MyoMAX®

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.

Pfizer Animal Health
Animal Genetics

MyoMAX®

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 lamb[1] 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 $6.98[1] 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–$2,792[2].

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 $5.25[3] per replacement ewe.

The additional total value produced by a MyoMAX$^{GOLD®}$ maternal ram who is between $1,030–$1,610[4].

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.

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