

BETTER SHEEP BREEDING

Ram buying decisions

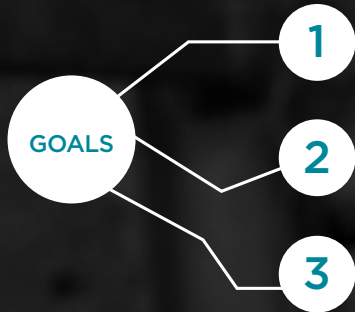




GENETICS

About Beef + Lamb New Zealand Genetics

B+LNZ Genetics is a subsidiary of Beef + Lamb New Zealand (B+LNZ) and consolidates the sheep and beef genetics research and innovation activity of Sheep Improvement Limited (SIL), the B+LNZ Sheep Central Progeny Test and Ovita.



1

Develop more commercially focused breeding objectives

2

Develop more accurate genetic evaluations

3

Better match genetic measures to commercial farmers' needs

Funding

B+LNZ Genetics' main funding is from:

- Sheep and beef levy payers (via B+LNZ)
- Ministry of Business, Innovation and Employment (the New Zealand Government)

It also has support from:

- Meat processors
- Breed societies and
- Commercial entities with an interest in sheep and beef genetics.



RAM BUYERS GUIDE GENETIC PLAN

A plan helps you get the best genetics for your flock. SIL recorded rams can target the traits you want to change in your genetic plan.

STEP 01

Where are you now? Where do you want to be in five years.

STEP 02

Which traits do you need to improve the most? What traits are you seeking change in and what traits do you need to maintain?

STEP 03

Do you have room to use Terminal sires for a proportion of ewes? As well as making more profit from terminal lambs, you will increase the proportion of replacement ewe lambs retained from a more select group of your Maternal rams.

STEP 04

Select a ram breeder that is making progress in the traits that you have selected.

STEP 05

Select rams with genetic merit that will change the combination of traits you want, in the direction you want.

For more information go to www.sil.co.nz

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WHAT IS A BETTER RAM WORTH?

The value a ram delivers to your farm depends on a number of things. How many lambs do you wean per ewe? How many years do you use your ram and how many lambings do you get on average from your ewes? Do you mate a proportion of your ewes to Terminal sires meaning a greater proportion of female lambs are retained from each Maternal ram used.

Terminal sire

Assuming 140% lambs present at docking/tailing compared to ewes mated, and rams are used for four seasons, Ram A provides \$811 more value than Ram B. How much more does Ram A cost, compared to Ram B? Probably considerably less than \$811 difference.

Maternal sire (dual purpose)

Assuming 140% lambs present at docking/tailing compared to ewes mated, and rams are used for four seasons, Ram C provides \$1116 more value than Ram D. If 35% of ewes are mated to terminal rams, Ram C now provides \$1717 more value than Ram D, as more of his progeny will be selected as replacements. How much more does Ram C cost, compared to Ram D? Can you afford *not* to buy Ram C?

If you consider a team of rams, this additional value is amplified:

3000 ewe farm with 30 rams of average merit, versus top 20%.

1. Using top 20% terminal sires:
\$811 x 30 = \$24,330
2. Using top 20% maternal sire:
\$1116 x 30 = \$33,480
3. Using top 20% maternal sires for replacements only:
\$1717 x 30 = \$51,510



Ram A	NZTW 1524*	Ram B	NZTW 1220*	Ram C	NZMW 2349*	Ram D	NZMW 1763*
Top 20% terminal ram		Top 50% terminal ram		Top 20% maternal ram		Top 50% maternal ram	

* Values from percentile bands—sil.co.nz 30 Sept 2017



Cheap rams are costly. The opportunity cost of buying average or unrecorded rams can be tens of thousands of dollars.

