Improved genetic evaluation for calving and birth traits

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In November 2016 improvements were implemented in the genetic evaluation for calving and birth traits. The main improvement is the change to an animal model which makes it possible for cows to get breeding values including own information.

More reliable breeding values for cows

With the change to an animal model cows get EBVs for calving and birth including own performance. Some quite big changes will be seen for cows since own records will give considerably more information to each cow. The correlations between old calving EBVs and new calving EBVs vary between 0.80 and 0.85 across breeds. This results in some re-ranking, for example in RDC 11% changes 6 to 10 index units in calving traits and 3% changes more than 10 index units. For Holstein and Jersey there are slightly less re-ranking for calving. For birth traits in Holstein 19% changes 6 to 10 index units and 4% changes more than 10 index units. In this case there were slightly less re-ranking for RDC and Jersey.

Cows are going to be used in the reference population. Including females in the reference population have in general been showed to increase the reliability of genomic breeding values.

Change of scoring scale for calving ease in Sweden

Another change is better use of Swedish data. Earlier calving ease was scored in two classes - 1 and 2. In 2012 a stepwise implement to 1 to 4 scoring of calving ease was implemented, same system that is used in Denmark and Finland. Until now Swedish data on the 1-4 scale has been recoded to 1-2 scale. But starting from November, calving ease on the 1-4 scale will be used without recoding when estimating breeding values.

Swedish bulls are affected

In total the introduced improvements create moderate changes in the EBVs for calving and birth traits for bulls. The overall correlations between old and new EBVs for progeny tested bulls born after 2009 are from 0.94 to 0.97. For bulls having a majority of their offspring in Sweden the difference is greater, overall correlations between old and new EBVs vary for them from 0.89 to 0.92.

In addition to the changes mentioned above, Jersey data from Sweden and Finland is also included in Jersey evaluation.