15 October 2006

The latest NAV routine evaluation for yield, fertility, type, udder health, milk ability and temperament traits took place as scheduled. NAV did three evaluations per trait group:

Holstein evaluation, including data from: Danish Holstein, Danish Red Holstein, Swedish Holstein, Finnish Holstein, Finnish Ayrshire and Finn Cattle.

Red evaluation, including data from: Danish Red, Swedish Red, Finnish Ayrshire, Finnish Holstein and Finn Cattle

Jersey evaluation, including data from: Danish Jersey

News in relation to NAV genetic evaluation

Yield

- Denmark has delivered data from cows defined as "crosses" between Red and Black spotted Holstein in the Danish Cattle data base. The new data is added to the Holstein evaluation. The number of Holstein records included in the evaluation increased by about 1.3%. The new data has a very minor effect on EBVs for Black Holstein animals – correlations between old and new EBVs were above 0.999 for bulls. For Red Holstein bulls the extra data has an expected significant effect – correlations between old and new EBVs were about 0.97 for bulls.

Type

- Denmark has delivered data from cows defined as "crosses" between Red and Black spotted Holstein in the Danish Cattle data base. The new data is added to the Holstein evaluation. So far, results from the older Danish national evaluation for type has been published as official Danish EBVs for Red Holstein, because that evaluation included the "crosses" between Red and Black spotted Holstein.
- An error has been corrected calculating EBVs for Mammary system. The used breed mean has been wrong for udder balance for both Holstein and Red breeds. The error has a significant effect for bulls with extreme poor udder balance. These bulls have by the error received a positive contribution to their mammary index from udder balance. It means bulls with bad udder balance (deep back) will get a considerably lower EBV for Mammary system.
- Finland has corrected the order of the delivered data for foot angle and hoof angle. It means data earlier assumed to be foot angle data was hoof angle data and vice versa.
- Overall conformation for Holstein for international comparison is calculated by a definition close to the US definition.

Milk ability and temperament

- No news

Fertility

- No news

Udder health

NAV publish joint Nordic breeding values for udder health on a routine basis for the first time 15 October 2006. The method developed for joint Nordic estimation of breeding values for mastitis resistance are used for Holstein and Red Breeds in Denmark, Finland and Sweden.

The NAV model treats mastitis as four different traits:

- 15 days before calving until 50 days after calving in first parity (CM11)
- 51 days after calving until 300 days after calving in first parity (CM12)
- 15 days before calving until 150 days after calving in second parity (CM2)
- 15 days before calving until 150 days after calving in third parity (CM3)

An incidence of mastitis in each of these periods is recorded as a binary trait. Linear type classifications for fore udder attachment and udder depth in first parity and somatic cell count in the period 5-170 days after calving in lactation 1 to 3 are used as correlated traits when estimating the EBVs for mastitis resistance.

The EBVs for the four mastitis traits – CM11, CM12, CM2 and CM3 - are weighted together in a mastitis resistance index/udder health index (CM) with a mean of 100 and a STD of 10. The EBVs for the four mastitis traits are weighted together by the following relative weights:

$$CM = 0.25CM11 + 0.25CM12 + 0.3CM2 + 0.2CM3.$$

The three EBVs for SCC are weighted together in an overall EBV for SCC. The relative weights given to the three SCC traits are: 0.5:0.3:0.2. – First lactation is given the largest weight.

More information about the mastitis evaluation can be found at
http://www.nordicebv.info/Publications/English/
Genetic Evaluation of Udder Health Traits for Denmark, Finland and Sweden
Interbull Open Meeting, Kuopio, Finland, June 4th – 6th, 2006
by K. Johansson, S. Eriksson, J. Pösö, M. Toivonen, U. S. Nielsen, J.-Å. Eriksson and G. P. Aamand

NAV data included in Interbull test run in September 2006
Changes in NAV routine evaluations have to be included in an Interbull test run before they can be included in a routine evaluation. In September NAV sent:
- New type and mastitis data to Interbull test run for Holstein and Red Dairy Breeds
- Fertility data to an Interbull test run for Holstein

NAV data included in Interbull pilot study September-October 2006
- Fertility data for an Interbull pilot study for Red Dairy Breeds and Jersey
- Milk ability and temperament EBVs for Holstein, Red Dairy Breeds and Jersey

You can get more information about the joint Nordic evaluation:

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