

Improved breeding values for Claw health

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Since November 2022 a new model has been introduced for calculation of the breeding values. In November 2023 the turn has come to Claw health and General health. The change from the old two step model to the new single step model gives improvements in the calculation of the breeding values. More information about the new single step model is written in the article

[New method to calculate breeding values for Dairy breeds.](#)

Claw health index describes genetic ability to resist claw diseases. Claw health include seven different claw diseases.

In general, the changes for Claw health index have been small for Holstein and RDC while for Jersey bigger changes have been seen. The largest effects can be seen on the genomic tested animals without any own performance registrations. Holstein is the most stable breed and has a small positive increase in the trend over the last 10 years, meaning that the young animals will get slightly higher breeding values for Claw health, compared to the older animals. For RDC the trend is about the same for the two models, while the small negative trend decreases further for Jersey. As expected, Jersey has the largest changes in indexes, since there is registered less cases of claw disorders for Jersey, and therefore less information about claw problems. This gives a higher variation.

Good stability for the proven sires

The proven sires show a high stability per year, so the yearly reranking is limited for all breeds. For Holstein 95 percent of the bulls change maximum 3 index units while it is 85 percent for RDC. Jersey has a negative development in the trend and a decrease in the index level, which gives a larger change in the indexes. Majority of the Jersey bulls change maximum 3 index units, while 25 percent of the bulls decrease more than 3 index units.

Smaller changes for the genomic bulls

For the genomic tested bulls, Jersey and RDC will have a small decrease in the general index level while Holstein will have a small increase. The variation is larger than for the proven sires and for Holstein 60 percent of the bulls change less than 3 index units while 35 percent increase more than two index units. More than 50 percent of the RDC bulls change less than 3 index units while 35 percent decrease more than 2 index units. Jersey has the largest changes and only 35 percent of the bulls change less than 3 index units while 40 percent decrease more than 2 index units.

Genotyped females stable for two breeds

All the breeds show a reasonable stability per year so the yearly reranking is limited. For Holstein and RDC there is a bit more variation among the heifers, so they have a larger change in indexes, compared to the older cows. The majority of the Holstein and half of the RDC genotyped females change less than 3 index units while less than 5 percent Holstein and 10 percent RDC females change more than 5 index units. The pattern for genomic tested Jersey females is the same as with the genomic tested Jersey bulls. Furthermore around 30 percent of the Jersey genomic females change more than 5 index units.

None genotyped animals show high stability

The reranking within a year is small, and for females born after 2014 the increase in the trend is slightly positive for Holstein and RDC. For Holstein 90 percent of the non-genotyped females change less than 3 index units while it is 85 percent for RDC and 75 percent for Jersey. Only 1 percent of non-genotyped Holstein and RDC females change more than 5 index units while it is close to 5 percent for Jersey.

Minor effect on NTM

Claw health has a small weight in NTM (RDC 0.07; Holstein 0.10; Jersey 0.09), which means that a change in Claw health index has a minor effect on NTM. Compared to the changes in NTM between two breeding value evaluations, the effect on NTM caused by the new single step model for Claw health is minimal.

The main part of the animals shows high stability and will only change a few index units in Claw health. However, when a new model is introduced, it is always possible to find animals with larger index change, and there are animals that change as much as 20 index units. The effect on NTM is still relatively low, since 20 index units in Claw health for a Holstein heifer, only change the NTM by 2 units.