INTRODUCTION TO MEASURES OF GENETIC MERIT: ESTIMATED BREEDING VALUES (eBVs) & INDEXES

An eBV is an estimate of the breeding value of an animal as a parent for a particular characteristic or trait. The math (Best Linear Unbiased Prediction (BLUP)) used to calculate the eBV adjusts for known non-genetic effects and how heritable the trait is. This means the eBV represents the worth the animal can actually pass on to its progeny.

eBVs are displayed in the units they are measured in, e.g. kg for weight, number of worm eggs in faeces. Generally, a more positive eBV is more favourable but there are some exceptions (e.g. less worm eggs are more favourable).

Indexes have been created with the commercial farmer in mind. An index is an economic value applied to a grouping of eBVs. A more positive economic value is always more favourable.

It takes two parents to create progeny, therefore each parent contributes only half of the genetic merit of the progeny. However, more than 80% of your flock's merit is determined by the rams you bring in. This is because a ram has many more progeny in a given year than an individual ewe.

Key message: the rams you choose have a big impact on your bottom line.

WHAT ABOUT STRUCTURE AND SOUNDNESS?

It is expected that rams put up for sale have already been robustly checked for soundness and ability to mate. However, everyone has different ideas around characteristics they are looking for and what they are prepared to accept. Sheep Improvement Ltd (SIL) recommends you focus on things that will either make or cost money, when selecting structure.

More than 80% of the flock's genetics are contributed by the ram. That's an exciting opportunity to improve your flock's performance.

In a nutshell, estimated breeding values (eBVs) and indexes indicate the value of a ram (or ewe) as a parent.

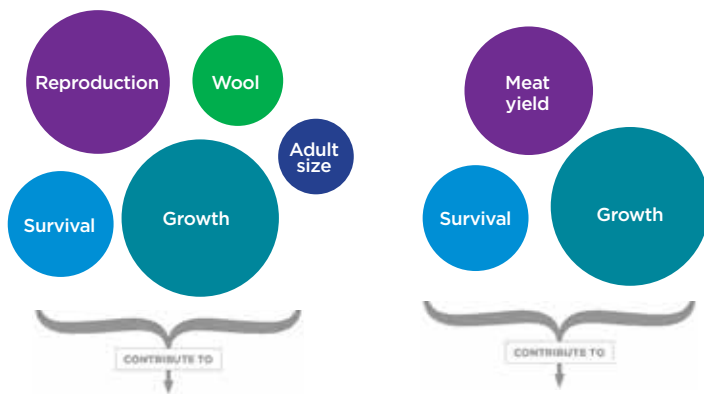


RAM BUYING MADE SIMPLE

Choosing rams has been made easier by the introduction of two New Zealand standard indexes.

1. NZ Maternal Worth (NZMW) is based on value derived from: Reproduction, Lamb Survival, Growth, Adult Size and Wool.
2. NZ Terminal Worth (NZTW) is based on value derived from: Growth, Lamb Survival and Meat Yield.

Farmers seeking more than the core traits can request feature traits to be added to these core indexes such as Meat, Facial Eczema Tolerance, WormFec resistance, etc.



When to use

If you are breeding both terminal and replacement stock

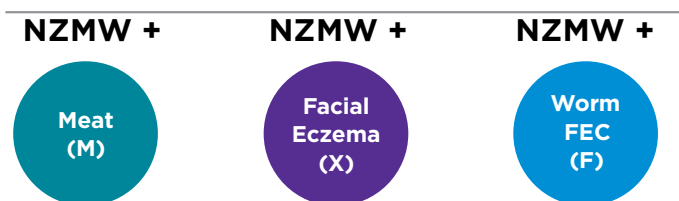
If you are only breeding terminal stock

Core traits

Reproduction
Survival
Growth
Adult Size
Wool

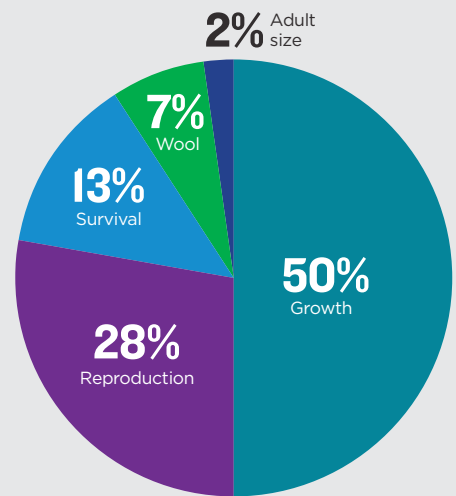
Survival
Growth
Meat Yield

The NZMW can be tailored for additional traits of interest:

