

Maximise Muscle. Everytime.

Breeding and farming sheep which are better at converting feed to produce a higher value carcass will improve the profitability of lamb producers.

MyoMAX[®] is a DNA test for a gene which increases a lamb's carcass weight and muscle yield.

Sheep identified with the MyoMAX[®] effect have increased muscling in the leg and loin, less carcass fat and an improved carcass weight compared to non-MyoMAX[®] animals of the same live-weight and genetic background.

Why MyoMAX^{GOLD}[®]

Under the current weight and grade payment system, the benefits from MyoMAX[®] come in the form of increased dressing percentage and reduced fat. The benefits increase where better carcass conformation and muscle yield are paid for directly under a yield based payment system.

The MyoMAX[®] effect can be passed on to lambs by either the ram, ewe or both parents. A lamb that receives one copy of the gene will have 5% more muscling in the leg and loin and 7% less carcass fat. An animal with MyoMAX[®] from both parents will have up to 10% more muscling and 14% less carcass fat. This makes MyoMAX^{GOLD}[®] ideal for both maternal and terminal breeding systems.

MyoMAX in Terminal Sire System

Cost-benefit modelling has shown that the use of a MyoMAX^{GOLD}[®] terminal ram over commercial ewes not carrying the MyoMAX[®] effect will produce \$3.49 more meat value per lamb¹ of which a farmer will receive up to \$1.90. If the commercial ewes also carry the MyoMAX[®] effect then the increased meat value per lamb caused directly by the MyoMAX[®] effect is up to \$6.98¹ more per lamb of which the farmer will receive up to \$3.49.

The additional total value produced by a MyoMAX^{GOLD}[®] terminal sire ram is between \$942-\$2,792².

Assumptions: ¹ Modelled on a 16.5kg carcass, based on a NZ\$3.50 per kilogram schedule and assumes an average primal cut values of loin: \$13.59, leg: \$7.93 and forequarter: \$4.53. Farmer payment under current weight and grade system.

² Assumes terminal sire leaves between 270 and 400 offspring over his lifetime and range dependant on whether the MyoMAX[®] carrying terminal sire is mated to non-carrier or MyoMAX^{GOLD}[®] carrying commercial ewes.



From left: First lamb carries no copies of MyoMAX[®] and the second lamb has two copies. Both lambs were produced from the same sheep flock run under exactly the same conditions and slaughtered on the same day.

MyoMAX[®] in Maternal Sire System

Cost-benefit modelling has shown that the use of a MyoMAX^{GOLD}[®] maternal ram mated to commercial ewes who have three lambings over their lifetime, tail at 130% and where 60% of ewe lambs are kept as replacements will add \$5.25³ per replacement ewe.

The additional total value produced by a MyoMAX^{GOLD}[®] maternal ram who is between \$1,030–\$1,610⁴.

Assumptions: ³ Three lambs slaughtered per ewe plus one lamb kept to replace the ewe herself. 50% of the lambs slaughtered from ewe replacement carry one copy of the MyoMAX[®] allele inherited from the MyoMAX^{GOLD}[®] ram.

⁴ Modelled on MyoMAX^{GOLD}[®] maternal ram producing 190–280 slaughter progeny worth \$660–\$980 plus \$370–\$630 from lambs out of 80–120 replacement ewes.

Validation of MyoMAX[®]

Large-scale industry trials have confirmed and validated the MyoMAX[®] effect in a number of industry populations of different genetic backgrounds and production systems. These trials have confirmed that MyoMAX[®] has no negative effects on other traits including meat quality, lamb survival and growth rate.

Questions and Answers

- Q: Can MyoMAX[®] be tested at the same time as other Pfizer Animal Genetics genetic tests?
- A: Yes, breeders who currently use Pfizer Animal Genetics' Shepherd[®] DNA parentage system can also have their sheep tested for MyoMAX[®] at the same time that they are being tested for parentage.
- Q: What breeds is MyoMAX[®] present in?
- A: MyoMAX[®] has been identified within Texel and composite breeds containing Texel genetics. MyoMAX[®] is being actively introgressed into other both terminal and maternal breeds e.g. Romney, Perendale and Coopworth.