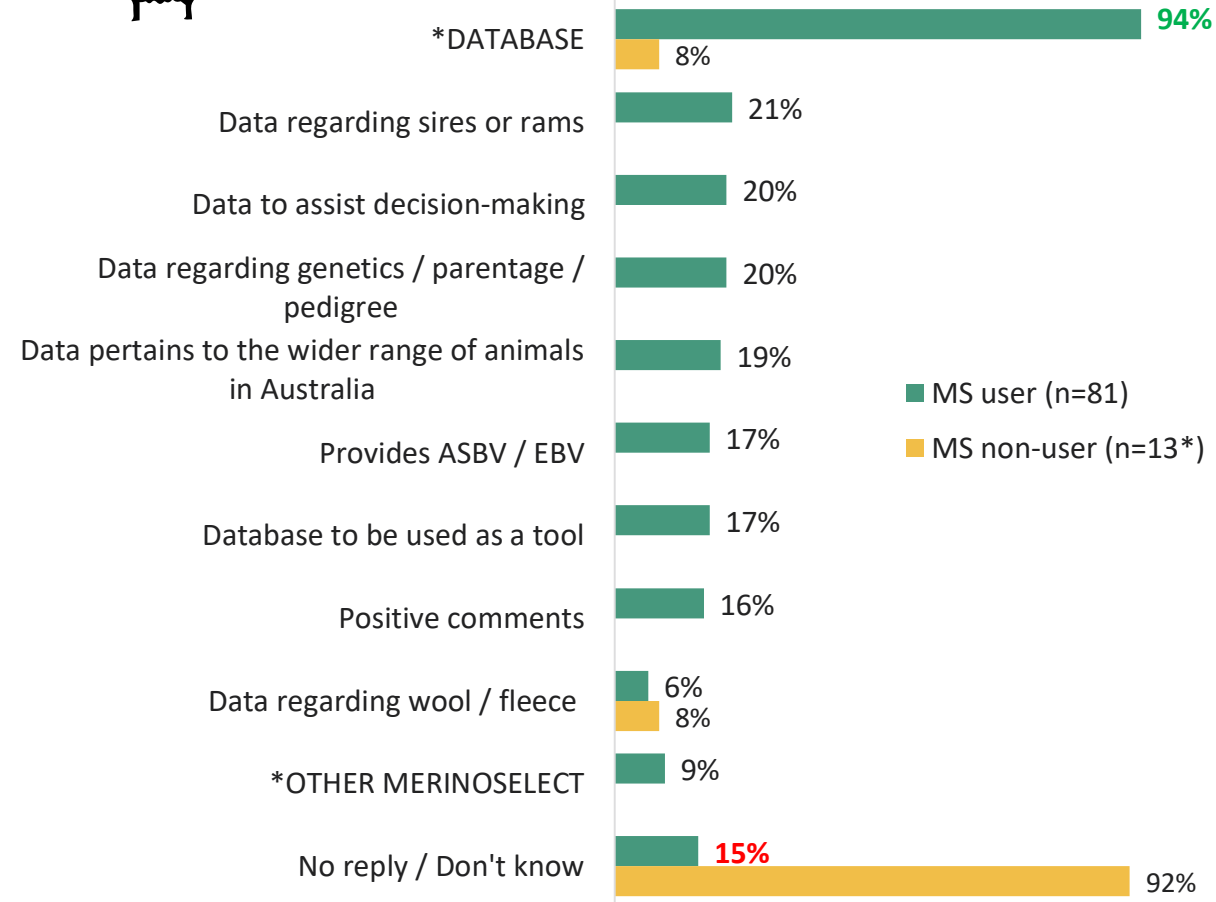
What Are The Best Things About MS?



Sheep Stud



Commercial Sheep



Q21b. What are the best things about MERINOSELECT for people running businesses like yours?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Significantly higher than MS non-user – Significantly lower than MS non-user

The majority of comments relate to how MS can be used for *ram selection & help with decision-making*

What Are The Best Things About MS?

Sheep Stud – MS user

The ability to benchmark year on year your improvement and your ability to benchmark against other flock by using the same system.

It gives you a selection of Studs that may be suitable in your area - what size they are and the potential of what they may be able to do in your environment.

Sheep Stud – MS non-user*

If there are lots of animals, it may be useful.

If you go armed with this info you are able to eliminate half the catalogue. It narrows things down in terms of buying rams, etc.

None – don't use it.

Commercial Sheep – MS user

It's another tool to aid in the selection of sheep that we keep for breeding.

Gives you a bit more information when selecting your ram; it gives you more information that you need when selecting.

Your making decisions based on statistical evidence rather than just visual appearance.

Commercial Sheep – MS non-user

Having access to the information is important. Gives a wider spectrum of choices and able to make better decisions.

I'm not involved, so I don't know.

If you buy, it's useful to compare different animals.

To improve the genetics and get the flock growing, the correct path for wool buyers and meat buyers.

Q21b. What are the best things about MERINOSELECT for people running businesses like yours?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

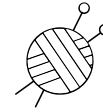
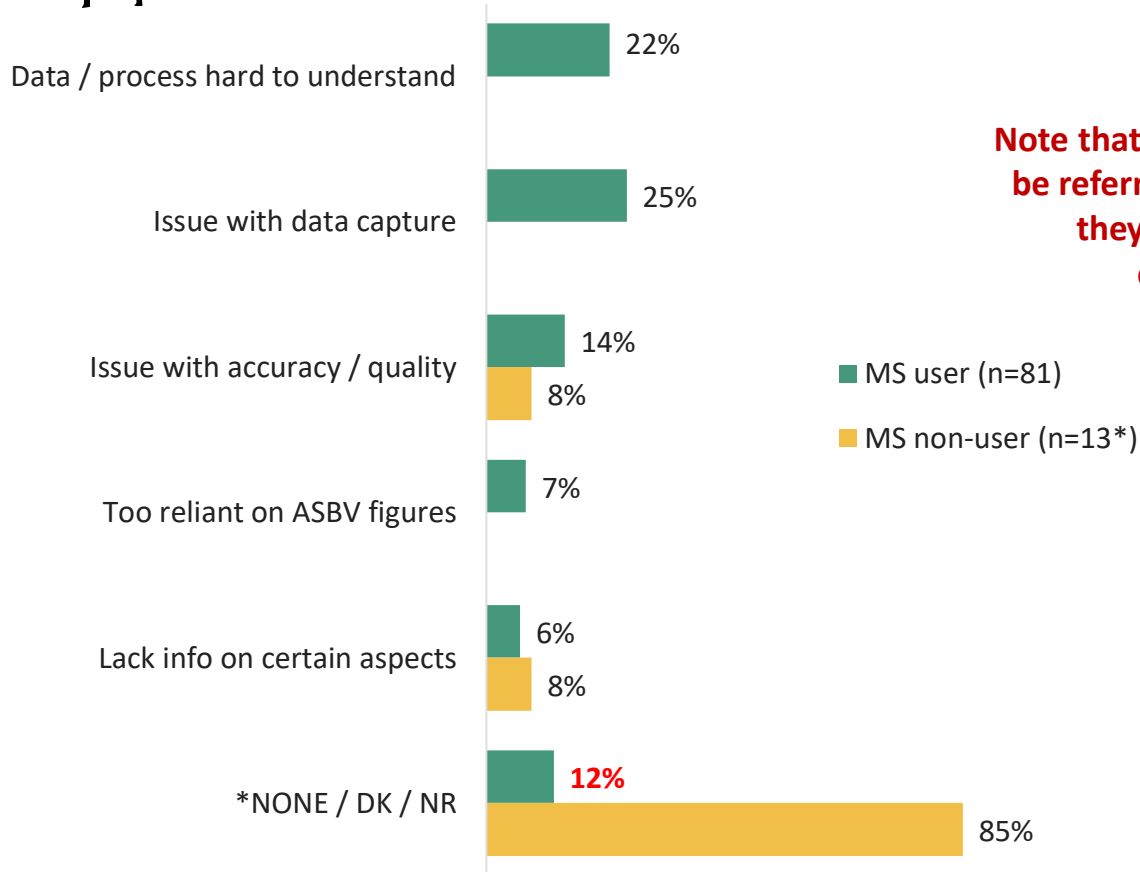
PERCEPTIONS OF MERINOSELECT

Understanding the process, data capture difficulties & data accuracy are the main issues of MS; most Non-Users could not cite anything, so barriers to adoption may be low

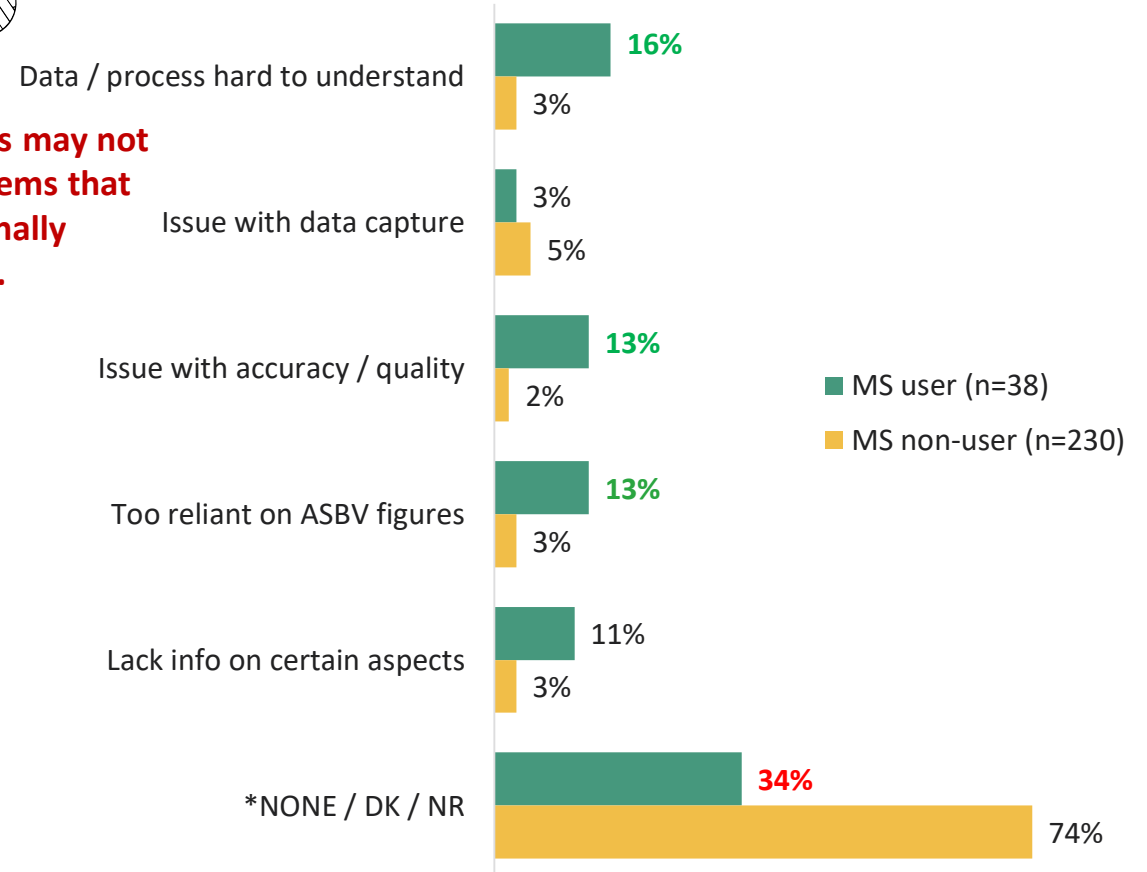
What Are The Worst Things About MS?



Sheep Stud



Commercial Sheep



Note that respondents may not be referring to problems that they have personally experienced.

Q21c. What are the worst things about MERINOSELECT for people running businesses like yours?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Significantly higher than MS non-user – Significantly lower than MS non-user

***Data capture, accuracy & understanding* are key problems**

What Are The Worst Things About MS?

Sheep Stud – MS user

The fact that you have to collect the data, need people switched on to do it. It's easy to make mistakes – you need good staff who know what they are doing.

It is very hard to find out what you need to do to get the accurate data back, understanding and asking questions. Hard to find out what needs to be done, need to use a service provider and even they struggle. The accuracy of the data is tied to the pedigrees.

Sheep Stud – MS non-user*

My past experience with using the figures is there's often things that come that aren't expected. They miss something and are not completely accurate.

One of the things is the only way [wool] length and density are the most important factors. Jim Watts physically counts the number of fibres in a wool / sheep's hide. If ASBVs could include density.

Commercial Sheep – MS user

Making sure the data is accurate and the use of the data is going to accurately give us a measured financial gain.

You can lose the sight of the figures and get carried away instead of looking at the characteristics.

It is very complicated to come to grips with. When I am talking to other people I feel I am an expert, but I know I only know a little. It is very off-putting.

Commercial Sheep – MS non-user

Don't get involved in the programmes.

I suppose the worst thing is more paperwork and more work involved.

Maybe there's too many numbers and are confusing, so people don't really understand them.

Some have bought rams online just using the figures and have had disasters.

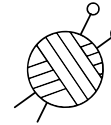
Q21c. What are the worst things about MERINOSELECT for people running businesses like yours?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Never getting around to using MS is a main reason for non-use among both types of operations, indicating that the proposition is not compelling enough



For What Reasons Does Your Sheep Stud Operation Not Use MS? (n=13*)



For What Reasons Does Your Commercial Sheep Operation Not Use MS? (n=230)



Q10b. For what reasons does your operation not use MERINOSELECT information?

Base: Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS non-user (n=230). *Note: Small base size.

Key Learnings: Trust & Perceptions of the PLANs



1. Users trust the PLANs, but Studs' **trust is under-performing** and Commercial Users' Trust is 'Blind'. Non-Users seldom know enough to even start trusting.
2. Users and Non-Users say similar things, just to different degrees:
"A genetics database to aid decision-making."
3. Genetics management is mainly related to **trait selection** rather than *avoidance*.
4. Biggest complaints concern **data inaccuracy / non-transparency** and **the data capture / entry effort required**.
5. Main reasons for Non-Use concern **data distrust** and a **time-benefit imbalance** (esp. for smaller operations).