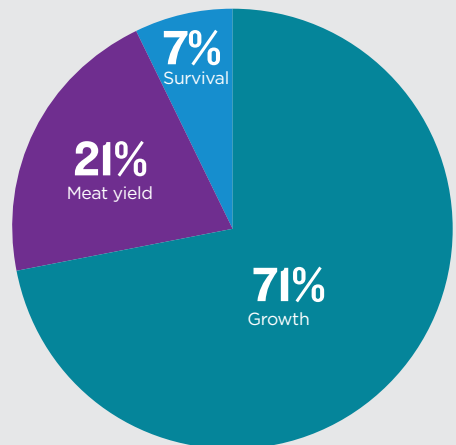


For more information go to ramindex.co.nz

For NZ Maternal Worth, increased profit in response to selection based on these core indexes comes from:



For NZ Terminal Worth, increased profit in response to selection based on these core indexes comes from:



*Buying a terminal sire?
Ask for NZTW figures.
Buying a maternal sire?
Ask for NZMW figures.
The higher the figure,
the better the ram.*

MAKE A GENETIC PLAN

Selecting maternal rams

		Now	Goal
Reproduction	What is your current scanning % (lambs present including triplets/ewe mated) <i>Benchmark 180% Easier, 165% Harder country</i>		
Survival	What % of lambs survive to weaning (wean %/scan %) <i>Benchmark 80% Easier, 80% Harder country</i>		
Growth	What % of your lambs do you finish to slaughter <i>Benchmark 100% Easier, 50% Harder country</i>		
	What is your average carcass weight <i>Benchmark 19 kg Easier, 17 kg Harder country</i>		
	What is your average dressing (carcass weight/kill weight = dressing%) <i>Benchmark 43% Easier, 43% Harder country</i> - note this is different to meat yield considered elsewhere		
	What is your average wean weight <i>Benchmark @ 90 days 30 kg Easier, 25 kg Harder country</i>		
	What % achieve kill weight at weaning <i>Benchmark 25% Easier, 10% Harder country</i>		
Adult size	What do your ewes weigh in prime (BCS=3) condition? <i>Benchmark 70 kg Easier, 65 kg Harder country—note lambs from bigger ewes can reach kill weights earlier but these ewes cost more to maintain over the year.</i>		
Wool	Is wool weight important for your flock?— note fine wool has different indexes than traditional strong wool. Ask your breeder if you have special requirements		

Selecting terminal rams

		Now	Goal
Survival	What % of lambs survive to weaning (lambs present/ewe mated, wean %/scan % <i>Benchmark 90% Easier, 80% Harder country</i>)		
Growth	What % of your lambs do you finish to slaughter <i>Benchmark 100% Easier, 70% Harder country</i>		
	What is your average carcass weight <i>Benchmark 19 kg Easier, 17 kg Harder country</i>		
	What is your average dressing (carcass weight/kill weight = dressing%) <i>Benchmark 43% Easier, 43% Harder country</i> - note this is different to meat yield considered elsewhere		
	What is your average wean weight <i>Benchmark @ 90 days: 30 kg Easier, 25 kg Harder country</i>		
	What % achieve kill weight at weaning <i>Benchmark 25% Easier, 10% Harder country</i>		
Meat	What % of your lambs qualify for a yield premium?		

