

# More than meets the eye



## GENE TALK

Mark Young

I've received a lot of feedback in the past 12 months about indices and whether these are right for a particular breed or flock. There are a lot of indices out there and there is merit in having industry standards to help most users.

However, that doesn't mean breeders can't use their own indices to drive their breeding programme in order to develop market differentiation of their product. Rather, it means we then need some common yardsticks to compare the different products that breeders have.

In yarning about this with breeders I came across a good analogy as to why indices work.

You can think of it as the choices involved when buying a new car. Most cars have fairly similar features by virtue of companies copying each other's innovations, but people still prefer certain colours, one maker over another or features like SatNav, boot space, and even multiple cup holders.

All cars in New Zealand have safety test ratings based on an international standard, the Australasian New Car Assessment Program (ANCAP). So you can compare most models on the same scale and rank them from poorest to best. While it doesn't tell you everything about the car it certainly does a good job of something that is very hard to assess without a degree in engineering and a lot of fancy equipment, plus a supply of crash test dummies.

Indices can be used in the same way – they can even be thought of as a bit of a "safety rating".

If we have industry-standard indices, they themselves don't drive a breeding programme but provide a common scale showing how different genotypes – breeds, flocks, or rams – differ from each other. A standard index would be one where you know what it has in it and what the animal is rated for.

How cars look or the features in the cabin are pretty important to most

people. It's the same with livestock. Rams and bulls need to be of good type but they also need the best estimates for those things not visible to the eye. A lot of the characteristics you can't see have an influence on profit. Why wouldn't you use better information if that is what it affects?

Perhaps the difference between buying bulls or rams and buying cars is the hope we won't need to rely on that ANCAP rating for our car anytime soon, if at all. For bulls and rams, however, we really do need to get the best data possible to provide good estimates of how their progeny will perform if that affects farm profit.

Eye appraisal doesn't cut the mustard compared to ratings based on comprehensive data on the animal and its family members.

This includes making adjustments for non-genetic effects, particularly for traits like number of lambs born, lamb survival, milking ability of daughters, or the relationship between lamb growth rate and adult ewe size.


Where eye appraisal does do a good job is in areas like structural soundness – such as feet, jaws and teeth, reproductive bits and bobs – and wool qualities up to a certain level of precision.

Indices we use in the sheep industry – that is, standard Sheep Improvement Ltd (SIL) indices – have been designed

by experts and their systems have been validated by publication in international journals. We accept concerns that industry have raised with us.

As a result we are looking at how we can standardise some genetic ratings. Having an industry-standard index for a particular broad sheep type, for example a dual purpose or terminal sire, will mean everyone knows what it's being rated for and is familiar with the components. We are working on this now and will be seeking industry feedback in a few months.

We are also getting independent experts from within NZ to look at specific concerns some breeders have about how SIL Dual Purpose (DP) indices reward for lamb growth while penalising adult ewe size to see if the balance is right. This extra level of scrutiny on the economic models behind DP growth indexes is not because we think they are wrong, but to help industry have confidence that the indices will rate animals correctly for profit.

Keep those queries and suggestions coming. It is great having the debate. 

- Dr Mark Young is the senior geneticist with Beef + Lamb NZ Genetics and SIL. You can give B+LNZ Genetics or SIL your thoughts on this topic by email to [silhelp@sil.co.nz](mailto:silhelp@sil.co.nz) or by leaving a phone message on 0800-silhelp (0800 745 435).



Buying a car? Does it have a good balance of features?