



Are ewes too big?



**GENE
TALK**
Mark Young

In New Zealand sheep breeding circles there is a range of views on what we should do about the size of adult ewes.

Some tell us ewes getting bigger are a problem, while others say there is no problem, and a few even say they would like their ewes to be a bit bigger.

So why does SIL penalise ewe size while rewarding lamb growth in its Dual Purpose (ewe breed) selection indexes? Breedplan is similar in that it penalises cow size relative to growth rate in young cattle where bulls are used to breed herd replacements. The reasoning is this:

[BLOB] Many of the genes that make lambs and calves grow faster also make adult sheep and cows bigger

[BLOB] Bigger sheep and cows need to eat more for maintenance i.e. cost more to run

[BLOB] Bigger ewes and cows are more difficult to handle for farmers and others working with stock. Shearers regularly tell me this.

The science is clear that selection for growth rate (weight for age) leads to larger adult size. While the traits are not 100% related, the correlation is high. So selection for early growth rate will increase adult size unless we specifically focus on those genes that do not affect both traits. To do that we must measure adult size and growth rates in young animals.

Similarly the science is quite clear that larger animals eat more. While there is evidence that some animals require less feed a kilogram of LW, it requires detailed studies to identify such differences accurately.



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Historically, genetic improvement systems for farm livestock focused on more production, faster. International experts conclude this has led to major increases in adult size in all species. What is not clear is whether we have more product for the amount of feed eaten. Other livestock species began including feed efficiency, in some form, into their selection programmes some years ago. Beef cattle and sheep have been doing this indirectly and for less time due to the difficulty in getting good information on feed intake.

The best we can do now, in most practical situations, is measure adult size or LWS that best predict that. Then select for early growth relative to adult size as well as increased productivity in other traits relative to adult size e.g. litter size in sheep, milking ability, wool production or lower costs of production including the effects of disease.

Let's not confuse genetics with feeding, management or other non-genetic effects. While average LW may decrease at higher stocking rates, genetically larger sheep or cattle will still be larger. When ewes and cows are heavier, you cannot run as many on your farm with other things being equal. That is why an earlier Gene Talk column talked about "new genetics, new management". Switching to genetically more productive sheep or cattle usually requires adjustments to your management.

Some breeders are beginning to focus more on efficiency than "out-and-out"

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productivity. They want greater returns a kilogram of ewe or cow. Technically, this is per head efficiency rather than farm efficiency or farm profit.

The best we can do in most sheep and cattle breeding programmes is estimate adult ewe or cow size and look to increase productivity relative to that. The focus here is on greater returns relative to costs, so increasing farm profit.

The power of modern genetic evaluation methods is such that many NZ cattle and sheep breeders have had a lot of success in selection for increased productivity in their flocks and herds. I believe it is now time to put more emphasis on associated costs of production to improve efficiency and profit.

What do you think? Should your ram breeder be focused on productivity a head, without reference to how genetically big your ewes become, or should they refocus on productivity a kilogram of ewe? Likewise, should bull breeders be putting more emphasis on increasing calf growth rates relative to cow size?

B+LNZ and SIL are interested in your views on this. Please feel free to tell us your thoughts by sending an email to silhelp@sil.co.nz or leaving a phone message on 0800-silhelp (0800-745-435).

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