Selecting maternal/terminal rams with additional features

		Now	Goal
Meat	What % of your lambs qualify for a yield premium?		
Hogget fertility	What is your scanning % from mated hoggets <i>Benchmark 120% Lowland, 100% Hill</i>		
WormFEC	Is resistance to internal parasites important for your farm?		
Facial eczema	Is tolerance to facial eczema important for your farm?		
Dagginess	Is resistance to forming dags important for your farm?		
BCS	Is ewe body condition a challenge for your farm?		
Stayability	What is the % of ewe replacements entering your flock? <i>Benchmark 25% Easier, 30% Harder country</i>		

TOOLS TO FIND BREEDERS THAT MATCH YOUR GENETIC PLAN

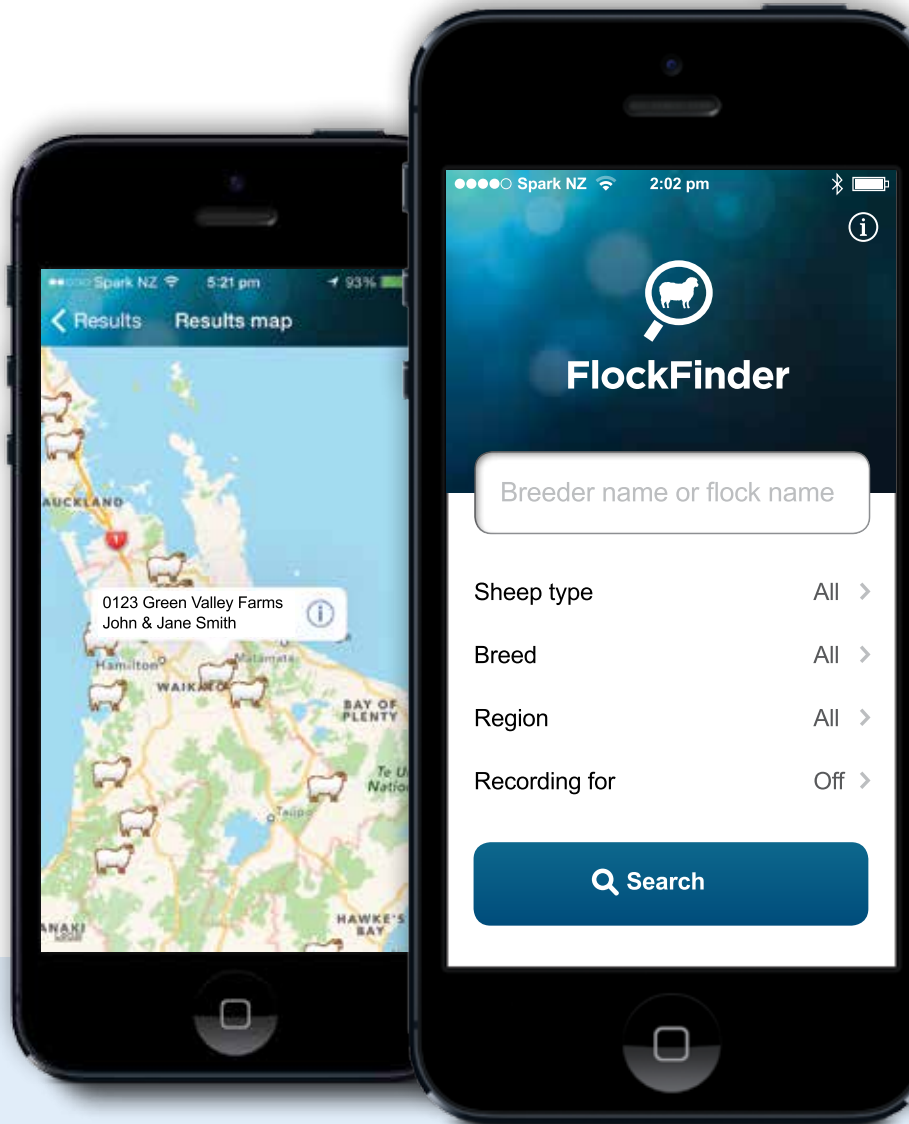
FlockFinder App

Find breeders recording traits you are interested in. It is more likely for a breeder to be doing well in a trait they are recording. You can also delve deeper and ask breeders to supply their genetic trend graphs on these traits.