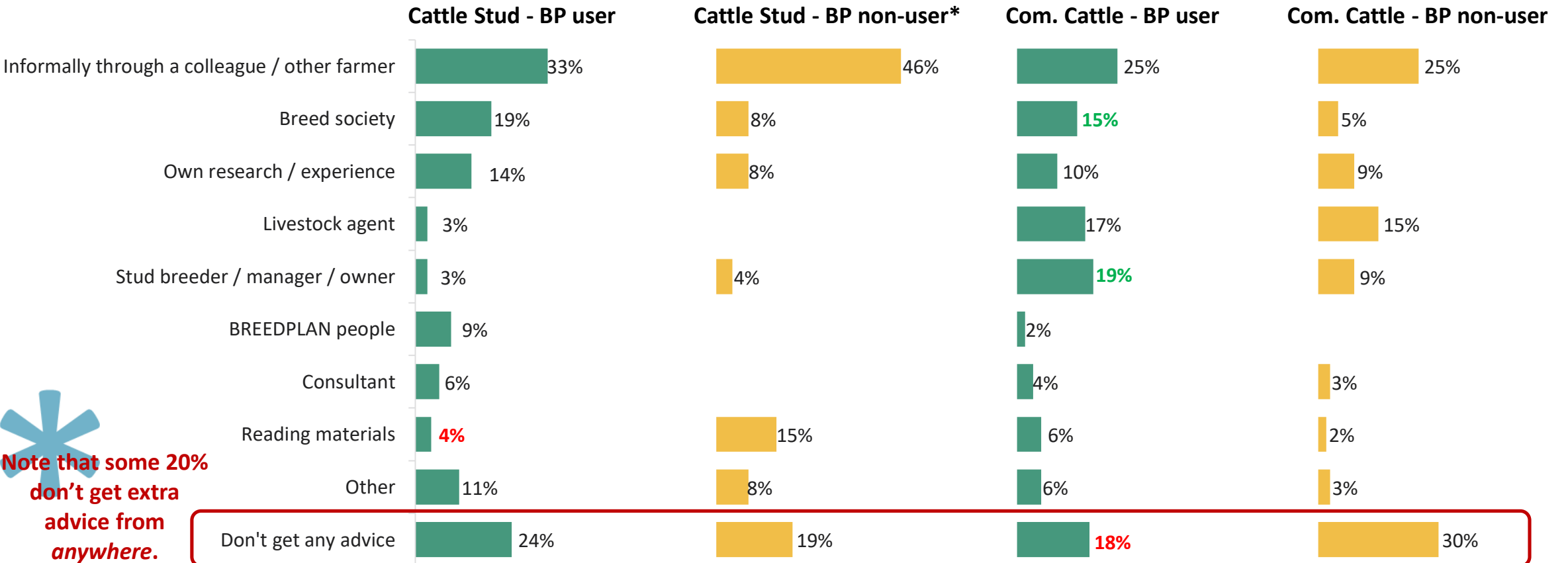




Training & Extension Resources

The most popular sources of genetics advice are *other producers, breed societies, livestock agents & breeders*

Sources Of Genetics Advice



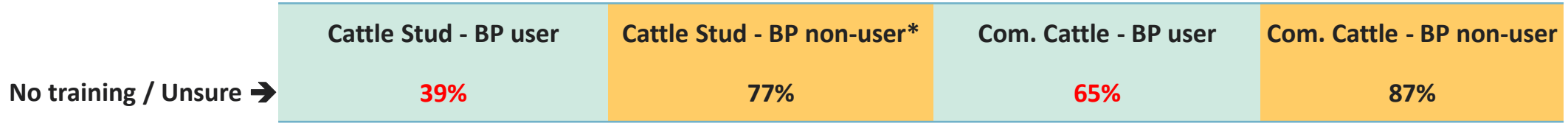
Note that some 20% don't get extra advice from anywhere.

Q31. Who do you usually get your genetics advice from?

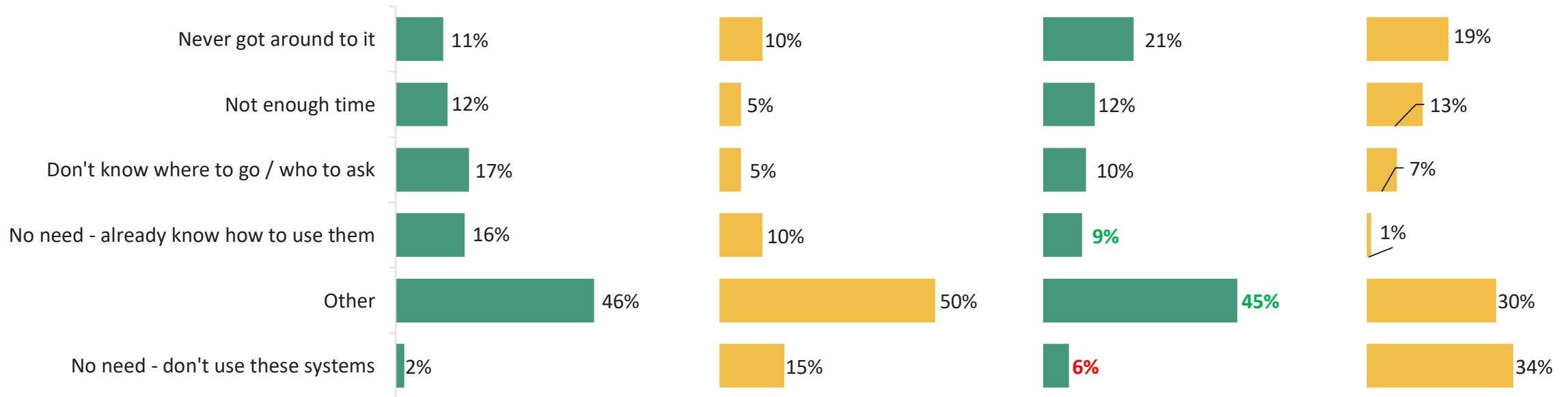
Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=26*), Commercial Cattle – BP user (n=210), Commercial Cattle – BP non-user (n=220) – note reduced bases. *Note: Small base size.

While the low levels of training amongst Non-Users is understandable, 39% of Stud Users have not had training, citing a *lack of need or info*

Have You Had Proper BP Training Or Guidance?



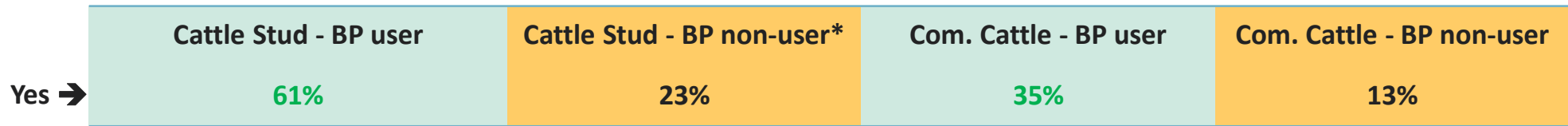
Why Have You Not Had BP Training?



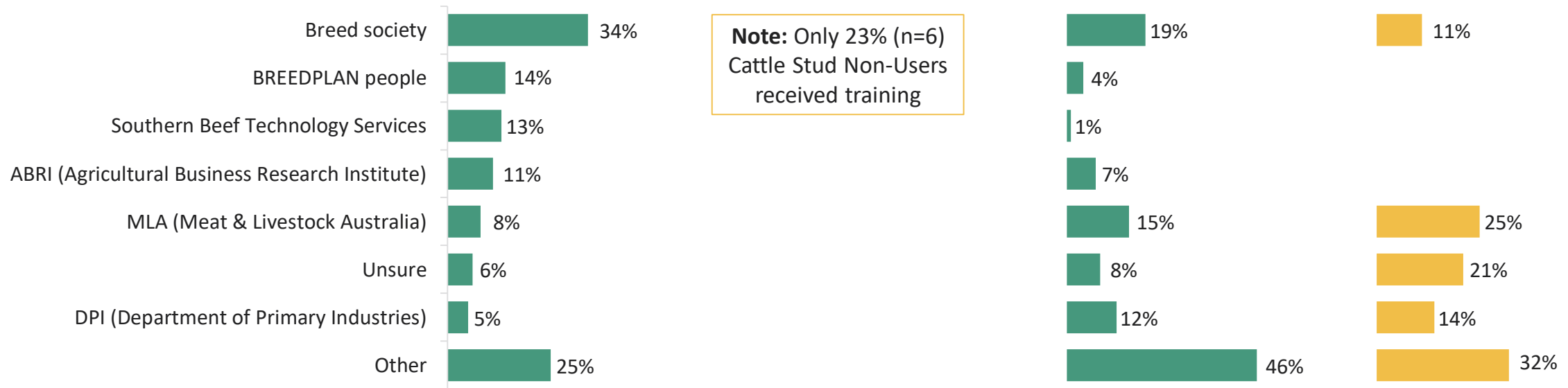
Q32. Have you ever had proper training or guidance in how to use BREEDPLAN information such as EBVs to make your breeding or purchase decisions? / **Q34b.** For what reasons have you not had any proper training or guidance?
Base: Users who haven't had training from Q32: Cattle Stud – BP user (n=215), Cattle Stud – BP non-user (n=20*), Commercial Cattle – BP user (n=136), Commercial Cattle – BP non-user (n=192) – note reduced bases. ***Note:** Small base size.

Breed societies were the most commonly used BP training sources

Have You Had Proper BP Training Or Guidance?



Who Provided The Training?



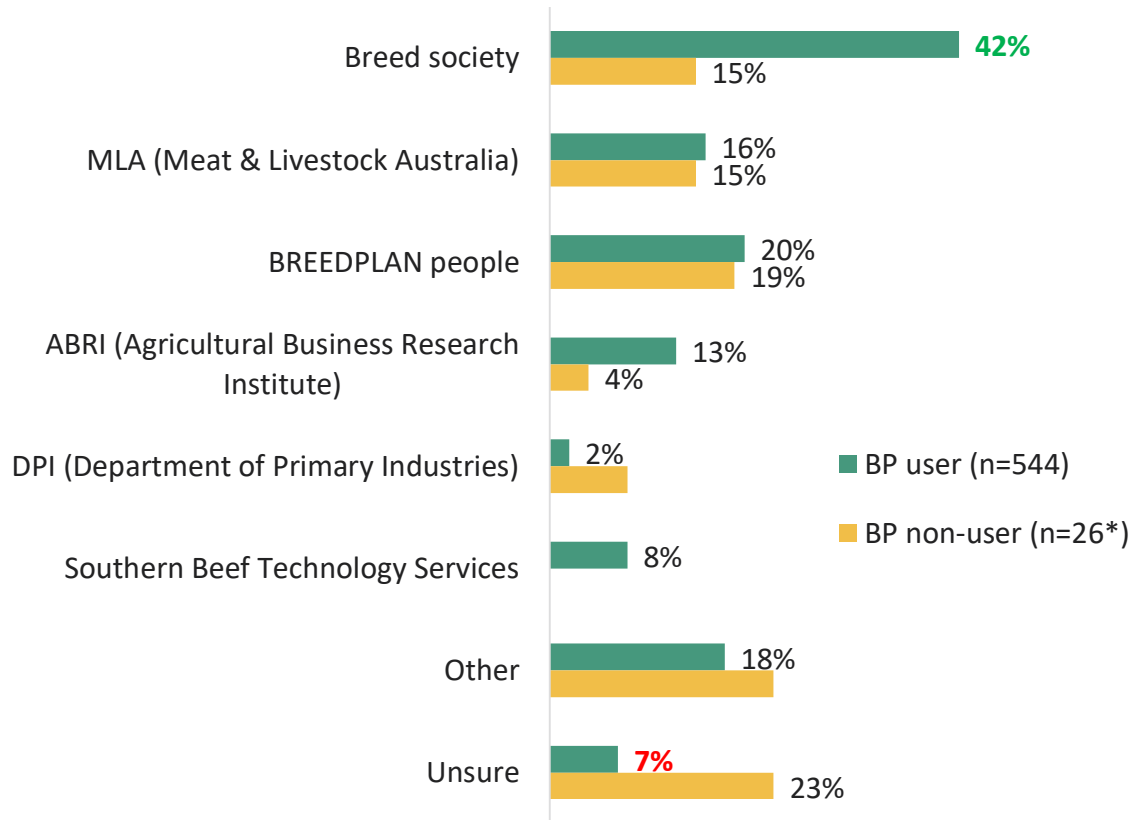
Q32. Have you ever had proper training or guidance in how to use BREEDPLAN information such as EBVs to make your breeding or purchase decisions? / Q33. Who provided that training or guidance?

Base: Those who have received training from Q32: Cattle Stud – BP user (n=329), Cattle Stud – BP non-user (n=6*), Commercial Cattle – BP user (n=74), Commercial Cattle – BP non-user (n=28) – note reduced bases. *Note: Small base size.

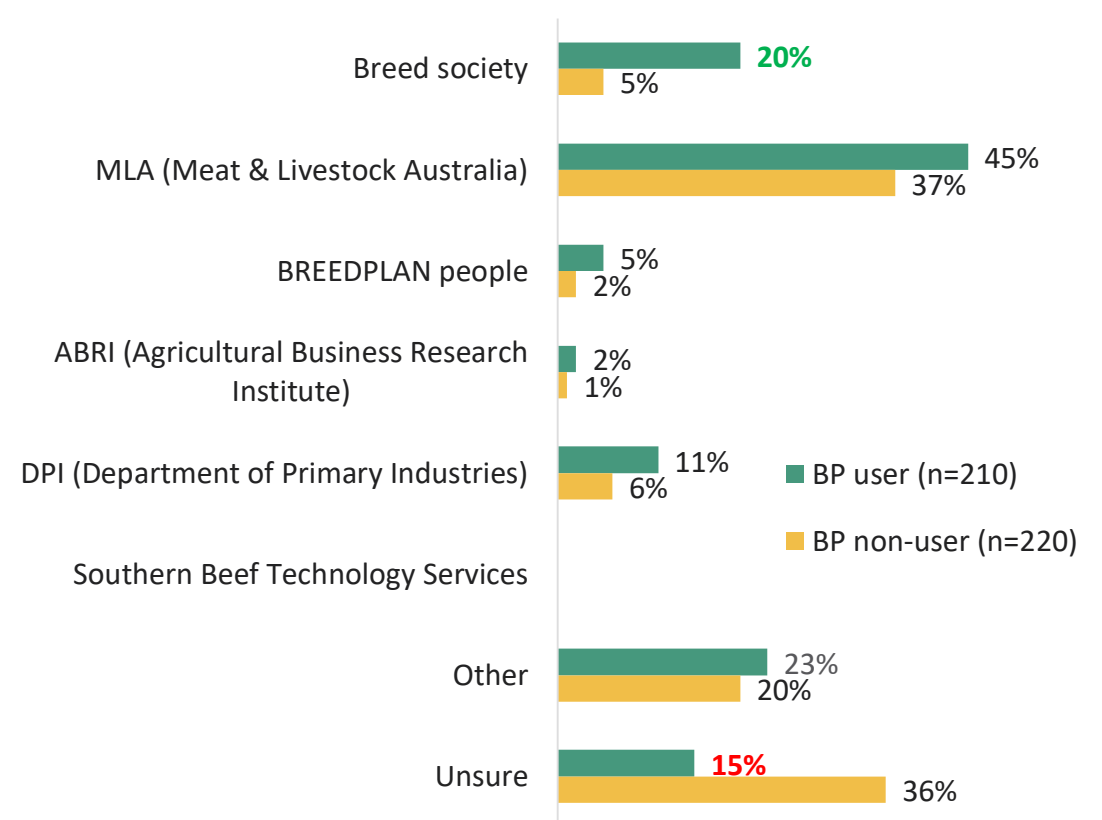
Breed societies are expected to provide training for BP-using Studs; others are just as likely to expect MLA to provide help

Who Do You Expect To Provide BP Training?

