News - NAV routine evaluation
15 October 2007

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

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

Yield data included in the evaluations was extracted from the national databases the following dates: Denmark 11.9.2007, Finland 2.9.2007 and Sweden 7.9.2007

Type, milk ability and temperament data included in the evaluations was extracted from the national databases the following dates: Denmark 17.9.2007, Finland 2.9.2007 and Sweden 10.9.2007

Fertility data included in the evaluations was extracted from the national databases the following dates: Denmark 11.9.2007, Finland 2.9.2007 and Sweden 24.8.2007

Udder health data included in the evaluations was extracted from the national databases the following dates: Denmark 19.9.2007, Finland 2.9.2007 and Sweden 24.8.2007

Calving trait data included in the evaluations was extracted from the national databases the following dates: Denmark 19.9.2007, Finland 2.9.2007 and Sweden 24.8.2007

News in relation to NAV genetic evaluation

Yield

- No changes

Type

- New weight and optimum was included for RDC and Holstein for estimation of the EBVs for the combined traits Body, Mammary system and Feet & Legs.
- EBVs for udder balance for Jersey were published for the first time.

Milk ability and temperament

- No changes

Fertility

- No changes

Udder health

- No changes

Calving and birth traits

NAV published joint Nordic breeding values for calving and birth traits for the first time 15 October 2007. The method developed for joint Nordic estimation of breeding values for calving and birth traits was used for Holstein in Denmark, Finland and Sweden. Calving performance has been recorded in the three countries for many years, see Table 1. Survival was registered as a binary trait - a stillborn calf or dying within 24 hours after calving was considered dead. The survival rate did not vary much across countries; it was about 92-93% for first calvings in Holstein and between 97-98% for later calvings. Calving Ease described the progress of

calving from easy without help to difficult with veterinary assistance. Denmark and Finland used four categories, the latter only from 2004 onwards, while Sweden applied a scale with only two. Tests revealed that EBVs of data obtained from data on scale with either two or four categories were highly correlated. Therefore data were kept on their original scales, i.e. four classes for Denmark and Finland, and two classes for Sweden. In all three countries, less difficult calvings were recorded for older cows than for first-calvers. Size of Calf was recorded in Denmark only and comprised four categories from small to big. Altogether, twelve traits – Survival, Calving Ease, and Size of Calf for first and later lactations with a maternal and direct effect each – were simultaneously analyzed.

Table 1. Calving Traits in the three Nordic countries

	Denmark	Finland	Sweden
For all traits	1st and later calvings direct and mat. effect	1st and later calvings direct and mat. effect	1st and later calvings direct and mat. effect
Survival	Since 1985 categories 0 – 1	Since 1992 categories 0 - 1	Since 1982 categories 0 - 1
Calving Ease	Since 1985 categories 1 - 4	Since 2004 categories 1 - 4	Since 1982 categories 1 - 2
Size of Calf	Since 1985 categories 1 – 4	none	none

The EBVs for the four direct traits – survival 1st, survival later calving, calving ease 1st, and calving ease later calving are weighted together in a Birth index. The EBVs for the four maternal traits – survival 1st, survival later calving, calving ease 1st, and calving ease later calving are weighted together in a Calving index. Maternal and direct effect of size of calf is used as an information trait only. Beside the EBVs for maternal effects EBVs for Maternal grandsire (MGS) effects are expressed. MGS effects include beside the maternal effect also 50% of the direct effect.

The work with a joint Nordic model for RDC is still going on.

More information about the calving evaluation can be found at
http://www.nordicebv.info/Publications/English/
Genetic Evaluation of Calving Traits in Denmark, Finland and Sweden
Interbull Open Meeting, Dublin, Ireland, August 23–25, 2007
by D. Boelling, U. Sander Nielsen, J. Pösö, J-Å. Eriksson, G.P. Aamand

NAV data included in Interbull test run in September 2007
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:

- Type data to an Interbull test run for Holstein and Red Dairy Breeds
- Fertility data to an Interbull test run for Holstein, RDC and Jersey
- Calving data to an Interbull test run for Holstein

Danish data included in Interbull pilot study September 2007

- Body condition and Locomotion data for an Interbull pilot study for Holstein

Genetic base
EBVs for Bulls and females are expressed to the same cow base. At this genetic evaluation include the genetic base (average 100) cows born from 15.10.2002 to 15.10.2004.

For functional traits sire models are used and EBVs for cows are not estimated. For functional traits the genetic base includes bulls, which are sire of present cows – see table 2.

Table 2. Definition of genetic base for cows and bulls

Trait	Genetic base
Yield, type, milkability and temperament	Cows born 15.10.2002 -15.10.2004
Fertility, calving and mastitis resistance	Bulls born 15.10.1998-15.10.2000

NAV – frequency and timing of routine runs

NAV has decided to change the frequency and timing of routine runs as consequence of the changes in timing of the international genetic evaluation at the Interbull centre, which will be introduced in autumn 2007. Currently NAV has 7 evaluations per year for type and yield and 4 per year for all other traits. From 1st January 2008 and onwards NAV will have 6 evaluations per year for all traits. The future NAV evaluations are timed in a way so NAV can deliver updated EBVs to all the international evaluations. In table 3 the current and future NAV and Interbull release dates are shown.

Table 3. NAV and Interbull release dates in 2007 and 2008. EBVs released at NAV dates with bold will be delivered to international genetic evaluation.

	2007		2008	
Month	NAV	Interbull	NAV	INTERBULL
January	**15th**		15th	First Tuesday after 11th
February		2nd Monday		
March	1st		**15th**	
April	**15th**			1st Tuesday
May		2nd Monday	15th	
June	1st			
July	**15th**			
August		2nd Monday	**15th**	3rd Tuesday
September				
October	15th		15th	
November				
December	**1st**		**1st**	

You can get more information about the joint Nordic evaluation:
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