



# SIL Newsletter

MEAT & WOOL NZ

Genetics

Issue 7

Autumn 2008

*Welcome to our Autumn 2008 newsletter.*

***Most of the New Zealand sheep and beef pastoral sector has been under pressure as a result of both climatic and market or pricing factors. This has placed a lot of pressure on breeders.***

***In recent months we have focussed on demonstrating the importance of SIL indexes when identifying those animals with superior financial potential. The SIL Adviser team have contributed media articles, organised breeder workshops and informed commercial ram buyers about SIL as a tool to aid ram selection.***

***This year has also seen some changes within the SIL team. I have taken on additional responsibilities across other areas of Meat & Wool New Zealand within the Farm Services Group. This means Dr Mark Young, Geneticist, provides a wider day to day overview of SIL operations.***

***It is pleasing to see the increased use of silhelp facilities, either through the 0800 SILHELP (0800 745 435) phone line or the silhelp email line ([silhelp@sheepimprovement.co.nz](mailto:silhelp@sheepimprovement.co.nz)).***

***Regular visitors to our SIL website ([www.sil.co.nz](http://www.sil.co.nz)) will also note this is continuing to be updated with technical notes and support material.***

*Richard Wakelin*

## **In this newsletter we will cover:**

- Plan matings to build genetic connections
- For dual purpose ewe efficiency, measure LW18 (2-tooth LW) at mating
- Resilience added to Health Trait Groups
- GeneTalk column in Country-Wide
- SIL-ACE percentile bands – a new tool to help interpret BVs and indexes
- Getting your SIL newsletter by email

## **Mating time SIL issues**

With the mating season fast approaching it is time to think about several things – building genetic connections between different groups and weighing 2-tooth ewes in dual purpose flocks. More information is given on the following pages.

Briefly, you need to:

- Mate some rams across ewes of different ages
- Mate again some rams that were used last year
- Weigh 2-tooth ewes near mating in dual purpose flocks

# Connectedness – Plan your matings

Good connectedness (or genetic linkage) enables SIL to separate sire effects from non-genetic effects such as ewe age and year. This leads to more accurate estimates of genetic merit.

Lambs from hogget and 2-tooths are usually smaller relative to lambs from older ewes. SIL makes a performance correction to lamb performance data based on age of dam. By grouping dams into 3 age groups (hogget, 2-tooth & older ewes) corrections can be calculated within flock to remove these biases. To do this SIL needs some lambs with the same sire to be born in each of the 3 ewe age groups. This is best achieved by using two rams across the age groups.

Consider the following example. Rams A & D were used across hogget ewes, Rams B, C & E across 2-tooths and Rams B, E, F & G across mixed age (MA) ewes. Lambs from 2-tooth and MA ewes are connected through rams B & E but lambs from hogget ewes are not connected to those from 2-tooth or older ewes. As a consequence SIL can not separate the hogget dam effect from the genetic effect of sires A & D.

Connectedness across years is necessary for SIL to remove year effects and to plot genetic trend lines. Here we are trying to connect year groups rather than ewe age groups. As before, this is best done by using a ram (preferably two) each year that was used the previous year. Obviously it is best to use good rams to do this!

A good rule of thumb to provide adequate connectedness is to mate rams to at least 20-30 ewes in each group i.e. across ewe age groups or across years. You must also collect measurements on the progeny for groups to be well connected for a trait.

More detailed information on this topic is given in SIL Technical Notes on the SIL website.

**Key point** – plan matings to ensure connections between ewe age groups and between years are strong

*Georgie Walker & Sharon McIntyre*

# Efficiency in DP ewes – measure LW18 at mating

Arguably the greatest benefit in using indexes is obtained from finding animals with unusual combinations of genetic merit for traits. While extreme cases are rare, less extreme combinations are readily found and help move a genetic improvement programme forward.

For most animals the relationships between growth traits has a certain predictability. For example, a lamb that is genetically bigger at birth will generally grow quicker and have a larger adult weight. In a dual purpose production system an upward trend in adult weight will impact negatively on farm profit, while the same trend in early growth can improve profit. Large mature weights lead to ewes eating more while high growth rate means lambs take less time and eat less feed to achieve target weights.

Feed is the major cost of production in a ewe flock and the cost of maintaining the breeding female forms a large part of this. Therefore the most profitable combination of weight traits in a production system involving breeding females is:

- rapid lamb growth to target weights to minimize the amount of time and feed eaten to achieve this,
- moderate adult weight to maximize feed efficiency in the breeding female.

The SIL Dual Purpose Growth sub-index favours this type of animal but they are not common. Typically, genetically small ewes have slower growing lambs while fast growing lambs are more likely to be born to large ewes. Selecting for a different combination of these traits is said to be “bending the growth curve”. The challenge is to identify animals that bend the growth curve at the top end i.e. animals that grow fast but have more moderate adult weight.

Genetic merit for adult ewe size is more accurately predicted from later liveweights so **recording LW12 for rams and LW18 for ewes will give best discrimination between genetic merit (BVs) for early growth and adult size**. If autumn LW (LW6/8/10) is the last LW collected, it is hard to find the superior animals (fast early growth, moderate adult size) we want.

**Key point** – dual purpose sheep breeders are recommended to weigh LW12 in rams and LW18 in ewes.

*Russell Priest & Mark Young*

# Resilience – to internal parasites

SIL is currently putting the finishing touches to support material for a new Goal Trait Group, Resilience to internal parasites. This complements Resistance to internal parasites.

This brings to four the number of trait groups in the area of Health (Resistance to Facial Eczema, Decreasing Dags, Resistance to internal parasites and Resilience to internal parasites). SIL now groups these selection objectives under the term “Health” as their objectives are all to reduce the incidence and impact of disease, thereby promoting health.