Cattle Stud



Commercial Cattle

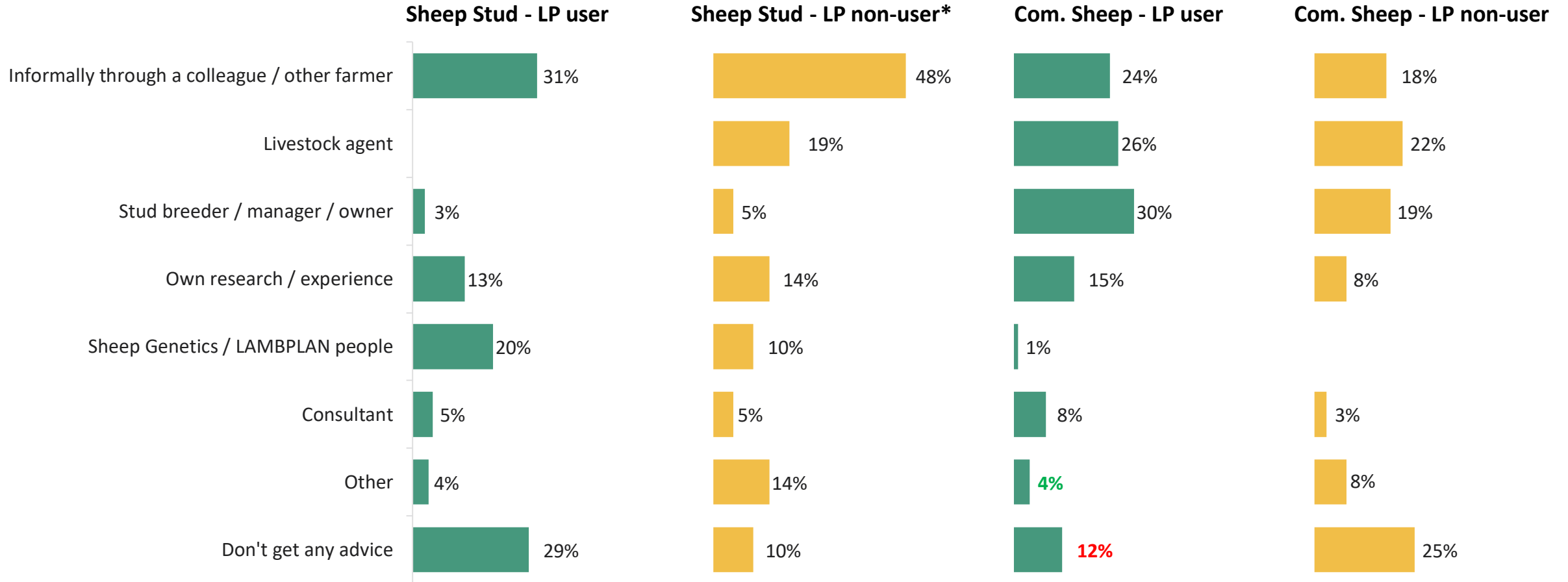


Q35. If you wanted to get more training or guidance, who would you expect to provide it?

Base: Cattle Stud – BP user (n=544), Cattle Stud – BP non-user (n=26*), Commercial Cattle – BP user (n=210), Commercial Cattle – BP non-user (n=220) – note reduced bases. *Note: Small base size.

The most popular way for sheep meat Producers to gain genetics advice is through informal methods such as *colleagues, agents & breeders*

Sources Of Genetics Advice

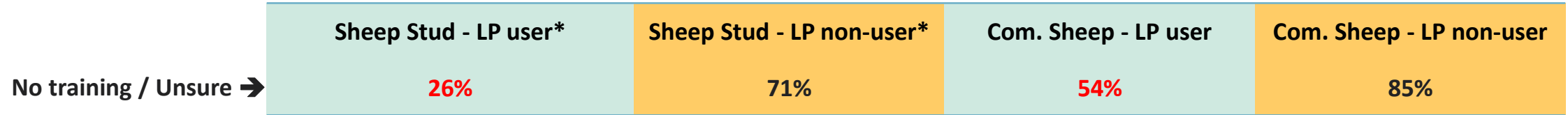


Q31. Who do you usually get your genetics advice from?

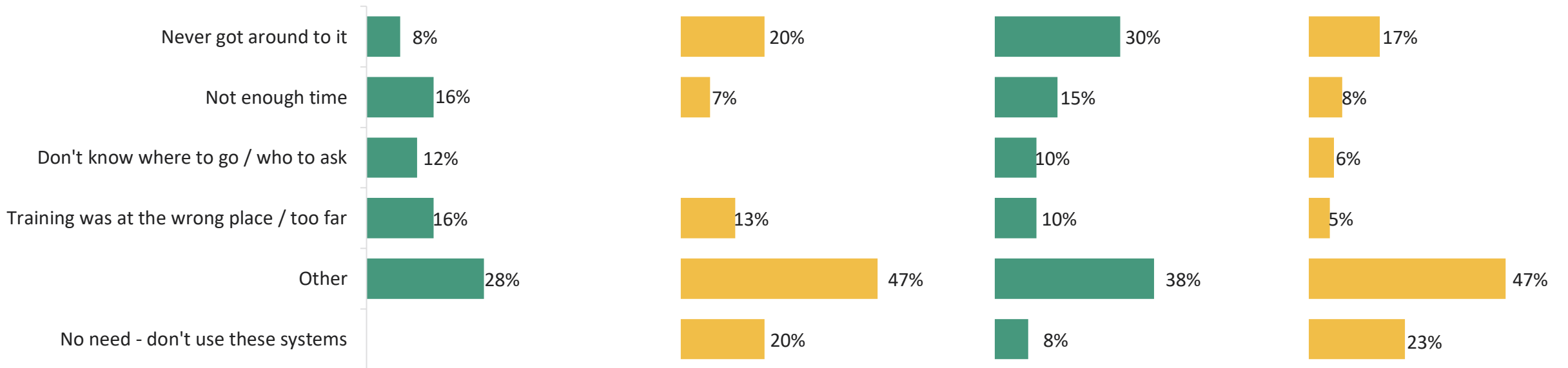
Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=21*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241) – note reduced bases. *Note: Small base size.

Those who have not had LP training say it's because they *never got around to it* or *don't have enough time* – such reasons generally reflect a lack of interest

Have You Had Proper LP Training Or Guidance?



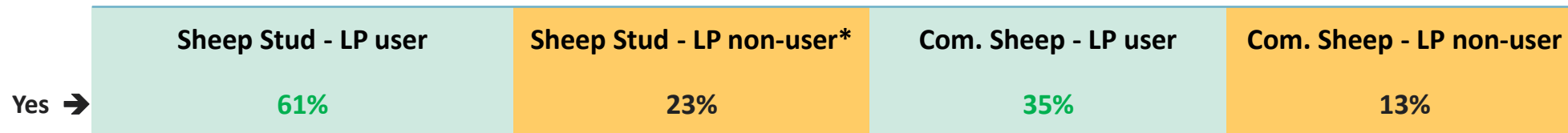
Why Have You Not Had LP Training?



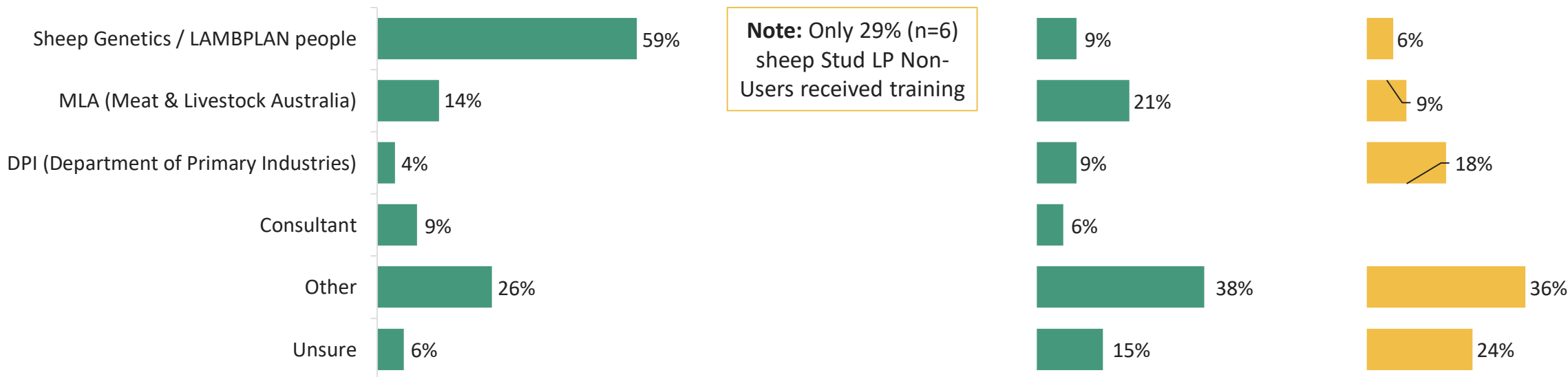
Q32. Have you ever had proper training or guidance in how to use LAMBPLAN information such as ASBVs to make your breeding or purchase decisions? / Q34b. For what reasons have you not had any proper training or guidance?
 Base: Users who haven't had training from Q32: Sheep Stud – LP user (n=24*), Sheep Stud – LP non-user (n=15*), Commercial Sheep – LP user (n=40), Commercial Sheep – LP non-user (n=190) – note reduced bases. *Note: Small base size.

Sheep Genetics & LAMBPLAN staff are the most common LP trainers

Have You Had Proper LP Training Or Guidance?



Who Provided The Training?



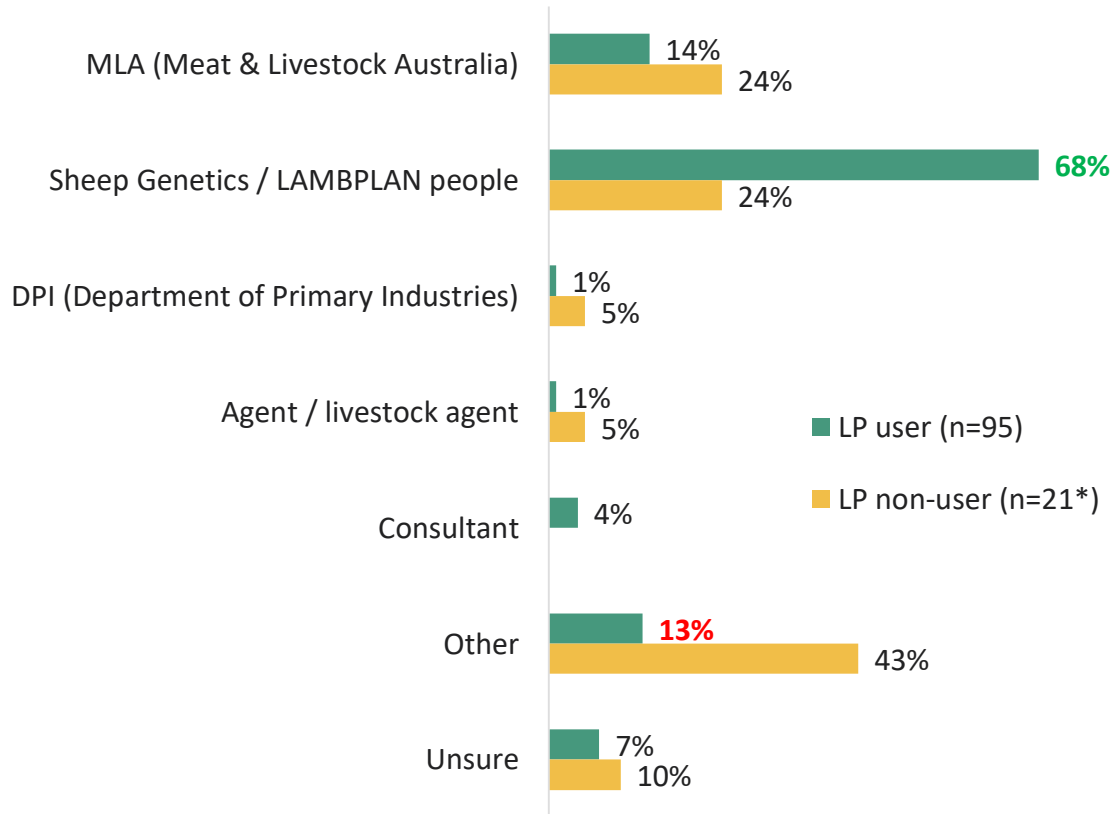
Q32. Have you ever had proper training or guidance in how to use LAMBPLAN information such as ASBVs to make your breeding or purchase decisions? / Q33. Who provided that training or guidance?

Base: Those who have received training from Q32: Sheep Stud – LP user (n=70), Sheep Stud – LP non-user (n=6*), Commercial Sheep – LP user (n=34), Commercial Sheep – LP non-user (n=33) – note reduced bases. *Note: Small base size.

