



Criteria for official publication of Breeding Values

January 2010

Breeding values are based on measurements and pedigree information. As different numbers of measurements are involved in the estimation of breeding values of different animals, the reliability of these predictions varies. All animals of a breed are included in genetic evaluations, rendering a wide variety of reliability of estimation of breeding values. For example, breeding values of a sire having thousands of measured daughters in an evaluation, will be highly reliable and will not change significantly as new information is added in a succeeding evaluation, *versus* a heifer's breeding values, which are only based on parent averages. For this reason it is the responsibility of the ARC, as the authority of SA National Genetic Dairy Evaluations in South Africa, to indicate which breeding values are considered official or publishable based on the requirements set by SAH. A breeding value is considered official or publishable when it is based on adequate information to have reached stability, *i.e.* seen as being proven.

Holstein Breeders and Holstein Semen Agents are supplied with breeding values of all active animals in order to identify promising young animals. Please note that these breeding values may, however, still be unstable and that there is still risk that they may change. They are therefore not official and not publishable. Only breeding values complying to Table 1 are considered to be official or proven and qualify for publication and marketing.

Table 1 : SAH requirements for official/proven/publishable breeding values.

Production Traits	
Bulls	Cows
20 daughters past 150 dim in 10 herds	1 Completed lactation
Linear Type Traits	
20 classified daughters in 10 herds	Has to be classified

dim = days in milk

Foreign Bulls

With regards to publication of foreign bulls, please note the following :

- MACE (international) breeding values are only applicable to young foreign AI sires that do not have enough daughters in South Africa for official SA breeding values. MACE breeding values are estimated by INTERBULL in Sweden and are based on the sire's daughters' performance in his country of birth and the genetic correlation of that country with South Africa. MACE breeding values are expressed according to the genetic parameters, the unit of measurement and the base year used in the SA evaluations and are therefore directly comparable to South African breeding values. **As soon as a foreign bull complies with requirements as stated in Table 1, his breeding values, based on his South African daughters performance, are considered to be official, proven and qualify for publication and marketing. All semen catalogues must then use/publish these official SAH/ARC breeding values.**
- Breeding values of other countries, as published on websites and AI catalogues, are not directly comparable to SA breeding values, because they are estimated from populations at different genetic levels; subjected to different selection criteria and selection intensities over many years, based on different units of measurement, genetic parameters and base definitions, and estimated with different genetic methodologies. The only way to compare them, is to use their South African MACE breeding values.
- If official SA breeding values are available for foreign sires, these breeding values have to be used for marketing and printed on pedigrees and in sale catalogues.
- Breeding values of the latest Breed Evaluations should always be used and the source and date of evaluation should also be indicated, eg. ARC/LNR 11/2008.