SIL has implemented an updated version of the method used by AgResearch and some breeders. Breeders will need to register with SIL and follow a defined protocol to ensure valid results are obtained.

Resilience will go live at the end of February 2008. Support material outlining the Resilience protocol will be available on the SIL website from that time.

**Key point** – SIL now does genetic evaluation for Resilience

*Mark Young*

## GeneTalk column in Country-Wide

Look out for our new bi-monthly (six per year) column titled “GeneTalk” in Country-Wide magazine. In both the North and South Island editions a snappy article relevant to ram buyers using SIL information will appear every second month in the Farm Livestock section.

Our first two articles have been published - *Comparing SIL figures across flocks* (in the January Southern edition page 34 and the December Northern edition page 36) and *Ram performance can be compared* (in the February issue of the Northern and Southern editions).

These articles are aimed at ram buyers to help them use SIL information more effectively. They will be about topical

subjects at various times of the year in order to help understanding of SIL information or discuss some issue in “genetics”.

Some of the articles may be short versions of more comprehensive articles found on the SIL website. Others may repeat messages that we think are important. All GeneTalk articles will be filed on the both the SIL and M&WNZ websites after publication. You can download any you miss.

Feedback from you as ram breeders on topics that would be useful to cover for ram buyers is welcome. Please send these by post to PO Box 39-085, Christchurch or by email to [silhelp@sheepimprovement.co.nz](mailto:silhelp@sheepimprovement.co.nz).

We look forward to any comments or feedback you have on the GeneTalk column. It would be great if you could spread the word about GeneTalk amongst your ram buying clients.

**Key point** – GeneTalk is targeting ram buyers with genetic information and ideas

*Georgie Walker*

## SIL-ACE – where do animals rank?

SIL has produced “percentile band” tables for ACE indexes and breeding values. These show where animals rate across the ACE evaluation. Those buying beef bulls using genetic information may already be familiar with this concept. The idea is that you can look at an animals BV or index and see what band it fits in for a given population of animals.

They have been produced by summarizing genetic merit for all sires used in the last three years. The 50<sup>th</sup> percentile is another name for the average of the population, while other bands show what the threshold is for a particular index or BV to be in the top 30% or 20% or the top 5%. They can be used to see if an animal is more highly ranked for one trait than for another.

SIL thinks this will be useful to both breeders and to buyers.

You will note that as you get into the more extreme

percentages, the gaps widen between the different bands. SIL has prepared these tables so that the average level of performance (=50<sup>th</sup> percentile), has a shaded background, as does the 20<sup>th</sup> percentile band. **SIL considers that, generally, animals in the top 20% have very good genetic merit.**

It is important to note that these tables only apply to the ACE analysis they are produced from. So they can only be used with reports derived from the same ACE analysis. Percentile bands for other SIL genetic evaluations will have different threshold figures.

Any breeder participating in ACE can ask their bureau for reports based on the ACE evaluation (this may incur an extra charge to action). This could be used to rate how sires you have used perform in the ACE evaluation.

These tables will be available from late February on the SIL website ([www.sil.co.nz](http://www.sil.co.nz)), along with the ACE trait leader lists.

**Key point** – SIL will produce a simple chart you can use to see where an animal rates in the SIL-ACE evaluation for different breeding values and indexes

*Mark Young & Sharon McIntyre*

## SIL Newsletter by Email

Our SIL newsletter is now available to be sent to you as electronic copy instead of by post as paper copy.

The newsletter would be a pdf file (up to 500kb) attached to an email, so you need to be on broadband. The pdf file will be in the same format as this paper copy. Our last two newsletters are on the SIL website as pdf files under Newsletters if you wish to download them.

To sign up for the newsletter by email just send an email to *silhelp* ([silhelp@sheepimprovement.co.nz](mailto:silhelp@sheepimprovement.co.nz)) and include the following information - Your full name and the SIL flock code for one of your active flocks. We need this to ensure we have you correctly identified and so we can record your request for newsletters by email on our database.

Please note this is a request to get your newsletter by email and cease to get it by post.

We will send you only the SIL newsletter by email. If in the future we have other articles or publications that could be sent by email we will ask for you to sign up for these separately.

While we do have email addresses for a number of our breeders already, a number are out of date. Please still email the silhelp line to officially sign up for the SIL newsletter. Some of you may have seen the email sign up form on our web page - please don't use this as it can be difficult to match you up on our database.

If you are not a registered SIL breeder please let us know your name and in a couple of words what your general interest in the newsletter is i.e. Farmer, Stock Agent, University Lecturer.

Sign up today and you'll receive your next SIL newsletter a lot faster than by post and can store it on your computer for future reference.

**Key point** – if you are on broadband we can deliver your SIL newsletter and other material by email

*Georgie Walker*

## Contact SIL

**Phone: 0800 silhelp (0800 745 435)**

**Email: [silhelp@sheepimprovement.co.nz](mailto:silhelp@sheepimprovement.co.nz)**

**Website: [www.sil.co.nz](http://www.sil.co.nz)**

Contact your SIL bureau:	Bureau:	Contact:	Phone:
	The New Zealand Animal Breeding Trust	Clare Callow / Barbara Beckett	06 354-9119 / 04 526-8497
	FlockLinc	Chris Logan	03 325-3838 (extn 8620)
	Geneplan	Alan Warren	03 688-1131
	Genetic Gains	Julia Aspinall	03 216-3455
	Livestock Administration & Account Services	Christine Ramsay / Joanne Pinfold	06 323-4156 / 06 323-3910
	NZ Performance Sheep Breeders	Murray Meads / Linda Shailer	06 323-4484
	NZ Performance Recording Services Ltd	Ken Moore	03 338-8078
	NZ Sheepbreeders Association	Meg Macfarlane	03 315-6261