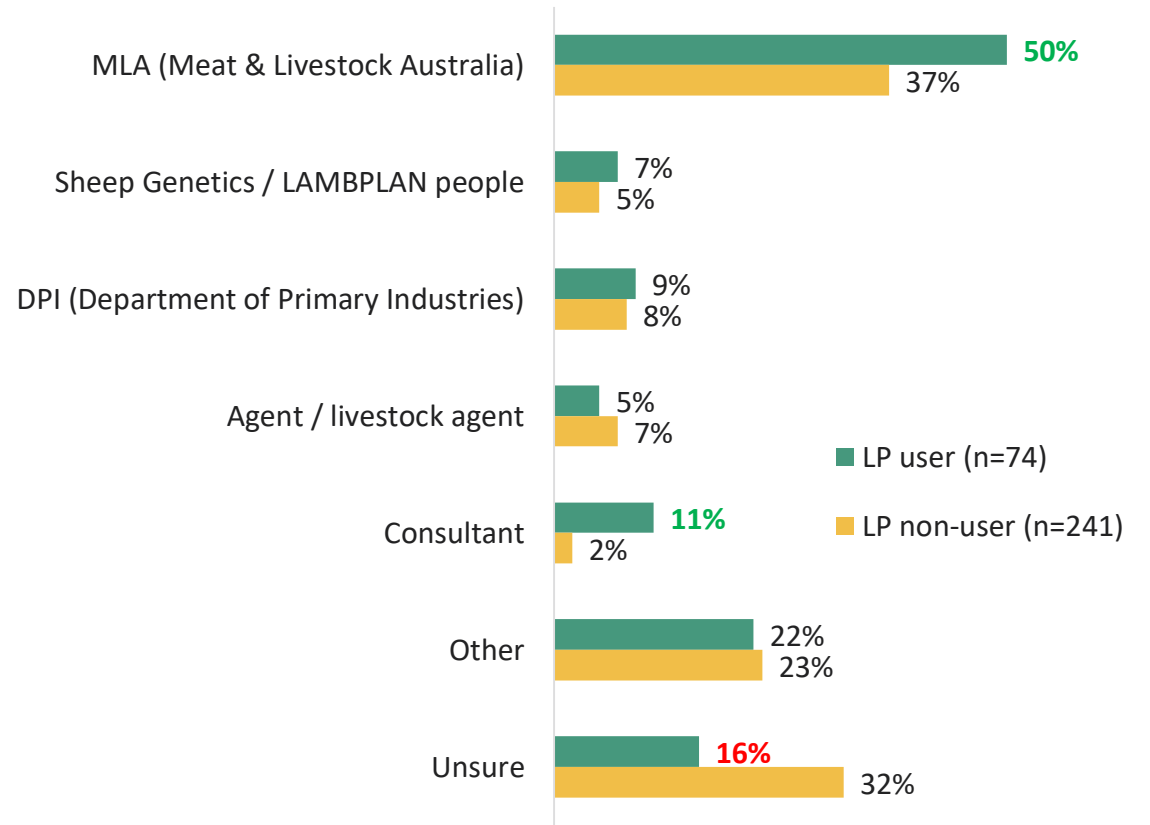
Sheep Genetics are expected to provide training for Studs, while Commercial farmers expect to go to *MLA*

Who Do You Expect To Provide LP Training?

Sheep Stud



Commercial Sheep

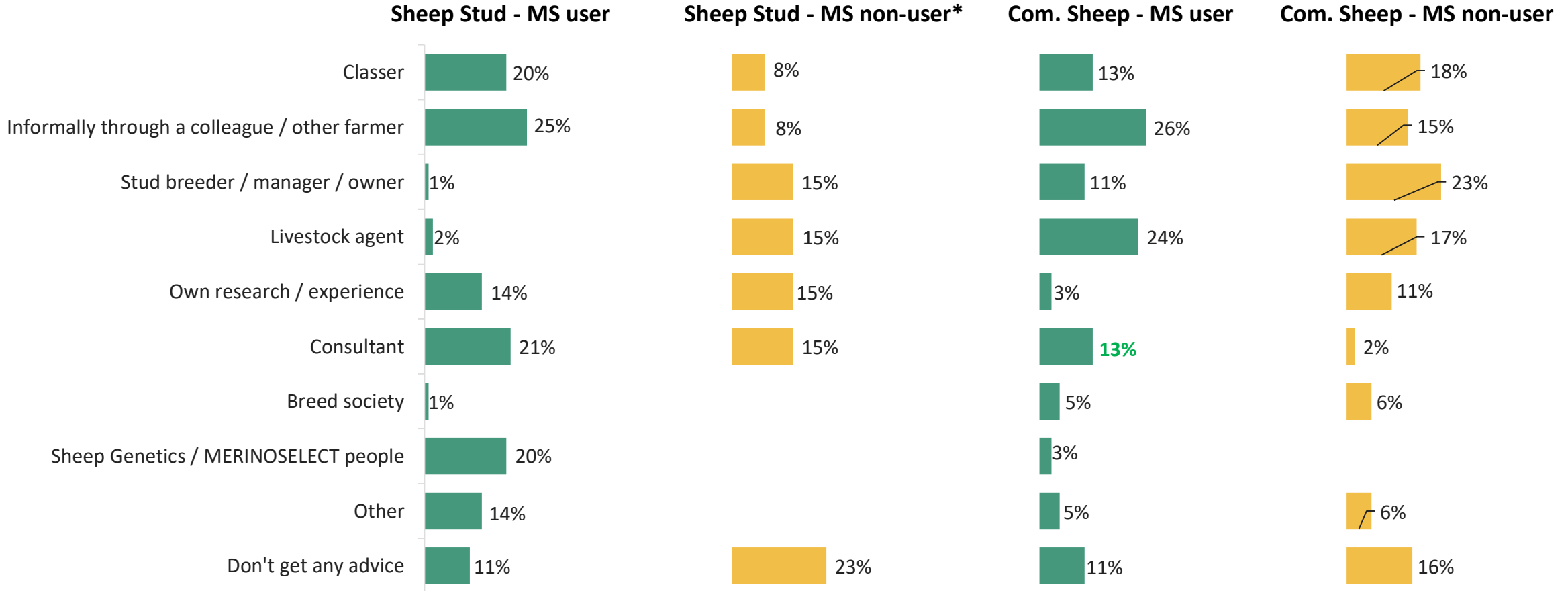


Q35. If you wanted to get more training or guidance, who would you expect to provide it?

Base: Sheep Stud – LP user (n=95), Sheep Stud – LP non-user (n=21*), Commercial Sheep – LP user (n=74), Commercial Sheep – LP non-user (n=241) – note reduced bases. *Note: Small base size.

The most popular ways for merino Producers to get genetics advice are through *classers, breeders, agents & other informal methods*

Sources Of Genetics Advice

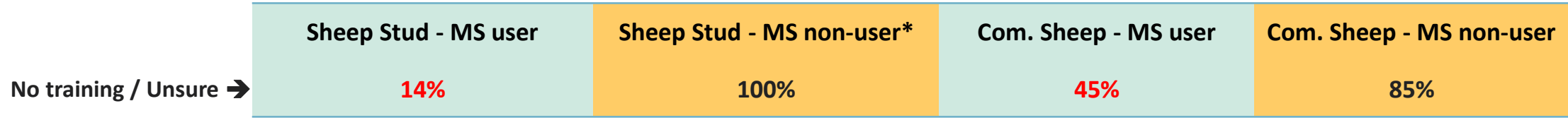


Q31. Who do you usually get your genetics advice from?

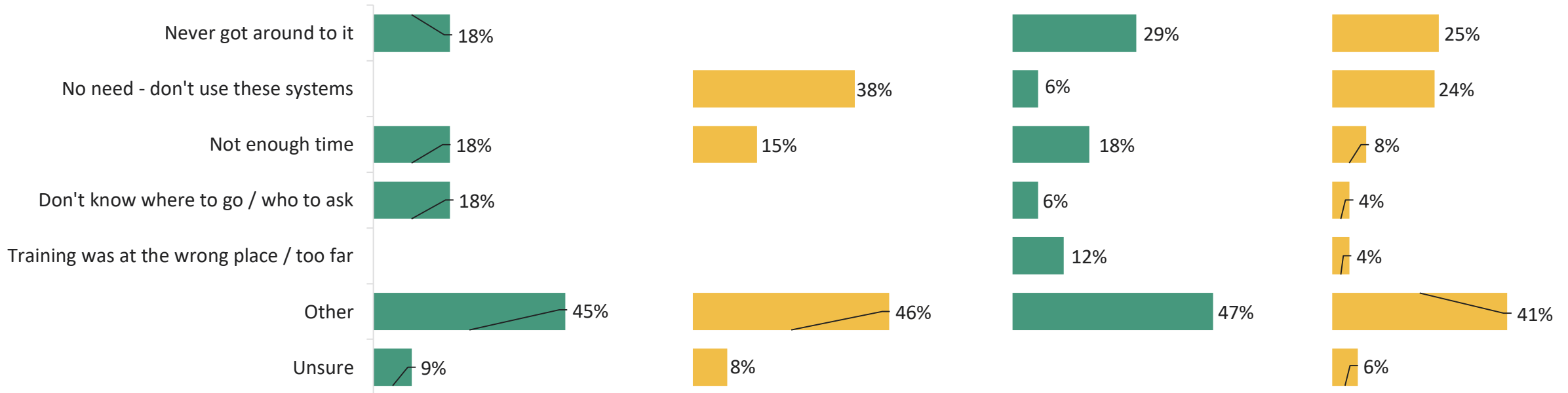
Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=210) – note reduced bases. *Note: Small base size.

The majority of MS Users have received training, the most common reasons for a lack of training being *general disinterest / motivation*

Have You Had Proper MS Training Or Guidance?



Why Have You Not Had MS Training?

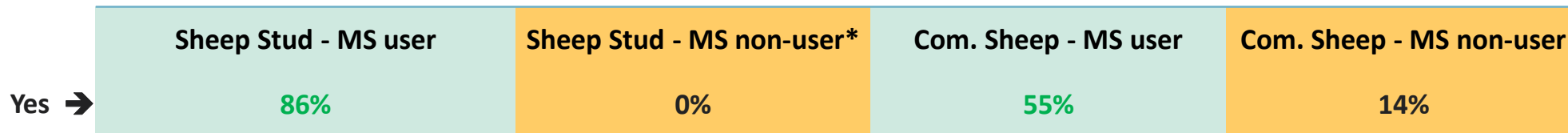


Q32. Have you ever had proper training or guidance in how to use MERINOSELECT information such as ASBVs to make your breeding or purchase decisions? / Q34b. For what reasons have you not had any proper training or guidance?

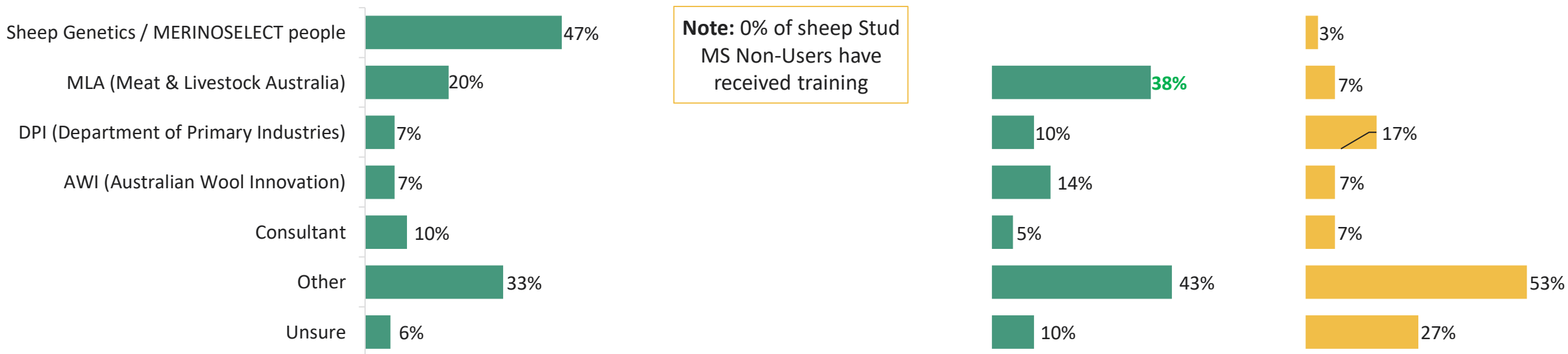
Base: Users who haven't had training from Q32: Sheep Stud – MS user (n=11*), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=17*), Commercial Sheep – MS non-user (n=180) – note reduced bases. *Note: Small base size.

Sheep Genetics & MLA are the most common trainers, but there is a large number using alternative informal sources

Have You Had Proper MS Training Or Guidance?



Who Provided The Training?

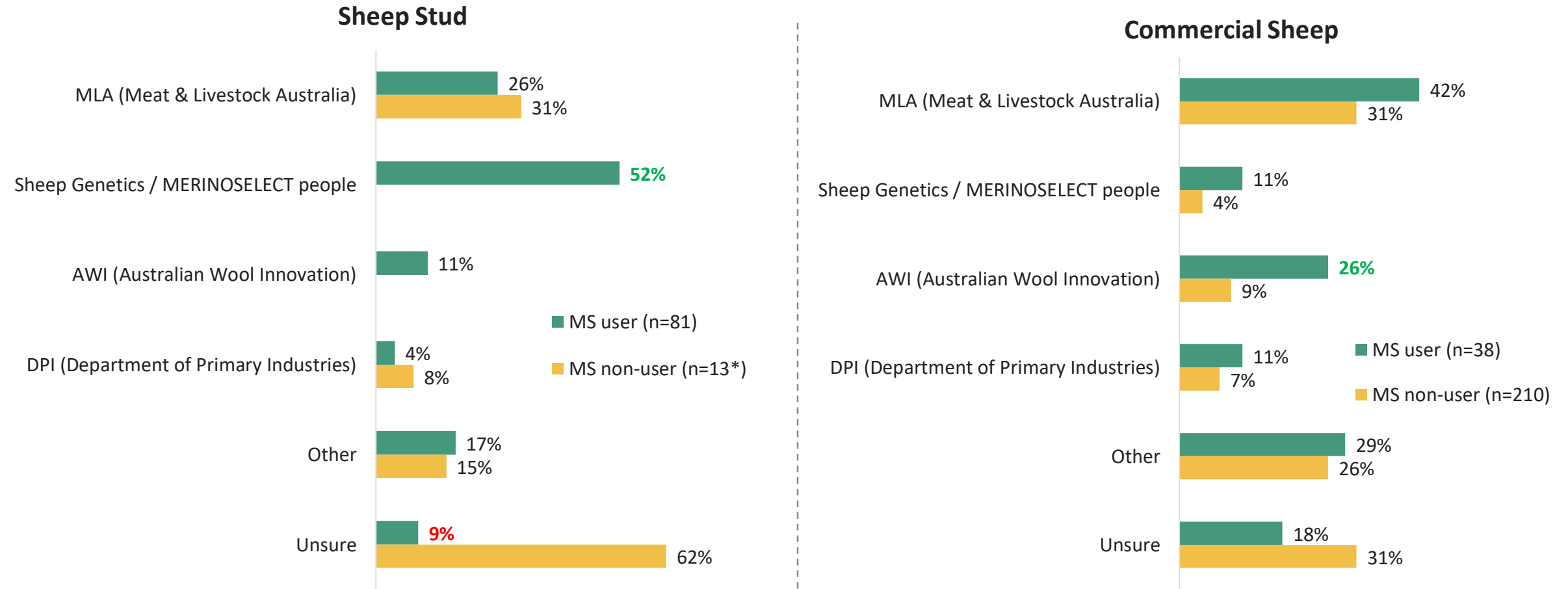


Q32. Have you ever had proper training or guidance in how to use MERINOSELECT information such as ASBVs to make your breeding or purchase decisions? / Q33. Who provided that training or guidance?

