

Use of converted proofs in animal model evaluations

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Summary:

Australian dairy farmers have used considerable amounts of imported semen, and so have asked how to compare bulls from different countries.

As a number of conversion formulae have been produced, we have been interested in reliable conversion formulae. We now use the method of Goddard to derive conversions for imports to Australia from New Zealand and North America.

The logical extension of the use of conversions is to incorporate them into the genetic evaluation program. Goddard and Smith (pers. comm.) have developed a method that enables us to do this satisfactorily.

This method takes account of the fact that the genetic correlation between performance in the two countries may be less than one. To this extent it approximates a multi-trait evaluation where performances in the two countries are treated as different traits.

The method is such that bulls with no Australian relatives get a computed breeding value equal to their conversion.

In updating a conversion formula, the methodology has to ensure that the overseas information is removed from the local proof before applying Goddard or Wilmink's formula. In other words, we need to be able to compute the merit of the Australian daughters of imported bulls.

The same limitations will apply if a World Breeding value is computed. In other words, daughters should not be counted twice.