On the FlockFinder App, you can see where they are located, how large their flocks are, and their contact details.

At the click of the button, the FlockFinder App has explanations and definitions of common eBVs and indexes.

Top breeders put a lot of effort into breeding the right rams for their clients and welcome the opportunity to explain their breeding philosophy and the data that backs up the merit of their rams.



MORE TOOLS TO FIND BREEDERS THAT MATCH YOUR GENETIC PLAN

Sire Leader lists

www.sil.co.nz/nzge

To feature on a Sire Leader list, a ram must:

- Come from a flock that is well benchmarked so his merit can be fairly compared with others.
- Come from a flock that has agreed to publish in Sire Leader lists.

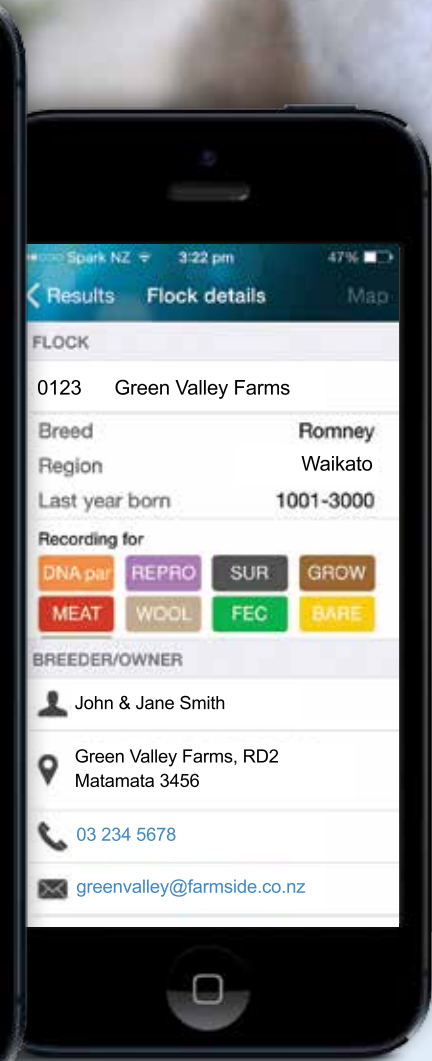
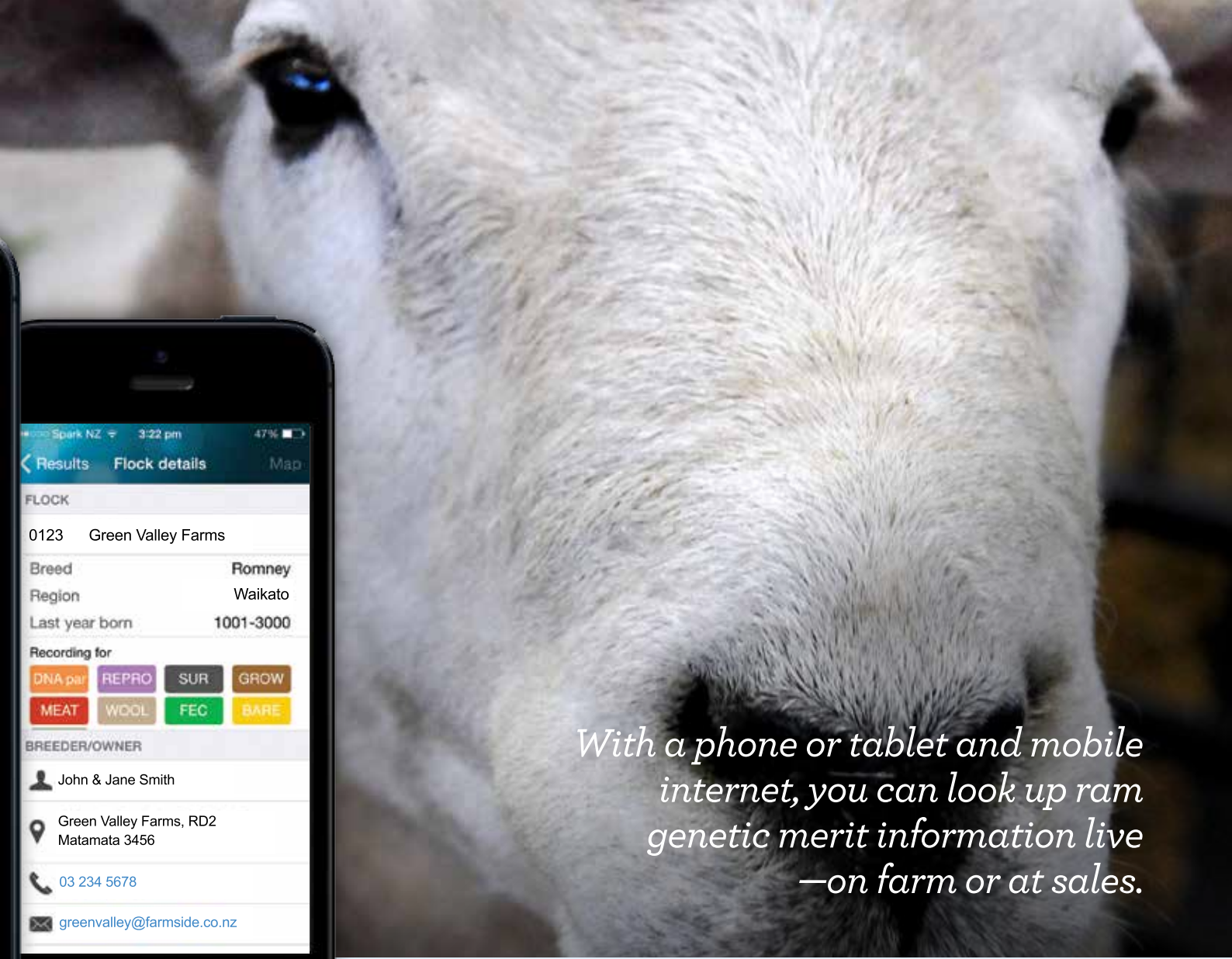
The lists tend to favour mature rams with greater accuracy in their breeding values (essentially based on more progeny or measurements). They provide breeders with a guide to top rams, and flocks with top rams, for benchmarking or adding value to their seed stock.

