

Improved fertility evaluation

Terhi Vahlsten (Faba), Elina Paakala (NAV/Faba), Emma Carlén (NAV/Växa Sverige) and Anders Fogh (NAV/SEGES)

Fertility was among the first traits, together with conformation, milking speed and temperament, which got a joint Nordic evaluation in 2005. The fertility evaluation has stayed almost the same since the beginning but now it is under improvement.

The effects of implementing the changes in the fertility evaluation are significant. The correlation between current fertility index and new fertility index is around 0,95 to 0,97 for proven bulls. This means that we see some larger changes than at an ordinary update of breeding values in fertility index and in separate fertility traits of individual bulls. Largest changes are seen in older bulls. With the change to an animal model cows will now get fertility indices based also on their own records and not only on information from their relatives. This means that the correlation between current fertility index and new fertility index for cows is somewhat lower for cows than for bulls, around 0,9 and thus, some more re-ranking occurs for cows. So the main improvement with the new model is that cows get breeding values that are more accurate than before.

First changes were implemented in May. These include using animal model instead of sire model, updated genetic parameters (heritability, genetic correlations), inclusion of parities from 1 to 3 as separate traits instead of repeated observations and harmonization of model across countries. The changes improve reliability and make it possible to add cows in the reference population. More changes to the fertility evaluation will be implemented later.