Base: Those who have received training from Q32: Sheep Stud – MS user (n=70), Commercial Sheep – MS user (n=21*), Commercial Sheep – MS non-user (n=30) – note reduced bases. *Note: Small base size.

Sheep Genetics & MLA are the most commonly-cited training sources, but large proportions could not name who they would seek MS training from

Who Do You Expect To Provide MS Training?



Q35. If you wanted to get more training or guidance, who would you expect to provide it?

Base: Sheep Stud – MS user (n=81), Sheep Stud – MS non-user (n=13*), Commercial Sheep – MS user (n=38), Commercial Sheep – MS non-user (n=210) – note reduced bases. *Note: Small base size.

BREEDPLAN

VIEW TECHNICAL DATABASE SEARCH

increase fertility genetic evaluation weight carcass quality genetic evaluation

WELCOME TO BREEDPLAN

BREEDPLAN is a modern genetic evaluation for beef cattle. Using Best Linear Prediction (BLUP) technology, BREEDPLAN produces Estimated Breeding Values (EBVs) for cattle for a range of important production traits

SHEEP GEN

Breeding services Getting started

WELCOME TO SHEEP

We are Australia's national breeding

Our Mission:

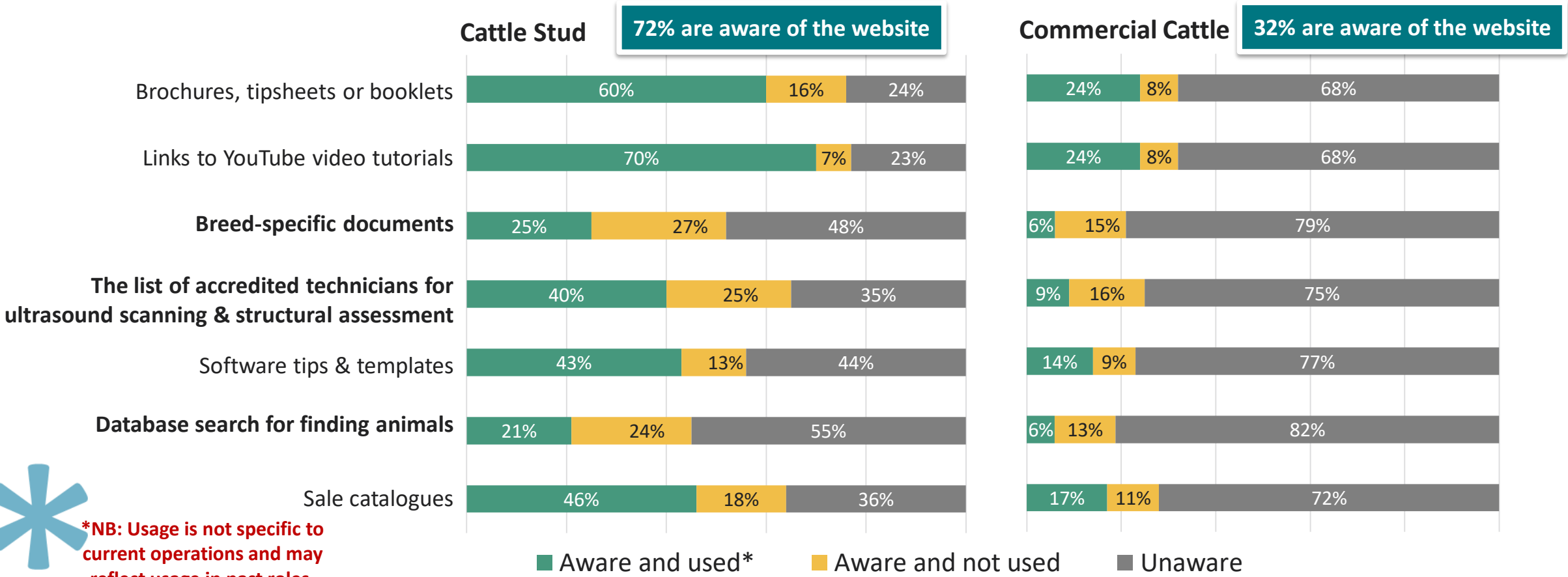
genetic improvement for a sustainable and profitable Australian sheep industry facilitated by the world's best genetic evaluation system

About us >>



Website Usage

Commercial cattle Producers have a low awareness of the BP website & its components; most usage focuses on *tips, tutorials, sales catalogues & technician lists*

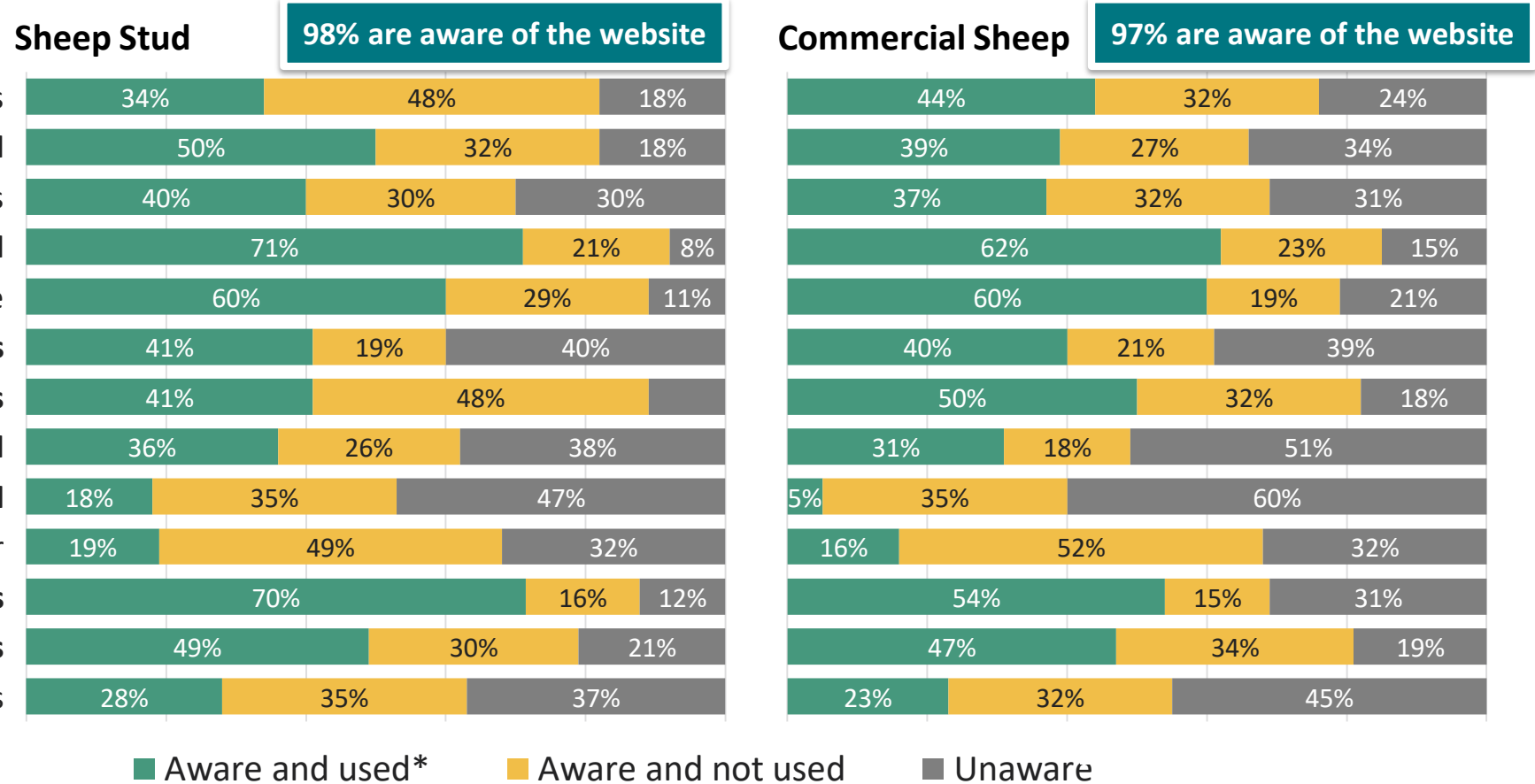


***NB: Usage is not specific to current operations and may reflect usage in past roles.**

Q36. Next I'm going to read out some features that you may or may not have used on the BREEDPLAN website, including the MateSel part of it. For each one, let me know if you were aware of it and if so, whether you have used it or not.

Base: Those from the BREEDPLAN member listing database or the MLA members sample file: Cattle Stud (n=443), Commercial Cattle (n=600)

Most sheep Producers are aware of the LP website whether they use it or not; usage focuses on *tips, help & factsheets*, indicating that users often need extra explanations & guidance on using the PLANs / websites

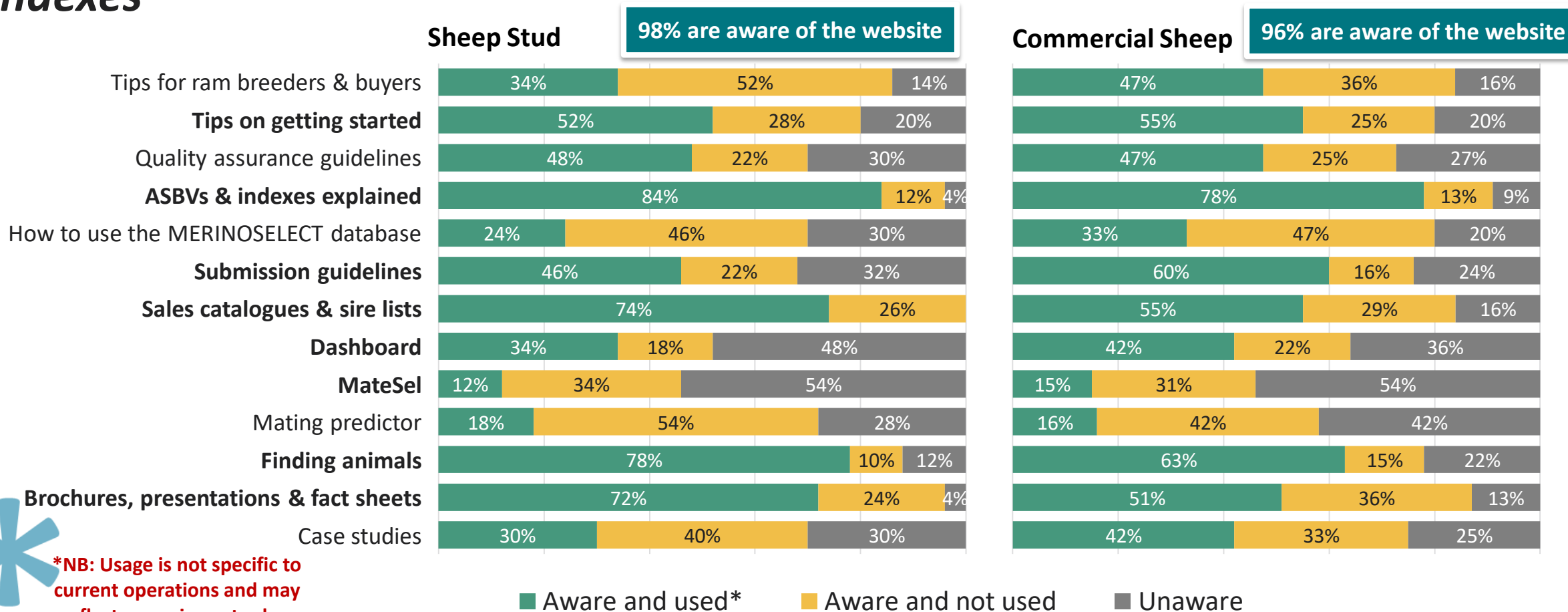


***NB: Usage is not specific to current operations and may reflect usage in past roles.**

Q37. Next I'm going to read out some features that you may or may not have used on the LAMBPLAN website, including the MateSel part of it. For each one, let me know if you were aware of it and if so, whether you have used it or not.

Base: Those from the sheep database listed as LP users: Sheep Stud (n=80), Commercial Sheep (n=62)

Most sheep Producers are aware of the MS website whether they use it or not; usage focuses on *tips, help & factsheets*, with many seeking *help on ASBVs & indexes*



***NB: Usage is not specific to current operations and may reflect usage in past roles.**

Q37. Next I'm going to read out some features that you may or may not have used on the MERINOSELECT website, including the MateSel part of it. For each one, let me know if you were aware of it and if so, whether you have used it or not.

Base: Those from the sheep database listed as MS users: Sheep Stud (n=51), Commercial Sheep (n=55)

Key Learnings: Training & Extension Resources

1. **Informal information sources still predominate** (also higher for accessibility and cost), followed by breed societies and MLA.
2. **Lack of motivation** is the main reason for lack of formal training.
3. Go-to **trainers** largely felt to be programme suppliers or MLA, but many use informal connections.
4. Website usage varies, but appears to be generally underused (ref: lack of motivation).
 - BP website awareness is very low amongst Commercial cattle Producers, whereas the Sheep Genetics website has higher degrees of awareness and usage amongst both MS / LP Users and Non-Users.
 - The most commonly-used sections are the *tips, tutorials, factsheets, sales catalogues* and *technicians*.





