

SECTION
04



DO EBVS WORK?

Trials are occasionally carried out to validate Estimated Breeding Values (EBVs), to prove that what they are predicting is actually happening on commercial farms. This involves matching the expected performance on farm (the EBV) to the actual performance for a given trait.

An outcome of the Beef + Lamb New Zealand Genetics Beef Progeny Test has been proving that various BREEDPLAN EBVs do in fact produce what they predict.

In this, it was investigated whether or not bull EBVs predict weaning weight of calves sired by Simmental, Charolais, Hereford, Stabilizer and Angus sires.

Expectation: 200 day weight EBV

	200 day Wt EBV	Progeny difference (compared to Bull 2)	Calf average WWT (mob avg = 230)
Bull 1	+20	-10	220
Bull 2	+40	0	230
Bull 3	+60	+10	240

In the calf, half the genes come from the cow and half come from the bull. That means we would expect half the benefit of a sire's EBV will be passed on to the calf. In the example table above it can be seen that it is expected sires with heavier 200 day weight EBVs will wean heavier calves, e.g. for every extra 1 kg of 200 day weight EBV, you get an extra 500 g of actual calf weaning weight on farm.



Correlation between Sire 200 day weight (weaning) EBV and on farm weaning weight in their calves. Source: Beef + Lamb New Zealand Genetics, Beef Progeny Test 2016.

Reality: Calf weaning weight

In the graph above, each dot represents the average weaning weight of the various sire's calves. If the dots are close to the coloured line of their breed, then the sire's 200 Day Weight EBV accurately predicted the actual average weaning weight of his calves.

It was found that for every 1 kg more in 200 day weight EBV, 470 g was gained in the average weaning weight on farm. Effectively 94% of the expected weaning weight advantage predicted by EBVs is being realised in New Zealand commercial farms. This was achieved across the country with 2200 cows, on five large scale commercial farms, five breeds and with high and low accuracy sires.

	Average calf weaning weight	% of predicted response achieved on farm
Expectation	0.5kg	100%
Reality	0.47kg	94%