Percentile bands

On the same webpage, comprehensive percentile bands tables can be found which indicate just how good (or not) a breeding value or index is.

Young rams without measured progeny have lower accuracy of their breeding value estimates than older proven rams. With lower accuracy, SIL breeding estimates are more conservative, so it is wise to compare young rams with the percentile bands table that is generated for them (rather than that generated for older rams).

*You go where your breeder goes.
Do you know where your breeder is going?*



With a phone or tablet and mobile internet, you can look up ram genetic merit information live —on farm or at sales.



RamFinder

RamFinder is a tool for investigating specific rams or looking for groups of rams (or flocks) that satisfy your specific criteria. At first glance, it can appear complicated, but using the percentile bands table as a guide and keeping selection criteria simple to start with, this can be a powerful tool for finding the rams you want or flocks that have many rams that satisfy your criteria.

Additionally, you can check the current merit of your existing ram team to determine which rams you want to replace or weaknesses in your ram team you want to improve.

eBV graphs

You can find the eBV graph for rams of interest when looking up rams on the RamFinder web tool. The eBV graph is an easy way to get a sense of the genetic merit of a ram, where his strengths and weaknesses are, at a glance. Some breeders are choosing to display eBV graphs on their catalogues or pen cards and it's worth asking if it is available.

Genetic trend graphs

The ram breeder can supply his genetic trend graphs for his flock and how this compares to average for the Maternal and Terminal Sire flocks.

There are graphs for NZMW and NZTW, as well as 18 individual sub-indexes (Reproduction, Survival, Growth, Adult Size, Wool, Meat, WormFEC, Facial Eczema, DagScore, BCS, etc) and >100 eBVs.

It is reasonable to expect that a ram breeder will typically show you what the flock is good at, but you can also ask for graphs you are particularly interested in.

THE FINER POINTS

Example of accuracy—does it matter?

eBVs are calculated from:

- The ram's family
- His own performance
- His offspring (if he has any yet).

Most rams up for sale are young rams (hoggets or 2-tooths) with little, if anything, known about their progeny. Typically, their accuracy around the time of sale will be around 60-70% for most traits.

If the breeder is using genomic selection and has DNA profiles of the rams for sale, this information will be included in the eBVs and will increase their accuracy. But outside of that, very little variation between rams will be observed. So, does it matter?

The actual performance of young rams (through their progeny) will change more compared to their predicted genetic merit (eBVs and indexes) than mature proven rams. Some will go up and some will go down. On average, young rams are of superior genetic merit and will be more economically valuable than older rams.

For those investing in only one ram in a season, accuracy is more critical and proven rams or genomically tested young rams are essential to your flock—and worth paying more for.

For those investing in a team of rams, choose younger rams with superior genetics, even though the accuracy is lower.



Sperm production takes seven weeks, so take special care of rams 10 weeks prior to introduction.



GETTING THE MOST VALUE OUT OF YOUR RAMS

Maternal sire

Assuming 140% lambs present at docking/ tailing compared to ewes mated, and rams are used for four seasons, Ram C provides \$857 more value than Ram D. If 35% for ewes are mated to terminal rams, Ram C now provides \$1319 more value than Ram D as more of his progeny will be selected as replacements. How much more does Ram A cost?

Mating 35% of ewes to a terminal sire increased the value we got from our maternal sire. Why? Because it means more of the maternal sire's progeny are likely to be retained for breeding.

There are different levers you can pull to get more value such as having:

- A higher lambing percentage (benchmark is 140%)
- Greater lamb survival from birth to weaning (benchmark is 84%)
- More seasons from your rams (benchmark is four years)
- More seasons from your ewes (benchmark is four years)
- More ewes mated per ram (benchmark is 100)
- More replacement lambs retained (increase mating of lesser quality ewes to a terminal sire).

The ram value calculator allows you to plug in "what if" scenarios to calculate ways to get even more value from your ram investment.



Looking after your ram

Recent studies into ram wastage show an opportunity to get more value out of your rams by looking after them well.

Monitor bullying and ram condition. Remember genetic merit selection has already been done at the stud. Your goal is to maximise the progeny you get from this ram to deliver you his predicted value.



Finally—three questions

1. Are the rams you're selecting moving your flock in line with your genetic plan—e.g. towards your vision for your flock?
2. If not, have you got the right rams?
3. If yes, have you got the right management?

In summary

There are more SIL performance recorded rams provided to the market than is required by farmers, as estimated from latest ewe mating figures from Beef + Lamb NZ and SIL registrations.

This means it is a ram buyer's market with no need to compromise on breeding value merit, or worse, use unrecorded rams.

Good rams provide remarkable value over their lifetime. They are an investment. They should be looked after to ensure they can contribute as much as possible to your bottom line.

A genetic plan helps you focus on the best genetics for your flock. Estimated breeding values (eBVs) and indexes indicate the value of a ram (or ewe) as a parent—and using our tools to find breeders to match your genetic plan has never been easier (refer to pages 6-7).

For further advice on putting your genetic plan in place, contact the Beef + Lamb Genetics team—email info@blnzgenetics.com or phone your local B+LNZ Genetics Extension Manager.

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