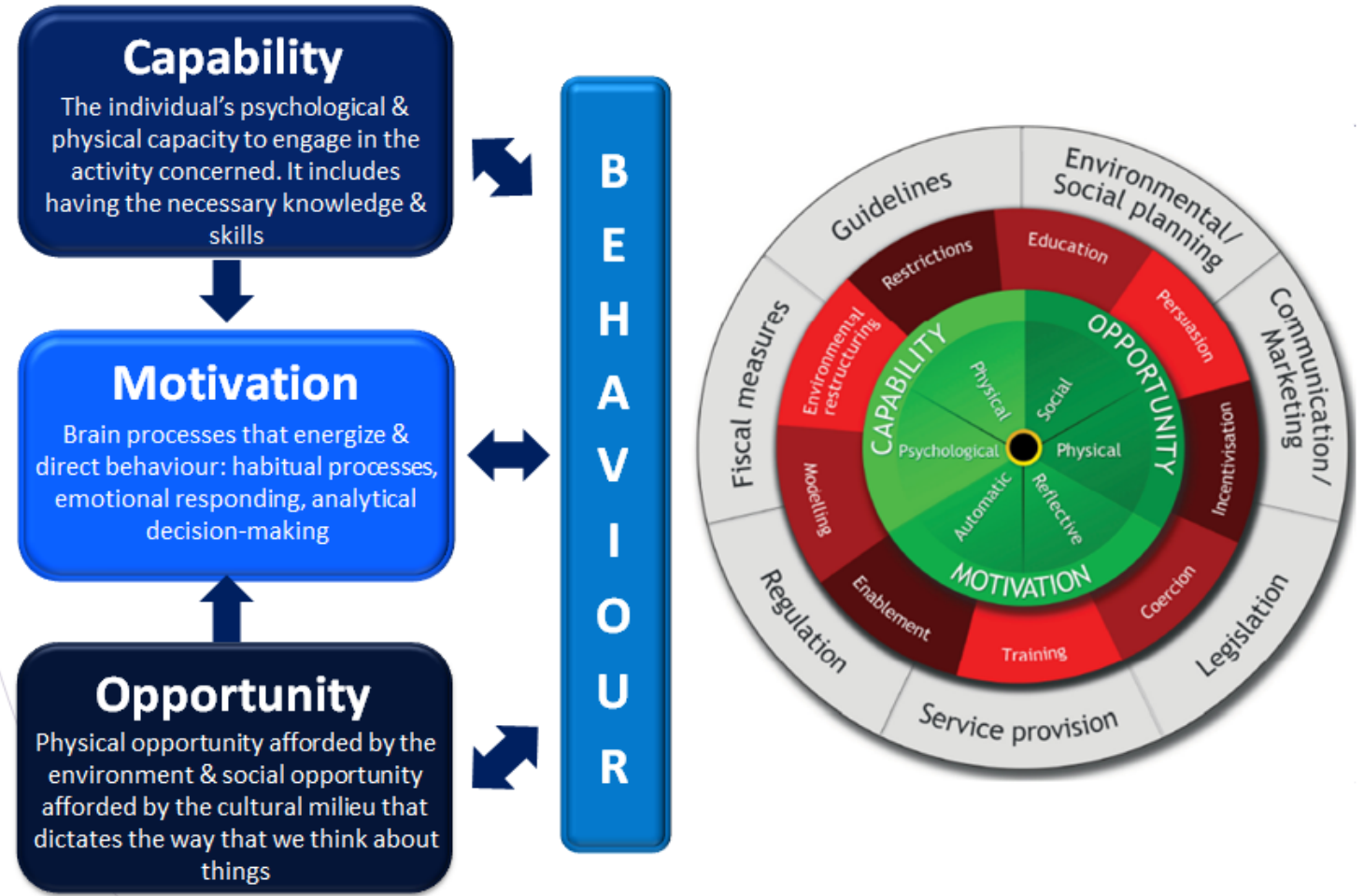
Achieving Desired Behaviour Change



Background to the Analysis Used

Introduction to the COM-B Model for understanding Behavioural Change

The COM-B model is a widely used model throughout the public sector around the world. Background information on COM-B can be found here: <http://www.implementationscience.com/content/6/1/42>.



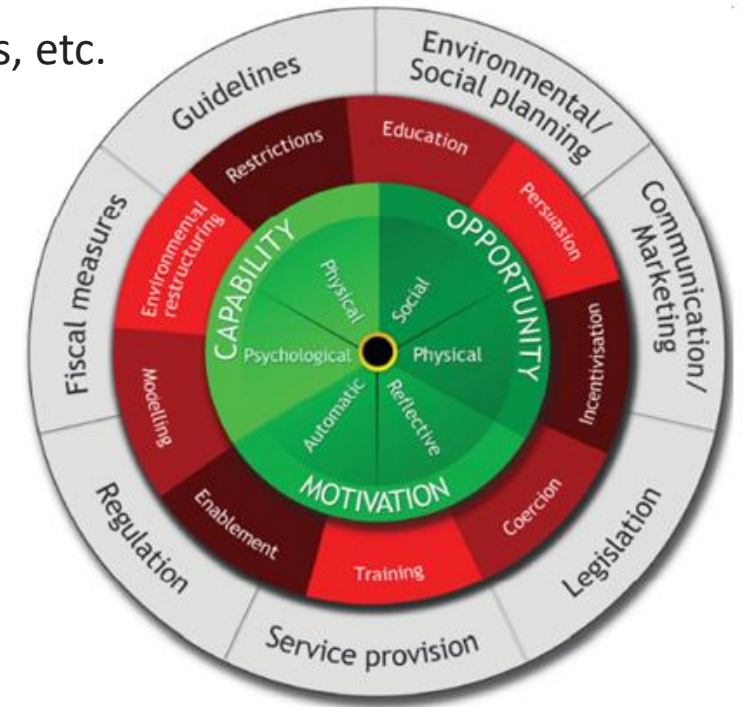
Introduction to the COM-B Model for understanding Behavioural Change

The COM-B framework recognises that for any given behaviour to occur, three conditions must be met - the people concerned must:

- Have the ability to do it, i.e. they must have the knowledge, skill, mental resources, etc. This is the **Capability** requirement.
- Have the opportunity in terms of a conducive physical and social environment, i.e. they must be able to afford it, it must be easily used / accessible, and they must have the time, tools, etc. This is the **Opportunity** requirement.
- Have the motivation, i.e. they must be more highly motivated to do it than not to, or to engage in a competing behaviour. This is the **Motivation** requirement.

By using this model, we able to:

- Measure everything of importance;
- Identify the barriers and drivers of better BREEDPLAN, LAMBPLAN and MERINOSELECT usage;
- Identify the best strategies for improving the situation.



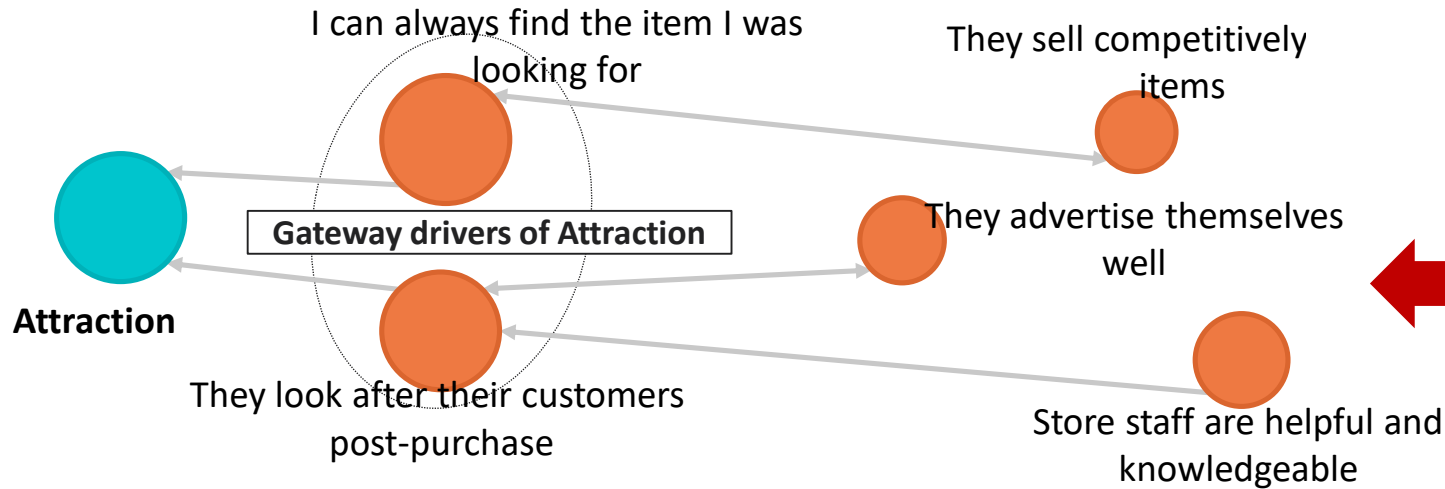
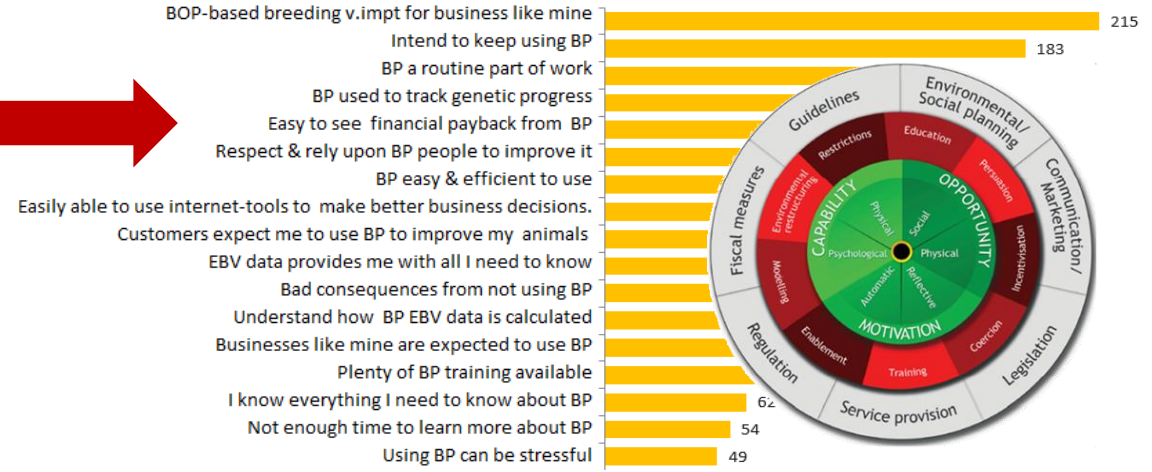
Introducing the Ipsos Bayes Net (IBN) driver analysis

IBN looks at the relationship between the desired outcome (Brand / Product Desire) and key attributes. The IBN helps us understand...

The relative strength of different attributes; the relationship between image attributes; and advocacy (the highest level of loyalty).

WHAT TO FOCUS ON

Identifies which attributes (taken from the COM-B template) to focus on to grow usage.



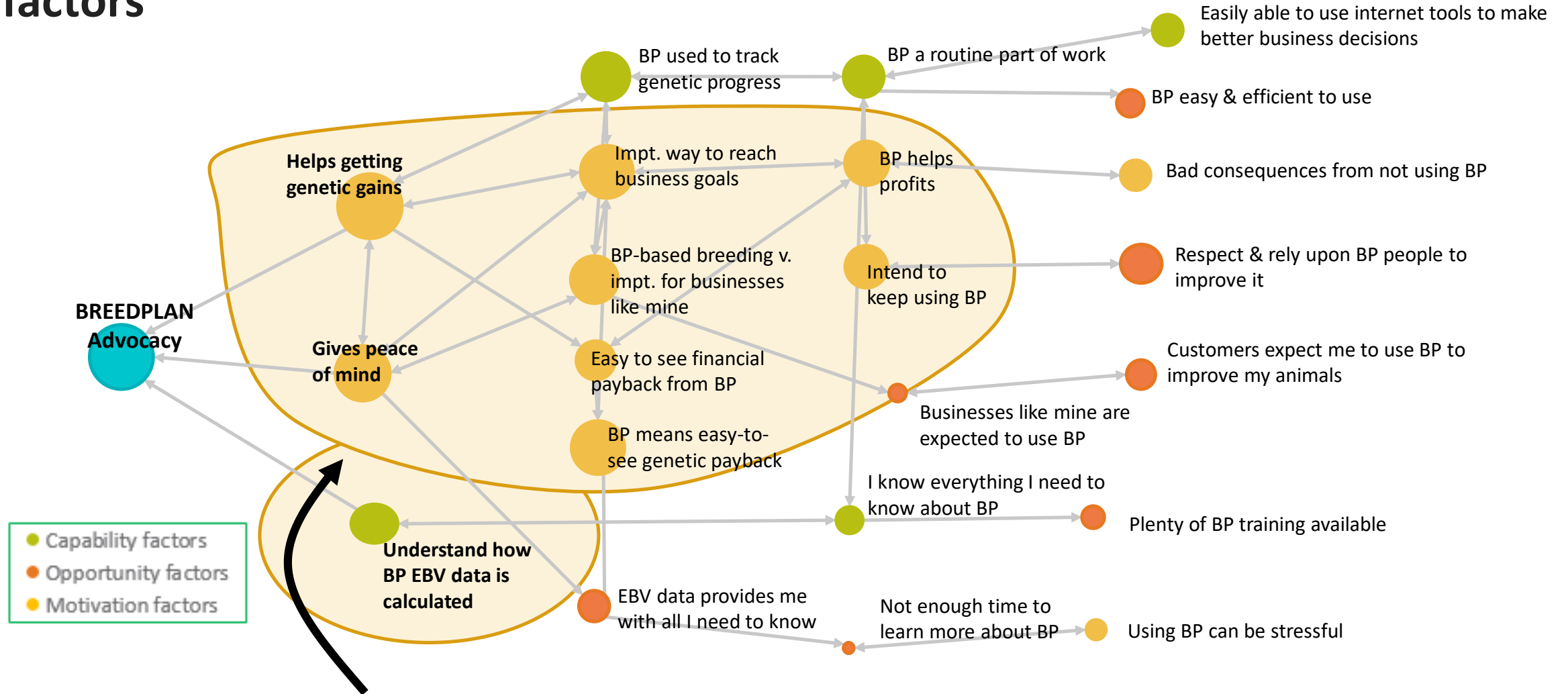
AND HOW TO FOCUS ON THEM

Understands how people associate and connect attributes, which assists with developing action plans.



