Simmental Genetic Progress Doubles in Ten Years

A recent analysis has revealed that the Simmental breed has more than doubled the rate of genetic progress being achieved over the most recent 10 year period.

It is common practice to measure that rate of genetic progress being achieved for a breed by calculating the change in average Selection Index values across calving years. For the Simmental Self Replacing Supermarket Selection Index the rate of genetic progress has increased from $0.3/year for the 2000-2004 calving years to $0.63/year for the 2005 to 2009 calving years. This equates to a doubling of the rate of genetic progress being achieved by Simmental for this production system and market end-point (figure 1).

![Genetic Trend - Simmental Supermarket Index](image)

Figure 1. Genetic Trend of the Simmental Self Replacing Supermarket Index

To better understand how the doubling in the rate of genetic progress has been achieved we need to know more about the Simmental Self Replacing Supermarket Selection Index.

The Simmental Self Replacing Supermarket Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd (self replacing herd run in a temperate environment) targeting grass-finished production for the domestic supermarket trade. This Index assumes pasture grown & finished steers weighing 485 kg at 17 months, for the supermarket trade.

The key economic traits that have major weighting in the Simmental Self Replacing Supermarket Index selection index are Sale Liveweight, Fat Depth and Calving Ease. Over the same 10 year period as noted above the Australian Simmental breed has genetically increased yearling weight by 5kg and Rump fat depth by 0.3mm. The most noticeable genetic changes has been in the calving ease traits with birth weight and gestation length decreasing, resulting in an improvement (increase) in calving ease direct (figure 2) This improvement is most evident if the recent calving years.
Figure 2. Genetic Trend for Australian Simmental Birth Weight, Gestation Length and Calving Ease Direct.

On a phenotypic level, the breed-wide levels of unassisted calvings is now at it highest level at 97% (2007 drop calves), including first calving heifers. This represents a significant improvement on the 87% level which existed 17 years ago. Studs now record calving difficulty scores on 92% of calf births (2007 drop calves), compared with 57% 17 years ago. This demonstrates the importance placed by Simmental bull breeders on recording this trait and applying selection pressure to further improve this economically important trait.

Further information on Simmental Selection Indexes or genetic progress being achieved by the Simmental breed can be accessed from the Australian Simmental Breeders Association - 02 6773 2714 or http://www.simmental.com.au.

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