

► **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.



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 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.

► 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 Catapult® genetic tests?

A: Yes, breeders who currently use Catapult's 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.

FOR MORE INFORMATION, PLEASE CONTACT CATAPULT®

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