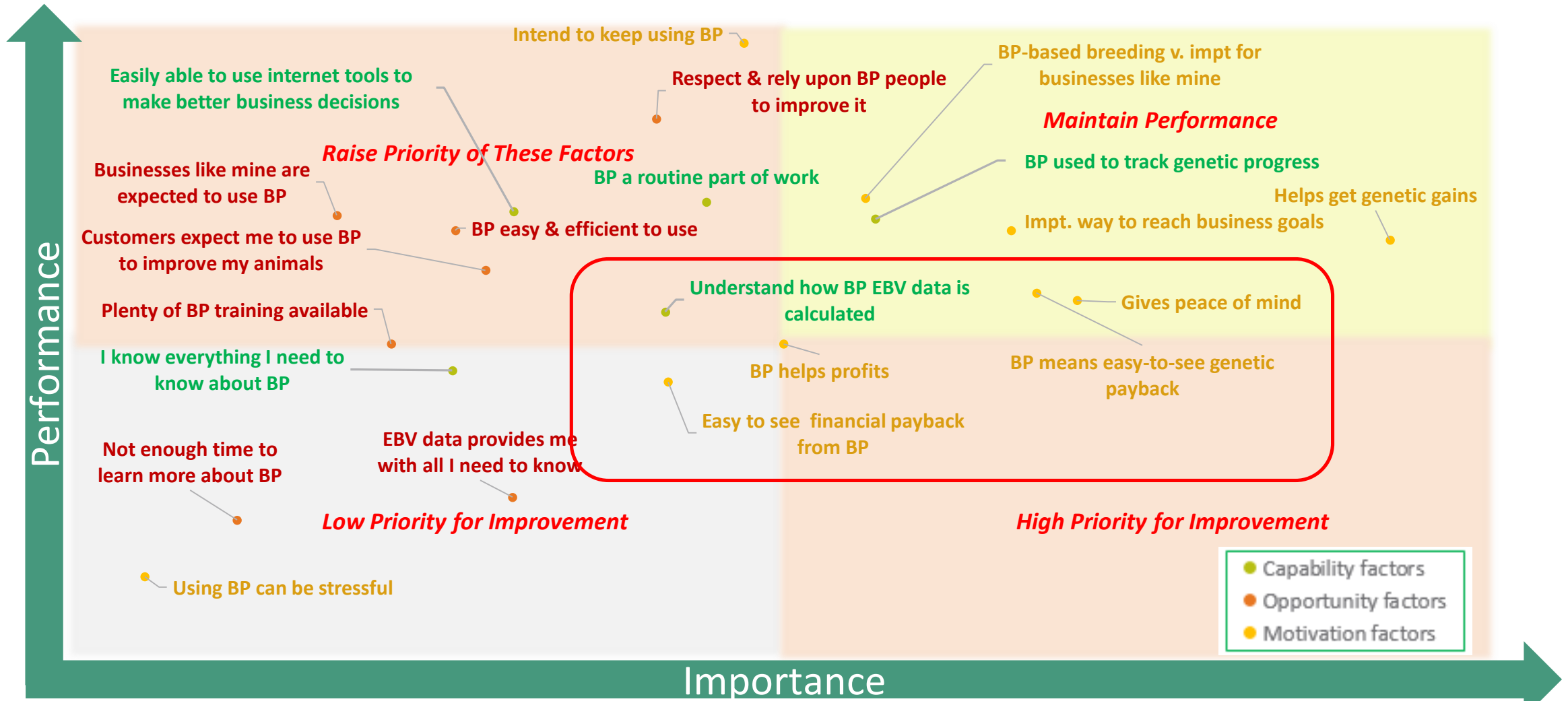
Identifying What Is Truly Motivating

IBN analysis reveals that Studs' BP support is mostly driven by *Motivational* factors



These are the factors to communicate to increase BP uptake amongst Studs

Motivation factors need to be the main focus

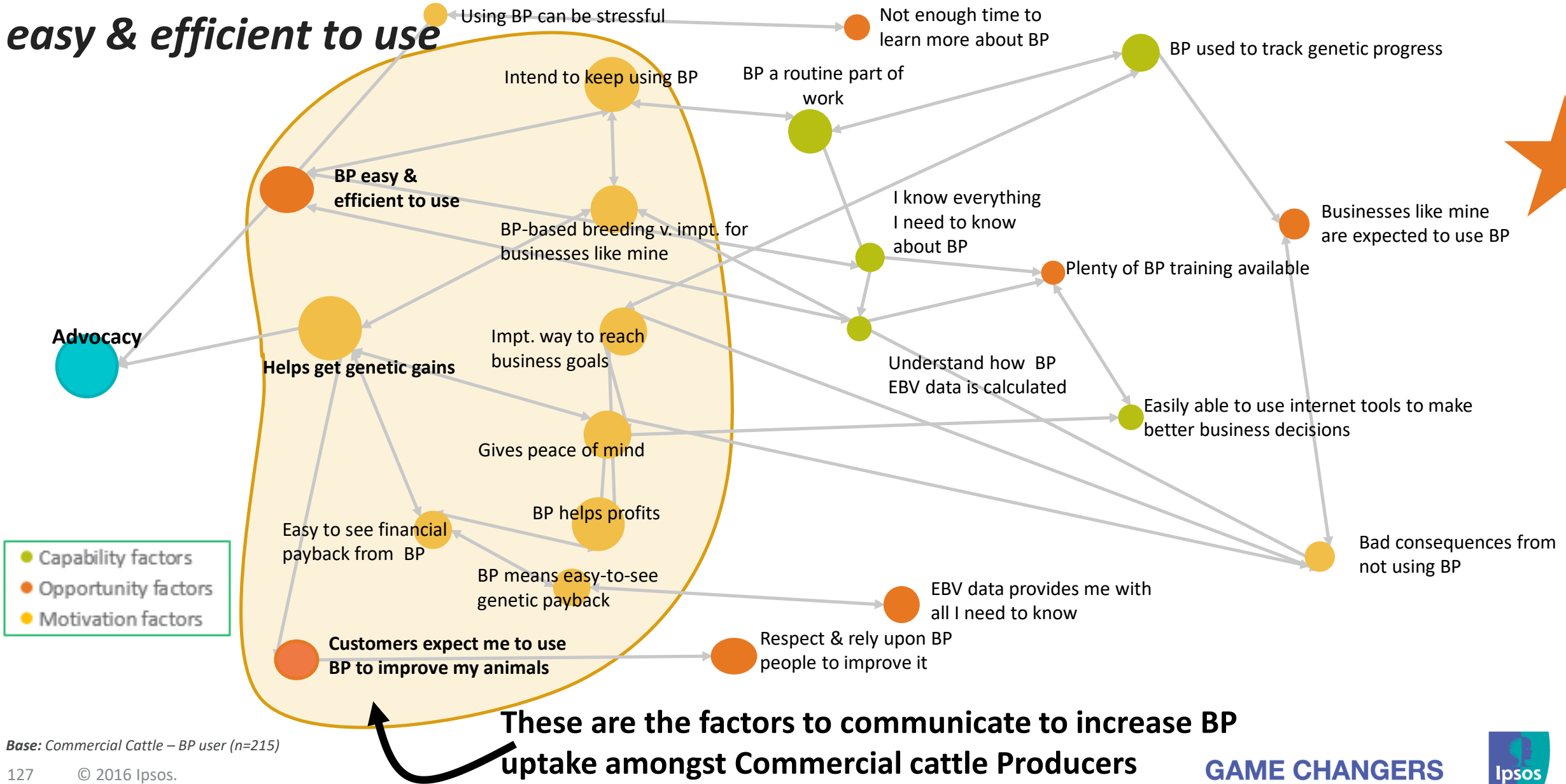


Q38. For this last set of remaining questions, I'm going to read a statement out to you, and ask how much you agree or disagree with it, using a 7-point scale. So, if you completely agree that the statement describes you perfectly, you would give a score of 7. If you completely disagreed with the statement, you would give a score of 1. For all the statements I read to you, please consider them in terms of using BREEDPLAN information such as EBVs to make your breeding or purchase decisions

Base: Users of BP who own a farm with cattle stud or seedstock (n=544)

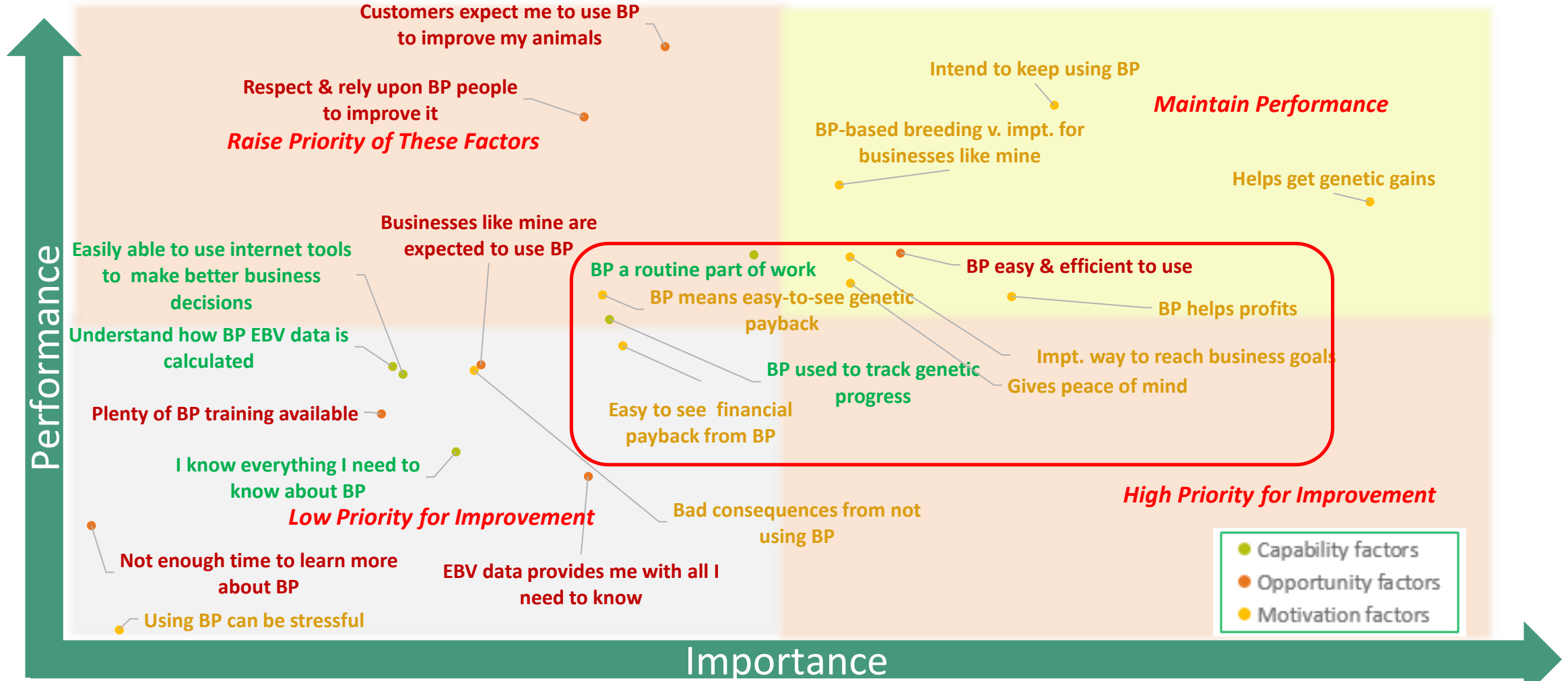
DRIVER ANALYSIS – COMMERCIAL CATTLE

Commercial cattle Producers need to be motivated & to see that BP can be *easy & efficient to use*



PERFORMANCE & IMPORTANCE OF BP – COMMERCIAL CATTLE

Motivation factors need to be the main focus

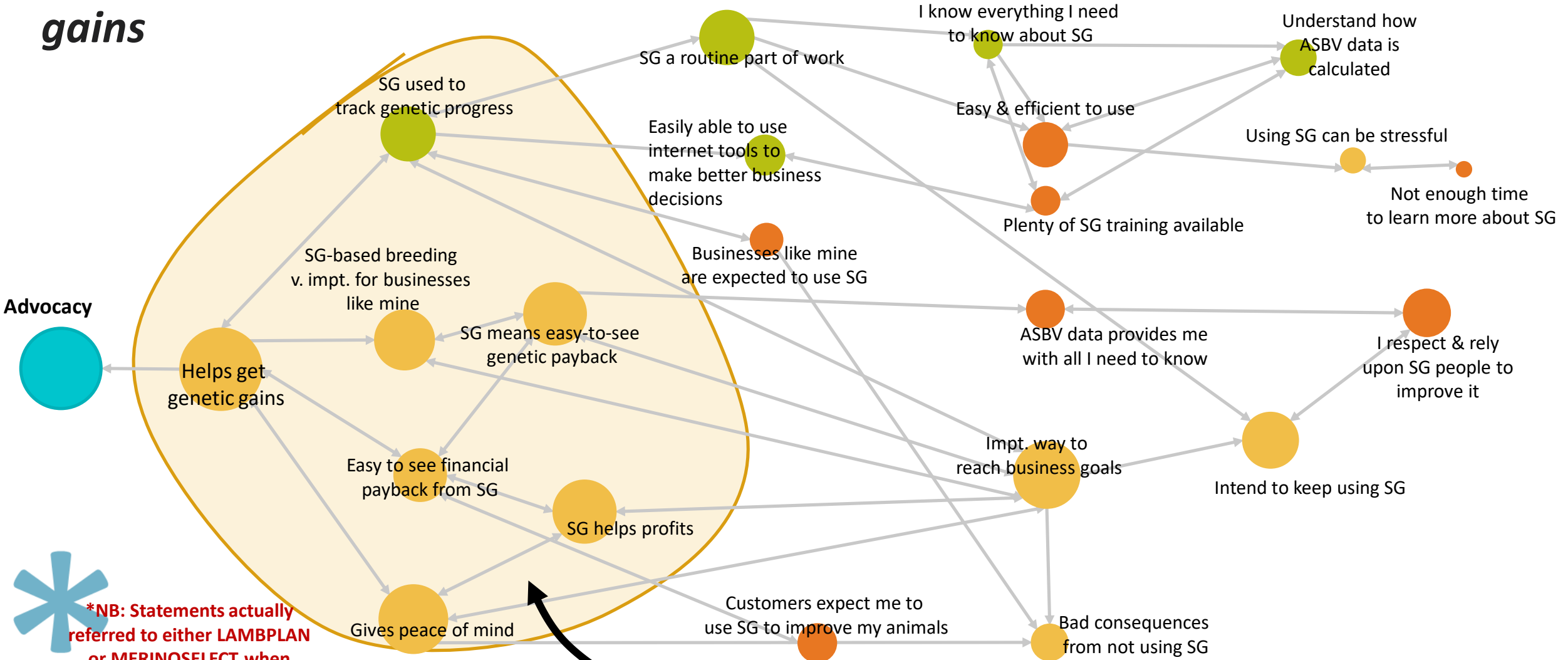


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Base: Users of BP who own a commercial cattle farm (n=215)

DRIVER ANALYSIS – SHEEP PRODUCERS

Sheep Producers need to be motivated & to see that LP & MS help get *genetic gains*



Advocacy



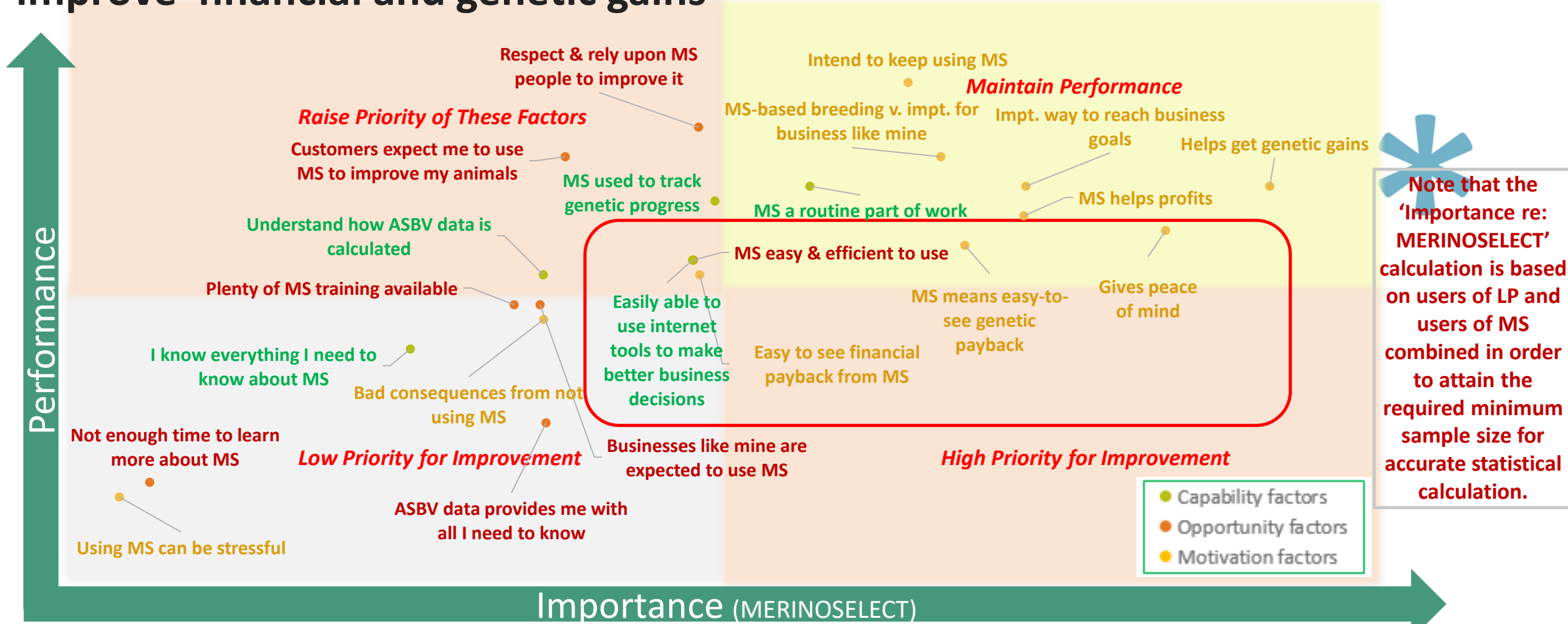
***NB: Statements actually referred to either LAMBPLAN or MERINOSELECT when asked during interviews.**

Base: Users of LP or MS (Sheep Stud, Seedstock, or Commercial) (n=288)

These are the factors to communicate to increase MS uptake amongst Sheep Producers

PERFORMANCE & IMPORTANCE OF MS – ALL MS USERS

Merino farmers need to agree that MS is an easy-to-use way to see and improve financial and genetic gains

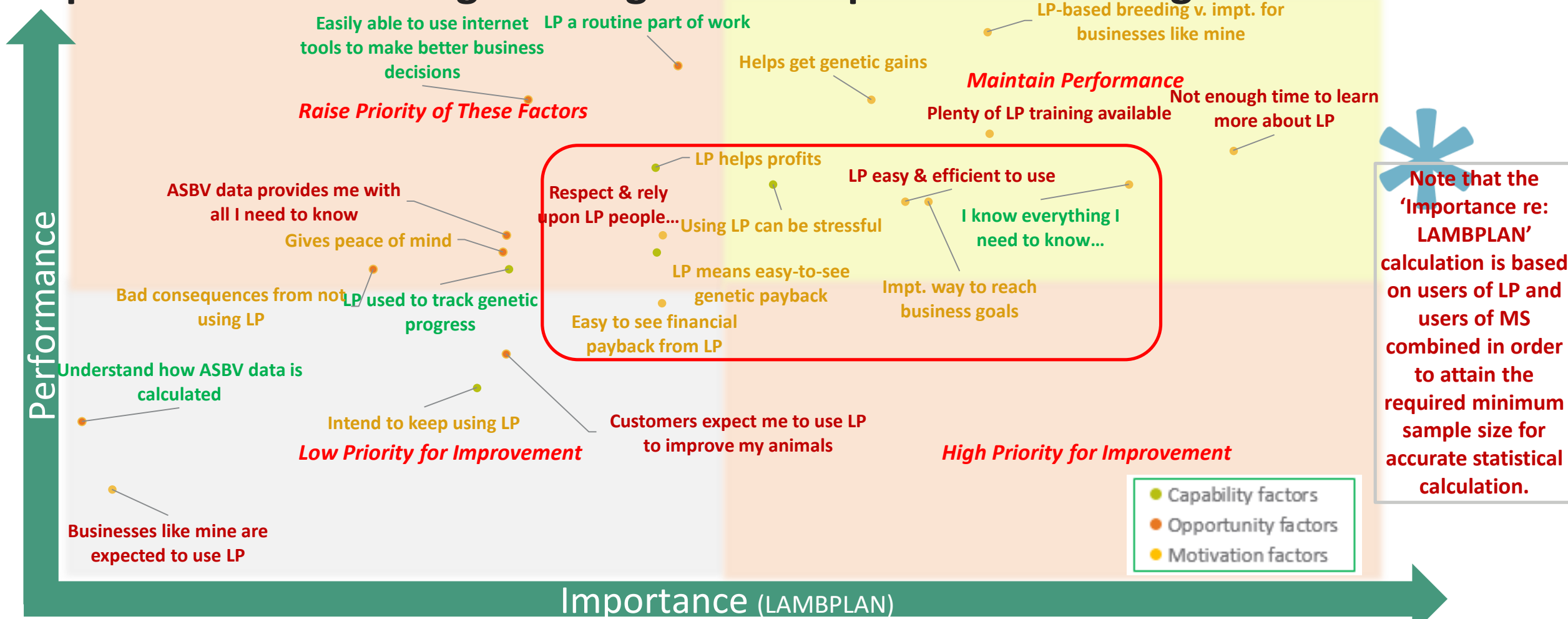


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Base: Importance – All users of MS and LP (n=288), Performance – MS users (n=119)

PERFORMANCE & IMPORTANCE OF LP – ALL LP USERS

Sheep farmers need to agree that LP is an easy-to-use way to see and improve financial and genetics gains to help meet business goals



Q38. For this last set of remaining questions, I'm going to read a statement out to you, and ask how much you agree or disagree with it, using a 7-point scale. So, if you completely agree that the statement describes you perfectly, you would give a score of 7. If you completely disagreed with the statement, you would give a score of 1. For all the statements I read to you, please consider them in terms of using LAMBPLAN information such as ASBVs to make your breeding or purchase decisions.

Base: Importance – All users of MS and LP (n=288), Performance – LP users (n=169)

Key messages / content have to address *motivation*:

1. **Remove the mystery:** Explain how metrics are calculated – the more the better.
2. Ensure the system is **easy and routine** to use.
3. Ensure that the **genetic and financial payback** is easy to model and track.
4. Highlight the **peace of mind** that comes from reducing the incidence of unwanted traits as much as achieving the desired ones.
5. Highlight the enhanced ability of these systems to enable Producers to **make profits and progress towards business goals**.





Summary of Key Points: QUANTITATIVE SURVEY

Key Learnings: Business Profile

1. A lot of breeding software variance; many informal DIY tracking options used including pen and paper, and even just memory.
The perceived need to adopt a new tracking system is a likely barrier to uptake.
2. No relationship between Producers' duration in breeding, operation size and system usage – usage is not an issue of small / new / old / large farms...
Usage is a consequence of Producers' personal attitude, not functional elements.
3. Breed society membership naturally higher amongst PLAN Users, but many Non-Users are also breed society members.
Breed societies can provide access to many Non-Users.
4. The larger incidence of composite breeds in the North leads ***to a focus on different traits, reduced BREEDPLAN Usage and Trust.***

Key Learnings: Genetic Progress

1. The presence of set breeding objectives is not a predictor of PLAN usage.
Cannot assume that Non-Users are 'slack' or have a poor handle on their breeding.
2. Those using PLANs employ a wider range of metrics and are also more likely to track 'hidden' traits; Non-Users are more likely to rely on fewer, more visual assessments.
Non-Users are likely to view PLAN uptake as requiring a lot of extra, possibly unnecessary recording.
3. With the exception of MERINOSELECT Studs, satisfaction with genetic gains is not related to PLAN usage.
With Non-Users being just as satisfied with their genetic gains, the promise of more satisfactory gains will not be effective nor justifiable.

Key Learnings: Trust & PLAN Perceptions

1. Users trust the PLANs, but:

- Studs' Trust is under-performing (the more Users know, the more they are inclined to question).
- Commercial Users' Trust is 'Blind' and thus prone to being undermined.

Biggest complaints concern ***data inaccuracy / non-transparency; the data capture / entry effort required;*** and the ***slow rate of progress.***

More transparency and information is required to increase trust and advocacy.

2. Genetics management is mainly related to trait selection rather than *avoidance.*

Need to highlight that good trait management is about trait reduction as well as promotion.

Key Learnings: Training & Extension

1. Go-to trainers largely felt to be programme suppliers or MLA. Website usage varies but appears to be generally under-used.
2. Most information sources are skewed towards the informal and non-specialist contacts. ***There is an argument for extending basic knowledge and advocacy throughout the industry so that enquiries are met with consistent feedback and direction.***
3. ***Lack of motivation*** is the main reason for lack of formal training. Motivation being hampered by Non-Users...
 - Being no more dissatisfied than Users;
 - Knowing little detail about the PLANs except that they seem to involve more work.

Key messages / content have to address *motivation*:

1. **Remove the mystery:** Explain how metrics are calculated – the more the better.
2. Ensure the system is **easy and routine** to use.
3. Consider a focus on the actual **transition** processes required.
4. Ensure that the **genetic and financial payback** is easy to model and track.
5. Highlight the **peace of mind** that comes from reducing the incidence of unwanted traits as much as achieving the desired ones.
6. Highlight the enhanced ability of these systems to enable Producers to **make profits and progress towards business goals**.



CONCLUSIONS & RECOMMENDATIONS

Producers do 'get' the value of genetics-based breeding & purchasing

- This research has confirmed that Australian cattle and sheep Producers mostly:
 - DO value and track their genetic gains;
 - DO make breeding and purchase decisions based in large part on the desire to control the genetic quality of their stock;
 - DO generally have more positive than negative impressions of BREEDPLAN / LAMBPLAN / MERINOSELECT;
 - DO know where to go to get more information or training;
 - Are equally satisfied with their progress regardless of whether they use a PLAN or not.

Despite Producers' current usage of genetics-based buying / breeding, the PLANs offer too little for the effort required

- The key problems for Producers using / considering BREEDPLAN / LAMBPLAN / MERINOSELECT are that:
 - The full range of traits that they value and record are seldom all included in BREEDPLAN / LAMBPLAN / MERINOSELECT (especially the Northern, often composite breeders), which weakens the perceived accuracy and value of the PLANs, accentuated by the 'black box' nature of their calculations.
 - The time, complexities and effort involved in data capture raise questions about (deliberate or accidental) data accuracies and thereby reduce the attraction of contributing one's own data or relying too much on PLAN data.
 - The returns to be made from trait management are clouded and sometimes seen to be overrun by the more immediate and tangible factors that also influence animal productivity.
 - This is accentuated by the suggestion from the qualitative stage that trait management is seen more as a means to avoid unwanted traits than to breed specifically for others (i.e. is an insurance against negative outcomes instead of an investment into positive outcomes).

RECOMMENDATIONS

Changing the TOOLS

- Making data entry easier and more accurate (e.g. changing interface or processes, creating an input app).
- Enabling Users to record other user-defined / -customised traits, even if they are not included in EBV / ASBV calculation (to enable a single data collection point).
- Enabling easier introduction of new bloodlines (e.g. for Studs importing new animals).
- Widening range of breeds catered for, especially composites and those favoured in the North.
- Increasing the amount of financial modelling available.
- Add a 'mythbusting' section to acknowledge and address the concerns and misconceptions identified here.

Changing the INDUSTRY

- Make the improved PLANs and tools measures ubiquitous – work to make them the norm in all sales, breed societies and related channels.
- Go on the charm offensive once improvements are made → →



Changing the MESSAGES

- The industry standard, expected and used by more Producers.
- A proven way to help reach business goals and improve profits.
- Easy-to-see financial and genetic payback.
- Improved, easier and more efficient.
- Helps speed up genetic gains.
- Increases the positive effects of improvements made throughout the farm systems.
- Gives peace of mind – reduces likelihood of unwanted traits.
- Understandable, transparent EBV / ASBV calculations.

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